BOARD AGENDA FACT SHEET

CLERK USE ONLY
BOS ACTION
#_____

Planning & Development Services Dept.
Department

October 24, 2023
Requested Board Date

1. Request:

Board Approval	XX	**Information Only/Presentation**	
Other (specify) _____		**Scheduled Hearing Time: 11:00 AM**	XX

2. Requested Action: *Type requested action below*

The Imperial County Planning & Development Services Department respectfully requests the Board of Supervisors conducts a public hearing to consider the following actions as recommended by the Planning Commission regarding VEGA SES 2, 3, & 5 Solar Energy Storage Projects:

A. Resolution for the Approval of Water Supply Assessments with Findings; and
B. Resolution for the Certification of the Final Environmental Impact Report (SCH #2021050013) and Adoption of CEQA Findings; and
C. Resolution for the Adoption of the Mitigation Monitoring and Reporting Program (MM&RP); and
D. Resolution for the Approval of Conditional Use Permit #20-0021 (Solar\Battery), with Conditions of Approval; and,
E. Resolution for the Approval of Conditional Use Permit #20-0022 (Solar\Battery), with Conditions of Approval; and,
F. Resolution for the Approval of Conditional Use Permit #20-0023 (Solar\Battery), with Conditions of Approval; and,
G. Resolution for the Approval of Conditional Use Permit #22-0025 (Water Well), with Conditions of Approval; and,
H. Resolution for the Approval of Conditional Use Permit #22-0026 (Water Well), with Conditions of Approval; and,
I. Resolution for the Approval of Conditional Use Permit #22-0027 (Water Well), with Conditions of Approval.

3. Cost $ N/A **Source:** N/A

4. If approval of Contract, reviewed/approved by County Counsel on: N/A

By: *N/A* **Action Request #** N/A
Assigned by County Counsel's Office

5. If approval of position allocation change, reviewed by Human Resources on: N/A

By: N/A

6. Electronic copy submittal date: 10/12/23 **By:** *Rosa A. Soto, Office Supervisor*

Department Head/Agency Representative

INSTRUCTIONS: Back-up must be submitted 15 BUSINESS days prior to requested date (Please note a Holiday counts as a Business day.) Back-up submitted must contain an Original and 2 copies. Copies must be submitted to the County Executive Office double sided and three (3) hole punched. Back-up must be submitted in a PDF format to vanessasalcido@co.imperial.ca.us and gracielaalvarez@co.imperial.ca.us

---

Reviewed By: _____
Deputy CEO

Reviewed By: _____
Deputy CEO

CEO/CLERK USE ONLY:

DATE STAMP

BOARD DATE: _____

Action _____ **Filing** _____

Consent _____ **Presentation** _____

Hearing _____ **CEO Approval** _____

Other (specify) _____

_____ _____
CEO *Date*

Imperial County Planning & Development Services
Planning / Building

Jim Minnick
DIRECTOR

TO: Board of Supervisors

October 12, 2023

FROM: Jim Minnick, Director of Planning & Development Services

M/O_____

SUBJECT: **VEGA SES 2, 3 & 5 Solar Energy Storage Projects – Water Supply Assessments, Final Environmental Impact Report (SCH #2021050013), Mitigation Monitoring and Reporting Program & Conditional Use Permits #20-0021, #20-0022, #20-0023, #22-0025, #22-0026 & #22-0027.**

Dear Board Members:

REQUESTED ACTION:

The Imperial County Planning & Development Services Department respectfully requests the Board of Supervisors conducts a public hearing to consider the following actions as recommended by the Planning Commission regarding VEGA SES 2, 3, & 5 Solar Energy Storage Projects:

A. Resolution for the Approval of Water Supply Assessments with Findings; and
B. Resolution for the Certification of the Final Environmental Impact Report (SCH #2021050013) and Adoption of CEQA Findings; and
C. Resolution for the Adoption of the Mitigation Monitoring and Reporting Program (MM&RP); and
D. Resolution for the Approval of Conditional Use Permit #20-0021 (Solar\Battery), with Conditions of Approval; and,
E. Resolution for the Approval of Conditional Use Permit #20-0022 (Solar\Battery), with Conditions of Approval; and,
F. Resolution for the Approval of Conditional Use Permit #20-0023 (Solar\Battery), with Conditions of Approval; and,
G. Resolution for the Approval of Conditional Use Permit #22-0025 (Water Well), with Conditions of Approval; and,
H. Resolution for the Approval of Conditional Use Permit #22-0026 (Water Well), with Conditions of Approval; and,
I. Resolution for the Approval of Conditional Use Permit #22-0027 (Water Well), with Conditions of Approval.

BACKGROUND:

The applicant, Apex Energy Solutions, LLC, proposes the VEGA SES 2, 3 & 5 projects which consist of three primary components: 1) solar energy generation equipment and associated facilities including a substation and access roads (herein referred to as "solar energy facility"); 2) Battery Energy Storage System (BESS); and 3) Gen-tie line that would connect the proposed on-site substation to the point of interconnection at the existing Imperial Irrigation District's (IID) interconnection facilities. The proposed projects involve the construction of a total of 350-Megawatt (MW) alternating current (AC) photovoltaic (PV) solar energy facility with an integrated 350-Megawatt (MW) battery energy storage system (BESS) [not to exceed 700-MW].

The project area is located on approximately 1,963 acres of privately owned land in the unincorporated area of the Imperial County and entirely within its Renewable Energy Overlay Zone on Assessor's Parcel Numbers 025-010-006-000, 025-260-011-000, 025-270-023-000, 025-260-019-000 & 025-260-022-000.

The proposed project includes a Water Supply Assessment, a comprehensive environmental review in the form of an Environmental Impact Report, Mitigation Monitoring and Reporting Program & Conditional Use Permits.

Imperial County is the "lead agency" for this Project. Lead agency is defined as, "the public agency, which has the principal responsibility for carrying out or approving a project." The County must undertake the following discretionary actions and approvals for the Project:

WATER SUPPLY ASSESSMENT

This WSA study was prepared pursuant to Senate Bill 610, which requires a lead agency to identify any public water system that may supply water to the project. IID reviewed the WSA and found it to be acceptable for incorporation into the Final EIR.

CERTIFICATION OF THE FINAL EIR

The County has responded to written comments as part of the Final EIR to be considered for certification by the Board of Supervisors prior to making a decision on the Project.

MITIGATION MONITORING AND REPORTING PROGRAM

A Mitigation Monitoring and Reporting Program (MMRP) once approved this plan will be adopted as required by CEQA Guidelines Section 15097 to ensure that mitigation measures identified in the EIR are implemented as appropriate.

CONDITIONAL USE PERMIT

Implementation of the project would require the approval of multiple CUPs by the County to allow for the construction and operation of the proposed solar energy storage projects with an integrated BESS and Water Wells on lands zoned as General Agricultural (A-2), Heavy Agriculture (A-3), and Open Space/Preservation with RE Overlay (S-2-RE).

Environmental Analysis:

On May 4, 2021, the Imperial County Planning Department sent a Notice of Preparation (NOP) to the California State Clearinghouse (SCH #2021050013) for a 30-day pubic and agency review ending June 7, 2021 for the start on the preparation of the VEGA SES 2, 3 & 5 Solar Energy projects Draft Environmental Impact Report (DEIR). Additionally, the County published an NOP in the IV Press on May 4, 2021. A public scoping meeting was held at the Board of Supervisors Chambers on May 13, 2021, at 6:00 p.m. to address possible impacts with the public.

On December 11, 2022, a Notice of Availability (NOA) for the VEGA 2, 3, & 5 SES Solar Energy Draft EIR was published in the IV Press newspaper and a Notice of Completion with DEIR was sent to State Clearinghouse for agency review for 50 days beginning on December 14, 2022 and ending on February 2, 2023. All significant impacts were addressed in the DEIR.

The EIR prepared for the projects included review of a Water Supply Assessment, Draft & Final Environmental Impact Report, Mitigation Monitoring and Reporting Program, Solar Conditional Use Permits #20-0021, #20-0022, #20-0023 & Water Well Conditional Use Permits #22-0025, #22-0026 & #22-0027.

Airport Land Use Commission

The Imperial County Airport Land Use Commission on March 16, 2022 held a public meeting to review the VEGA SES 2, 3, & 5 Solar Energy Storage projects and after review and public comment deemed the project consistent with the 1996 Airport Land Use Compatibility Plan (ALUCP).

SUMMARY:

The Planning staff is available to answer any questions you may have.

Thank you.

Attachment A.	Project Location Map
Attachment B.	Water Supply Assessments Resolutions
Attachment C.	Final Environmental Impact Report & CEQA Findings Resolution
Attachment D.	Mitigation Monitoring and Reporting Program Resolution
Attachment E.	Conditional Use Permit #20-0021 with Resolution
Attachment F.	Conditional Use Permit #20-0022 with Resolution
Attachment G.	Conditional Use Permit #20-0023 with Resolution
Attachment H.	Conditional Use Permit #22-0025 with Resolution
Attachment I.	Conditional Use Permit #22-0026 with Resolution
Attachment J.	Conditional Use Permit #22-0027 with Resolution
Attachment K.	Original PC Package on a CD

cc: Miguel Figueroa, County Executive Officer
Eric Havens, County Counsel
Jim Minnick, Director Planning and Development Services
Michael Abraham, AICP, ICPDS Assistant Director
Diana Robinson, Planning Division Manager
Files: 10.110; 40.103; 40.110; 40.111

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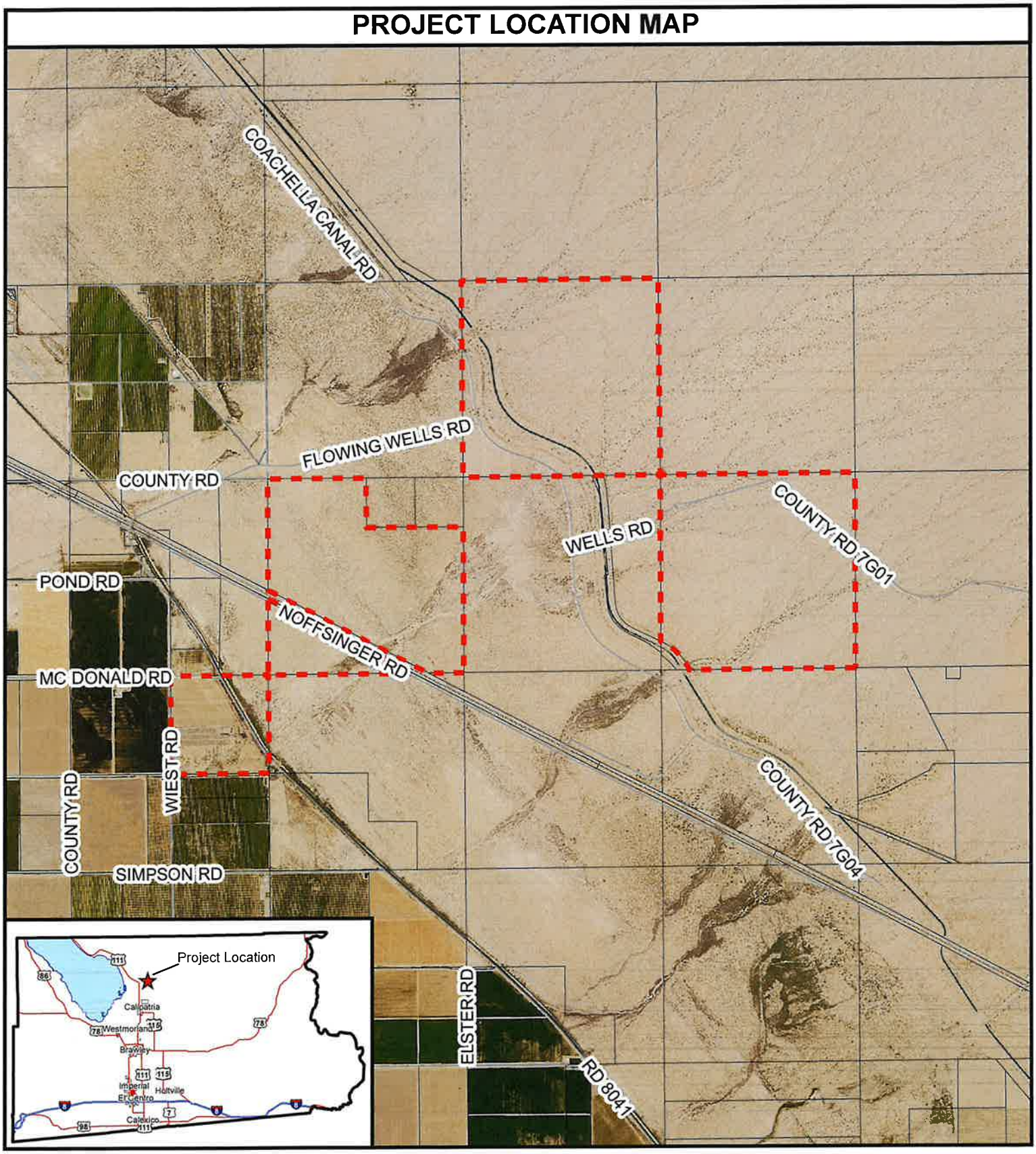
ATTACHMENT "A" – PROJECT LOCATION MAP

PROJECT LOCATION MAP



VEGA SES 2,3, &5
SOLAR ENERGY PROJECTS
CUP #20-0021, 22, 23.
APN 025-010-006, 025-260-011,
025-270-023, 025-260-019
& 025-260-022-000

Project Location

N

ATTACHMENT "B" – WATER SUPPLY ASSESSMENTS RESOLUTIONS

RESOLUTION NO. __

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF IMPERIAL, CALIFORNIA FOR THE APPROVAL OF THE WATER SUPPLY ASSESSEMENT (WSA) ON THE VEGA SES 2 & 3 SOLAR ENERGY STORAGE PROJECTS.

WHEREAS, the VEGA SES 2 & VEGA SES 3 Solar Energy Projects qualify as a "project" under the Water Code triggering the need to prepare a Water Supply Assessment because it proposed to a demand of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project, and/or because it is a proposed industrial use occupying more than 40 acres of land. The Water Supply Assessment (WSA) has been prepared in accordance with Water Code 10912(c) (4); and,

WHEREAS, the Imperial County Board of Supervisors has the authority and responsibility for approving the Water Supply Assessment; and,

WHEREAS, the duty to prepare a Water Supply Assessment falls to the County of Imperial ("County") because the Imperial Irrigation District (IID) is not a public water system within the meaning of the Water Code 10912(c); and,

WHEREAS, the County, in consultation with an expert engineering firm and the IID prepared the Water Supply Assessment , which includes any and all Water Supply Assessment addendums; and,

WHEREAS, the County has independently reviewed and considered the Water Supply Assessment and the entire administrative record, and;

WHEREAS, public notice of said application has been given, and the Board of Supervisors has considered the recommendation by the Planning Commission, evidence presented by the Imperial County Planning & Development Services Department and other interested parties at a public hearing held with respect to this item on October 24, 2023; and,

NOW THEREFORE, the Board of Supervisors for the County of Imperial **DOES HEREBY APPROVE OF WSA BASED ON THE FOLLOWING FINDINGS**:

SECTION 1. The Board of Supervisors has considered the proposed VEGA SES 2 & 3 SOLAR ENERGY STORAGE PROJECT'S WSA prior to making a decision to recommend approval of the proposed WSA. The Planning Commission finds and determines that the WSA is adequate and prepared in accordance with the requirements of Water Code, Section 10912(c)(4) and the analysis of the WSA demonstrates that the total projected water supplies, determined to be available by the County for the Project during normal, single dry, and multiple dry water years, will meet the projected water demand associated with the proposed project and based upon the following findings and determinations.

SECTION 2. That in accordance with State Planning and Zoning law, the County Planning Commission makes the following findings for the approval of the VEGA SES 2 & 3 SOLAR ENERGY projects:

1. This Water Supply Assessment (WSA) has determined that adequate ground water supply is currently available as well as during normal water years. Adequate agreements, plans and policies are in place that enable the Imperial Unit water supply to be considered reliable for 40 years.

2. The WSA has determined that the construction water and operational water required for VEGA SES 2 & 3 Solar and Battery Storage project is sufficient.

3. A Water Well Conditional Use Permit approval will be required before ground water is allowed to be pumped for construction and operations. Total acreage feet of water allowed for this water well CUP will be 775 af. (acre feet) for the construction and 24 acre feet for VEGA SES 2 and 6 acre feet for VEGA SES 3 for the life of project. Conditions will be applied with CUP to require the owner of the facility to monitor and report annual acre feet used.

NOW, THEREFORE, based on the above findings, the Board of Supervisors of the County of Imperial **DOES HEREBY APPROVE** recommend the Water Supply Assessment (WSA) for VEGA SES 2 & 3 SOLAR ENERGY Projects.

_____

Ryan E. Kelley, Chairperson
Imperial County Board of Supervisors

I hereby certify that the preceding resolution was taken by the Board of Supervisors at a meeting conducted on October 24, 2023, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

_____

Blanca Acosta
Clerk of the Board of Supervisors

Water Supply Assessment
For the ZGlobal
Vega SES 2, LLC and Vega SES 3, LLC
Solar Energy Projects
Imperial County, California

Prepared for:

ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, CA 95677

Prepared by:

Dr. Andrew A. Kopania
California Professional Geologist No. 4711
California Certified Hydrogeologist No. HG31
EMKO Environmental, Inc.
551 Lakecrest Drive
El Dorado Hills, California 95762

November 30, 2022

Water Supply Assessment
For the ZGlobal
Vega SES 2, LLC and Vega SES 3, LLC
Solar Energy Projects
Imperial County, California

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Water Supply Assessment
For the ZGlobal
Vega SES 2, LLC and Vega SES 3, LLC
Solar Energy Projects
Imperial County, California

1.0 INTRODUCTION

EMKO Environmental, Inc. (EMKO) has prepared this Water Supply Assessment (WSA) as a subconsultant to ECORP Consulting, Inc. for the proposed ZGlobal Vega SES 2, LLC and Vega SES 3, LLC Solar Energy Projects (Project or Projects) in Imperial County, California at the location indicated on Figure 1. Project water use includes dust control and soil conditioning requirements during construction and routine maintenance, primarily panel washing, during operation.

Water Code Sections 10910 through 10915 were amended by Senate Bill 610 (SB 610) in 2002. SB 610 requires that under specific circumstances, as detailed below, an assessment of available water supplies must be conducted. The purpose of the assessment is to determine if available water supplies are sufficient to serve the demand generated by the Project, as well as the reasonably foreseeable demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. Water Code Section 10910 was further amended by SB 1262 on September 24, 2016 to require a Water Supply Assessment to include additional information regarding the groundwater basin designation and adjacent water systems. This report provides the information required for a Water Supply Assessment (WSA), as described in the October 2003 *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001 to Assist Water Suppliers, Cities, and Counties in Integrating Water and Land Use Planning*, published by the California Department of Water Resources (DWR Guidebook) along with the additional information required by SB 1262.

2.0 PROJECT DESCRIPTION

Vega SES 2, LLC and Vega SES 3, LLC are proposing to construct and operate solar energy generation and storage facilities on private lands in the Imperial Valley in Imperial County. The Project sites are located approximately four miles southeast of the community of Niland and 16 miles northeast of the City of Brawley (see Figure 1).

Vega SES 2 would cover approximately 1,323 acres in Sections 9, 15 and 17 of Township 11 South, Range 15 East of the San Bernardino Base and Meridian (SBB&M) within the "Iris" 7.5-minute U.S. Geologic Survey (USGS) quadrangle.

The Project site includes all or part of Imperial County Assessor's Parcel Numbers (APNs) 025-260-011 (approximately 288 acres), APN 025-270-023 (approximatt 625 acres) and APN 025-010-006 (approximately 410 acres). The site is located east of the East Highline Canal and partially straddles the Coachella Canal (see Figure 2). Vega SES 2 would include a 240-megawatt solar photovoltaic system and integrated 480-megawatt battery energy storage system along with related substations and transmission lines. Figure 3 is a Site Plan showing the Project layout and ancillary facilities.

Vega SES 3 would cover approximately 230 acres in Section 9 of Township 11 South, Range 15 East of the SBB&M within the "Iris" 7.5-minute USGS quadrangle. The Project site includes part of APN 025-010-006. The site is located east of the Coachella Canal (see Figure 2). Vega SES 3 would include a 60-megawatt solar photovoltaic system and integrated 120-megawatt battery energy storage system along with related substations and transmission lines. Figure 3 is a Site Plan showing the Project layout and ancillary facilities.

All parcels are located within the Imperial County Renewable Energy Overlay Zone, requiring projects to be permitted through the issuance of a Conditional Use Permit (CUP), which is a discretionary action by the County requiring compliance with the California Environmental Quality Act (CEQA). This Water Supply Assessment is intended to support and be a part of the CEQA analysis.

Domestic water and sanitation facilities would be required during construction. These would be provided through bottled water and portable facilities. A domestic/potable water connection would not be required.

Construction is anticipated to require 12 to 18 months to complete. Anticipated operational Project life is 25 to 30 years.

Figure 1. Regional Location Map

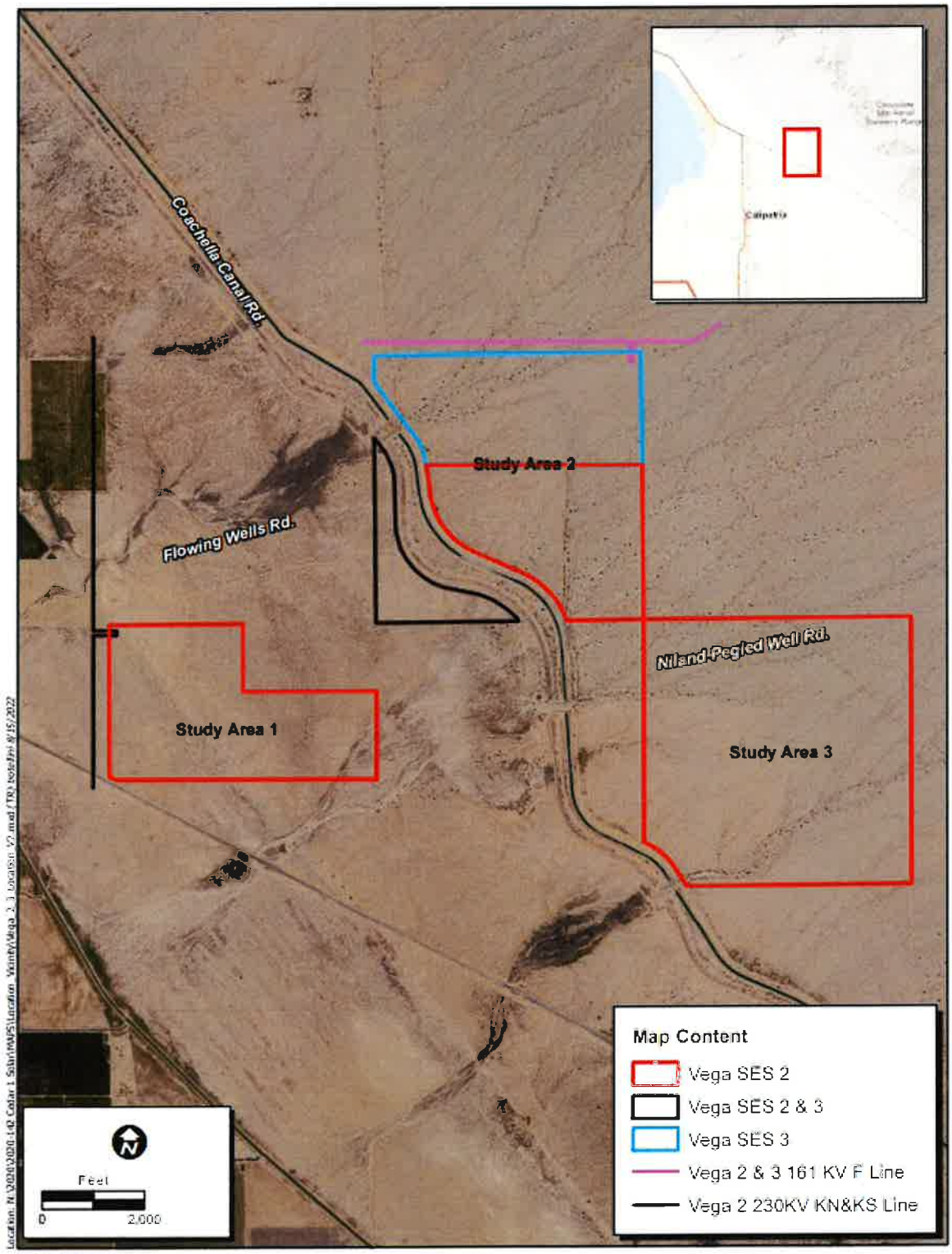
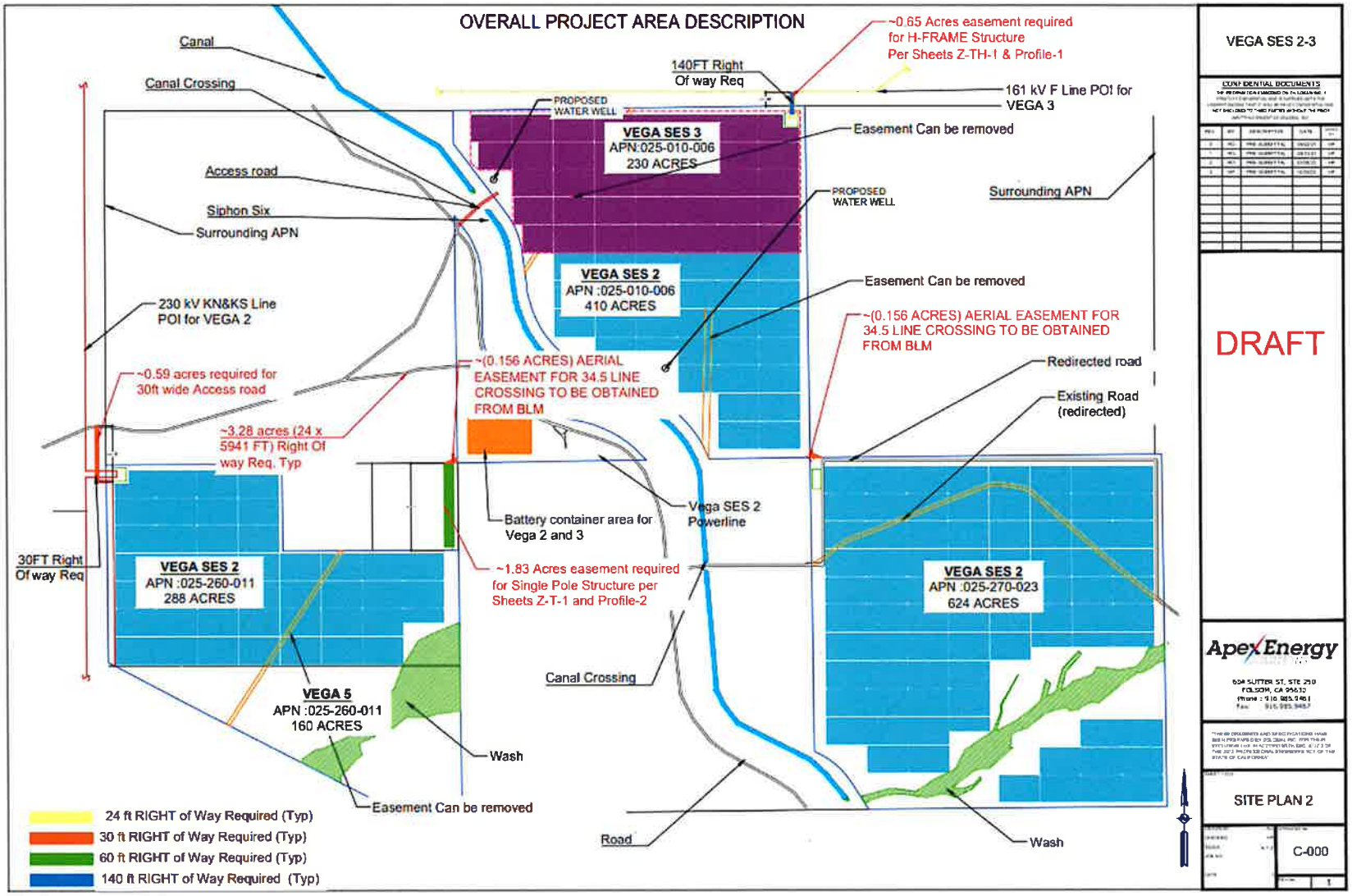


Figure 2. Project Location

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

FIGURE 3. Site Plan



3.0 WATER SUPPLY PLANNING UNDER SB 610 and SB 1262

SB 610, effective January 1, 2002, amends Sections 10910 through 10915 of the Water Code by requiring preparation of a WSA for development projects subject to CEQA and other criteria, as discussed below. SB 610 also amends Section 10631 of the Water Code, which relates to Urban Water Management Plans (UWMPs). The WSA process under SB 610 is designed to rely on the information typically contained in UWMPs, where available.

On September 24, 2016, SB 1262 further amended Section 10910 of the Water Code to require additional information related to adjacent public water systems and the status of the groundwater basin. These amendments provide additional consistency with the Sustainable Groundwater Management Act of 2014, as discussed further in Section 4.4.

The first steps in the WSA process are to determine whether SB 610 applies to the proposed Project. If so, then documentation of available water supplies, anticipated Project demand, and the sufficiency of supplies must be conducted. These issues are summarized by the following questions, as outlined in the DWR Guidebook:

1. Is the proposed Project subject to CEQA?
2. Is the proposed Project a "Project" under SB 610?
3. Is there a public water system that will service the proposed Project?
4. Is there a current UWMP that accounts for the project demand?
5. Is groundwater a component of the supplies for the Project?
6. Are there sufficient supplies to serve the Project over the next twenty years?

Each of these issues are discussed in the following sections as they relate to the proposed Project.

3.1 Is the Proposed Project Subject to CEQA?

The first step in the SB 610 process is to determine whether the proposed project is subject to CEQA. Water Code Section 10910(a) states that any city or county that determines that an application meets the definition of "project", per Water Code Section 10912 (see Section 3.2, below), and is subject to CEQA, shall prepare a water supply assessment for the project. CEQA applies to projects requiring issuance of a discretionary permit by a public agency, projects undertaken by a public agency, or projects funded by a public agency. As noted in Section 2.0, the proposed Project is within the Imperial County Renewable Energy Overlay Zone, which requires discretionary approval of a CUP by Imperial County, a public agency. Therefore, the Project is subject

to CEQA. This WSA has been prepared to support the environmental review that will be conducted by Imperial County under CEQA.

3.2 Is the Proposed Project a "Project" Under SB 610?

The second step in the SB 610 process is to determine if the proposed Project meets the definition of "project" under Water Code Section 10912(a). Under Section 10912(a) a "project" is defined as meeting any of the following criteria:

1. a proposed residential development of more than 500 dwelling units;
2. a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
3. a proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
4. a proposed hotel or motel, or both, having more than 500 rooms;
5. a proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
6. a mixed-use project that includes one or more of the projects defined above; or
7. a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The Vega SES 2 site is 1,323 acres and the Vega SES 3 site is 230 acres. As a result, the Project will include an industrial site that is larger than 40 acres and thus this WSA is being prepared in accordance with criterion 5, above.

3.3 Is There a Public Water System That Will Service the Proposed Project?

Section 10912(c) of the Water Code identifies a public water system as a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections. The Project site is approximately four miles southeast of the community of Niland and 16 miles northeast of the City of Brawley. APN 025-260-011 and parts of APN 025-010-006 and APN 025-270-023 are located within IID's East Mesa Unit (https://mygis.iid.com/portal/apps/webappviewer/index.html?id=a33cfeb3714f4eb8a1c85320613a2d1b) but do not have water service from IID. Thus, there is not a public water system that will serve the Project. The water supply will be provided by new onsite groundwater supply wells to be drilled and installed as part of the Project.

3.4 Is There a Current Urban Water Management Plan That Accounts for the Project Demand?

The Water Code requires that all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet per year, must prepare an UWMP. The DWR Guidebook (page iii) states that SB 610 repeatedly refers to the UWMP as a planning document that can be used to meet the standards set forth in the statute, and that UWMPs act as a foundation to fulfill the requirements of the statute. As noted in Section 3.3, above, there is no public water system that will serve the Project and, therefore, there is not an UWMP that addresses the Project area or Project demand. Since there is not an UWMP that accounts for the Project demand, this WSA is based upon available and relevant information from DWR, the U.S. Geological Survey (USGS), and other publicly available data. As this WSA has been prepared for use by the CEQA lead agency, this document includes an evaluation of whether the total projected water supplies, determined to be available during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed Project, in addition to existing and planned future uses, including agricultural and manufacturing uses, in accordance with Water Code § 10910(c)(4).

3.5 Is Groundwater a Component of the Supplies for the Project?

Water Code Section 10910(f), paragraphs 1 through 5, must be addressed if groundwater is a source of supply for the proposed Project. As described in Section 3.3, the water supply will be provided by new groundwater supply wells that will be drilled and installed as part of the Project. The proposed locations for two new groundwater supply wells are shown on Figure 3. Therefore, an assessment of groundwater conditions is included in this document.

Water Code Section 10910(f) paragraphs 1 through 5, as modified by SB 1262, state:

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

> (1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.
>
> (2) (A) A description of any groundwater basin or basins from which the proposed project will be supplied. (B) For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. (C) For a basin that has not been adjudicated that is a

basin designated as high- or medium priority pursuant to Section 10722.4, information regarding the following: (i) Whether the department has identified the basin as being subject to critical conditions of overdraft pursuant to Section 12924; and (ii) If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative, a copy of that alternative or plan. (D) For a basin that has not been adjudicated that is a basin designated as low- or very-low priority pursuant to Section 10722.4, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

Paragraphs 1 through 4, above, are addressed in Section 4.0, below, including a description of the groundwater basin, groundwater conditions, and available supply. Section 5.0 presents available information regarding water demand for the Project.

The Paragraph 5 requirement to provide an analysis of the sufficiency of the groundwater basin to meet the projected water demand associated with the proposed project is addressed in Section 6.0, below.

3.6 Are There Sufficient Supplies to Serve the Project Over the Next Twenty Years?

Water Code Section 10910(c)(4) requires the WSA to "*include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and future planned uses, including agricultural and manufacturing uses.*"

The sufficiency of water supply for the proposed Project is addressed in Sections 6.0 and 7.0, below.

4.0 PROJECT WATER SUPPLY

As stated in Section 3.3, above, water for the Project will be provided by new wells to be drilled at the proposed locations shown on Figure 3. As such, groundwater will be the sole water supply for both the construction and operational water needs. Because there are no public water systems or other significant users of groundwater in the groundwater basin, there are no Urban Water Management Plans or other planning documents available. Thus, limited information is available regarding groundwater conditions in the Project vicinity.

Overall conditions within the groundwater basin are described in Section 4.1. Groundwater recharge and available supply are discussed in Section 4.2. Groundwater level trends and the status of the basin relative to the Sustainable Groundwater Management Act of 2014 (SGMA) is provided in Section 4.3, as required by SB 1262.

4.1 Groundwater Basin

The Project is located within the western part of the East Salton Sea Groundwater Basin (Basin), designated as basin number 7-033, as defined by DWR (2022a). The Basin is bounded on the northeast by the Chocolate Mountains and on the southwest by the San Andreas and Banning Mission Creek fault zones (DWR, 2003). The northwest and southeast edges of the groundwater basin are approximately defined by transitions between major surface drainages coming off of the Chocolate Mountains. The groundwater basin has an area of approximately 196,000 acres, or 306 square miles (DWR, 2003). The Basin has not been adjudicated (DWR, 2022b). Figure 4 shows the groundwater basin boundary and the approximate location of the Project.

Groundwater occurs within unconsolidated to semi-consolidated coarse sediment eroded from the Chocolate Mountains (DWR, 2003). The sediment generally occurs within large alluvial fans that originate at drainages and canyons within the bedrock

formations in the mountains and spread out as they decrease in elevation toward the floor of the Imperial Valley or the Salton Sea. The alluvial fan sediments range in age from Tertiary to Quaternary. DWR (2003) reports that the alluvium is at least 400 feet thick.

4.2 Groundwater Supply and Recharge

DWR (2022c) reports that the population in the East Salton Sea Groundwater Basin in 2010 was approximately 1,093 persons and that the population is expected to decrease 10 percent by 2030. There are no public water supply wells in the Basin and 11 total wells present. Only 4,906 acres of the 196,000-acre Basin, or 2.54 percent, are irrigated (DWR, 2022c). The total groundwater storage capacity of the groundwater basin is estimated to be 360,000 acre-feet (DWR, 2003).

The average annual rainfall is very low, as discussed further in Section 6.0 below, and typically does not provide a sufficient quantity of moisture to percolate deep into the alluvial sediments. As a result, recharge of groundwater occurs primarily due to runoff from the Chocolate Mountains during major storm events, which may not occur every year. The average annual recharge is estimated to be 200 acre-feet per year (DWR, 2003). That estimate is from a 1975 version of DWR Bulletin 118. No changes to basin conditions are reported in the most recent updates to DWR Bulletin 118 (DWR, 2021 and 2022a).

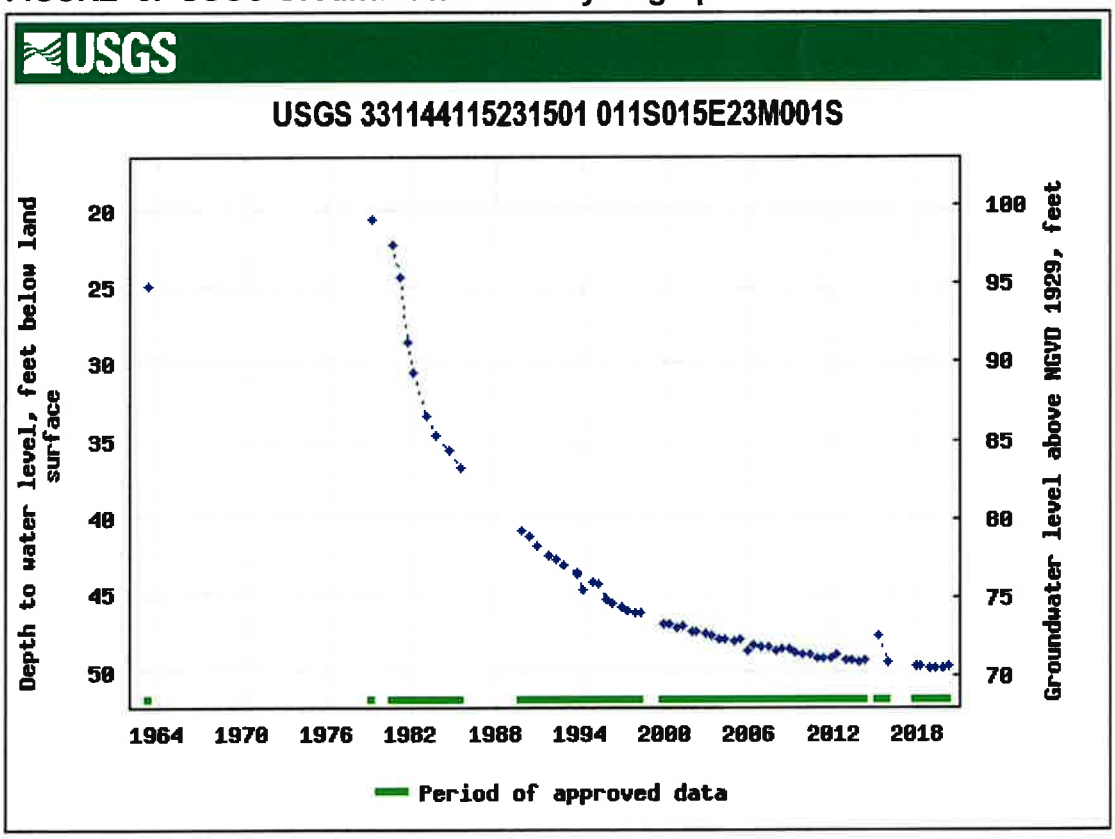
DWR's California Data Exchange Center website (https://cdec.water.ca.gov) and the U.S. Geological Survey's (USGS's) National Water Information System mapping application (https://maps.waterdata.usgs.gov/mapper/index.html) show only one active groundwater monitoring location within the Basin at the time this report was prepared. That well is located approximately 3,600 feet southeast of the southeast corner of the Project site and 950 feet northeast of the Coachella Canal. The well has USGS identification number 331144115231501, which identifies the latitude and longitude of the well (i.e., 33°11'44" latitude, -115°23'15" longitude), and California state well number 011S015E23M001, which indicates the township, range, and quarter-quarter section (i.e., northwest quarter or the southwest quarter of township 11S, range 15E, San Bernardino Base and Meridian). The ground surface elevation at the well location is reported to be 120 feet above mean sea level (ft msl) while the borehole in which the well was installed is reported to have been drilled to a depth of 550 feet below ground surface (ft bgs) (USGS, 2022).

FIGURE 4. East Salton Sea Groundwater Basin

(Source: DWR, 2022b)

Figure 5 is a hydrograph from USGS (2022) showing the groundwater level and groundwater elevation measured since 1963 in the sole active monitoring well in the Basin. As indicated on Figure 5, the groundwater level decreased at a relatively rapid rate from 1979 to approximately 2000, with the depth to water dropping from approximately 21 ft bgs to approximately 47 ft bgs over that period. Since 2000, the groundwater level has continued to decrease, but at a slower rate, with the level in March 2020 (the last date with a reported measurement by USGS) being approximately 50 ft bgs. While the groundwater level has decreased by almost 30 feet since 1979, it has changed by less than one foot over the past decade. Based on the depth to groundwater and the borehole depth for the monitoring well, the potential loss of aquifer volume since 1979 is only six percent of the total available storage reported by DWR (2003).

FIGURE 5. USGS Groundwater Level Hydrograph



Water quality samples were collected and analyzed from the monitoring well within the Basin in June and September 1963 (USGS, 2022). Table 1 shows the water quality results from June 1963. The September results were comparable. The groundwater sampled from the monitoring well has a normal pH but the levels of sodium, chloride, and sulfate are elevated compared to what would be expected from percolation of locak

rainfall. The dissolved soids concentration of 2,190 milligrams per liter (mg/L) is more than twice the value of the high end of the range of the secondary maximum contaminant level (MCL) for drinking water of 1,000 mg/L. The high dissolved solids concentration renders the water unsuitable for potable or agricultural uses without treatment. The existing water quality is suitable for use for construction and maintenance purposes, though.

TABLE 1. USGS Water Quality Data (June 13, 1963)

Parameter	Units	Result
Temperature	Degrees Celsius (° C)	26.9
Specific Conductance	MicroSiemens per centimeter at 25° C	3630
pH	Standard units	7.4
Carbon Dioxide	Milligrams per liter (mg/L)	14
Acid Neutralizing Capacity	mg/L as calcium carbonate ($CaCO_3$)	174
Bicarbonate	mg/L	212
Carbonate	mg/L	0.0
Hardness	mg/L as $CaCO_3$	700
Non-carbonate hardness	mg/L as $CaCO_3$	530
Calcium	mg/L	106
Magnesium	mg/L	107
Sodium + Potassium	mg/L	500
Chloride	mg/L	635
Sulfate	mg/L	700
Fluoride	mg/L	1.6
Silica	mg/L as silica dioxide (SiO_2)	33
Dissolved Solids	mg/L	2190

Source:
https://nwis.waterdata.usgs.gov/nwis/qwdata?site_no=331144115231501&agency_cd=USGS&inventory_output=0&rdb_inventory_output=file&TZoutput=0&pm_cd_compare=Greater%20than&radio_parm_cds=all_parm_cds&format=html_table&qw_attributes=0&qw_sample_wide=wide&rdb_qw_attributes=0&date_format=YYYY-MM-DD&rdb_compression=file&submitted_form=brief_list

4.3 Groundwater Sustainability

A series of three bills passed by the California legislature and were signed by Governor Brown on September 16, 2014. These three bills, Assembly Bill (AB) 1739, SB 1168, and SB 1319, together comprise the Sustainable Groundwater Management Act of 2014 (SGMA). SGMA provides a structure under which local agencies are to develop a sustainable groundwater management program. SGMA focuses on basins or subbasins designated by DWR as high or medium priority basins, and those with critical conditions of overdraft.

According to DWR (2022b), the Basin is a very low priority basin. DWR has not identified the Basin as overdrafted nor has it projected that the basin will become overdrafted if present management conditions continue (DWR, 2021 and 2022c). Thus, the Basin is not subject to the current requirements of SGMA, including the formation of a groundwater sustainability agency (GSA) and preparation of a groundwater sustainability plan (GSP).

5.0 PROJECT WATER DEMAND

Water demand varies depending on the Project phase. During construction, water will be needed for dust control and soil conditioning during installation of the photovoltaic panels, battery storage units, and related infrastructure. During the operational phase of the project, water will be needed for routine maintenance activities, which primarily consists of washing the photovoltaic panels to maintain generation efficiency.

Table 2. Project Water Demand

Site	Area (acres)	Output (megawatts)	Construction Water (acre-feet)	Operational Water (acre-feet per year)
Vega SES 2	1323	240	630 (total combined)	10
Vega SES 3	230	60		2

Table 2 provides a summary of Project parameters that affect water demand and the estimated water needs for construction and operation. The construction water demand is primarily for dust control. Thus, the water needs are proportional to the size of the disturbed area and the local climate. Construction of the Vega SES 2 and Vega SES 3 sites is expected to occur simultaneously and the combined construction water demand is approximately 630 acre-feet. Construction is anticipated to require 12 to 18 months to complete. Thus, the monthly water demand during that period may range from 35 acre-feet to 52.5 acre-feet, on average.

The operational water demand for panel washing and other maintenance needs is based primarily on the number of panels, which relates to the energy production or output, in megawatts. The operational water demand is anticipated to range from 10 acre-feet per year for Vega SES 2 to two acre-feet per year for Vega SES 3. The maintenance activities for each system are anticipated to be conducted up to twice a year over a one-to-two-week period each event, so the maintenance water demand is intermittent and not spread throughout the year. The operational water demand will occur throughout the life of the Project.

6.0 DRY YEAR SUPPLY

The volume and sustainability of dry-year water supply for the Project is addressed by comparing annual rainfall with changes in groundwater levels in the Basin. This comparison is made for a normal or average water year[1], for single dry year, and for multiple dry water years. Local rainfall data were obtained from the Western Region Climate Center (WRCC, 2022) for Niland, California, located approximately four miles northwest of the Project location (see Figure 1).

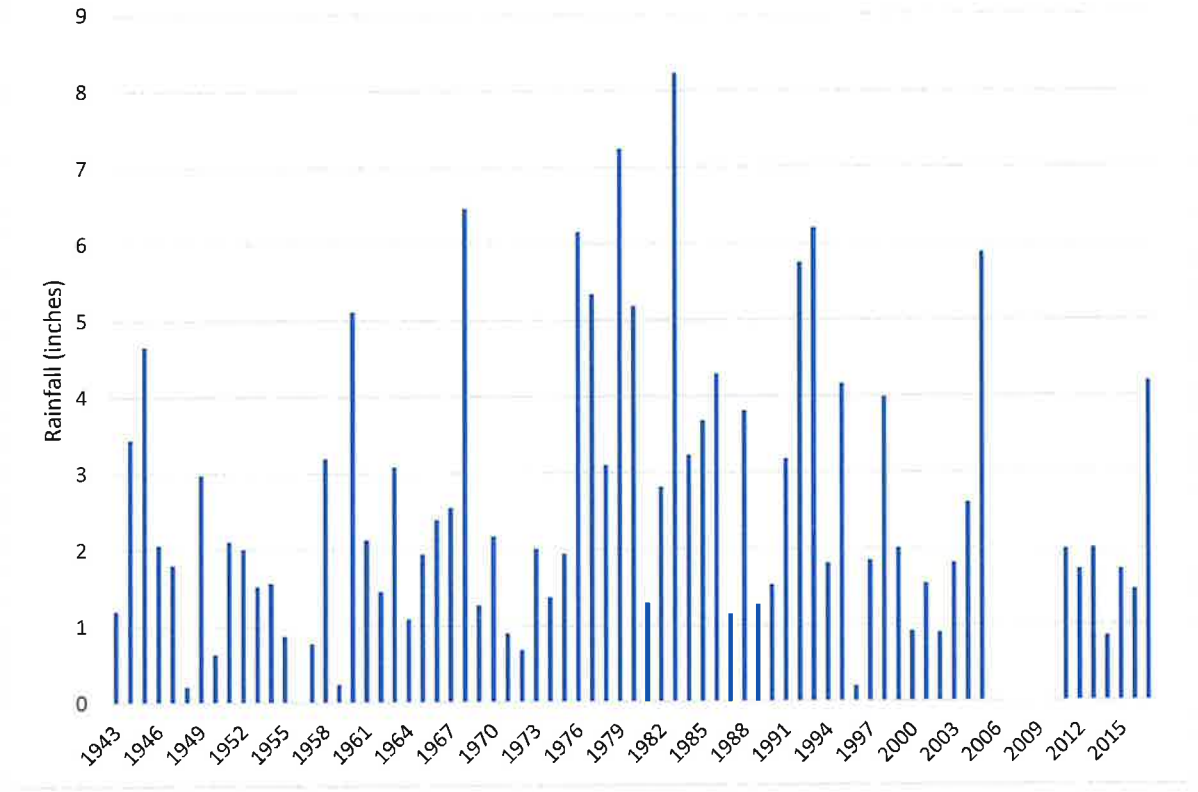
Figure 6 shows the annual water year rainfall for Niland, California from 1943 through 2017. The average water year rainfall during this period is 2.58 inches. The driest year was 1956, when no precipitation was recorded. The driest year during the period of available groundwater elevation data (see Figure 5) was 1996, with only 0.2 inch of rainfall reported. The wettest year was 1983, when 8.23 inches of rain was measured. As indicated on Figure 6, a relatively wet period occurred from 1976 to 1986, with 10 of 11 water years exceeding the average annual rainfall. In comparison, the period from 1996 to 2016 was relatively dry, with 18 of 21 water years having below normal rainfall.

The historic rainfall data on Figure 6 can be compared with the groundwater levels shown on Figure 5 to assess the effects of wet and dry periods on groundwater supply in the Basin. The wettest year recorded, 1983, and the relatively wet period from 1976 to 1986, correspond to a period when groundwater levels were dropping rapidly. In contrast, the dry period from 1996 to 2016 corresponds to a period when the rate of decline of the groundwater elevation was attenuating rapidly and beginning to stabilize. Thus, the available groundwater level and rainfall data do not indicate any relationship between wet, normal, single dry year, or multiple dry years and available groundwater supply. As

[1] In California, a water year is defined as the period from October 1 of a calendar year through September 30 of the subsequent calendar year. A water year is designated by the year in which it ends. For example, the period from October 1, 2006 through September 30, 2007 is referred to as the 2007 water year. Due to the nature of weather patterns in the state, a water year better represents hydrologic conditions related to wet and dry periods than does a calendar year.

noted above in Section 4.2, recharge of groundwater occurs primarily due to runoff from the mountains during individual major storm events (DWR, 2003). Such storm events typically occur infrequently and there may be many years between events that produce enough runoff to provide appreciable recharge.

Figure 6. Water Year Rainfall at Niland



The total groundwater storage capacity of the Basin is estimated to be 360,000 acre-feet (DWR, 2003) and the groundwater level decline from 1979 to 2018 decreased groundwater storage by approximately six percent (see Section 4.2). Thus, the current storage in the Basin may be in the range of 335,000 to 340,000 acre-feet. The single year combined construction water demand of 630 acre-feet and the annual combined operational water needs of 12 acre-feet are miniscule (0.2 percent and 0.004 percent, respectively) compared to the available groundwater in storage. Furthermore, the long term annual operational water needs are much less than the estimated annual recharge of 200 acre-feet per year. Overall, there is adequate water available to supply the Project water needs during single dry, and multiple dry year periods.

7.0 FINDINGS and DISCUSSION

This WSA has been prepared in accordance with SB 610 and SB 1262 to support the CEQA environmental review for the proposed Project and provides an assessment of water supply adequacy for the Project in accordance with Water Code Sections 10910 through 10915. As stated in Section 1.0, the purpose of the assessment is to determine if available water supplies are sufficient to serve the demand generated by the Project, as well as the reasonably foreseeable demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. As noted in Section 4.2, above, while groundwater levels in the Basin had been declining during the period from the late 1970s to the early 2000s, over the past decade they have stabilized, indicating that current water demands are in balance with recharge and replenishment. The population, and presumably the related water demand, are anticipated to decrease over the next decade. Therefore, the Basin has adequate resources for current and anticipated future existing water needs.

The water demand for the proposed Project will consist of water needed during construction and water needed for maintenance once the Project is operational. The construction water demand is anticipated to be a combined total of 630 acre-feet over 12 to 18 months, primarily for dust control. The operational demand is anticipated to be a combined total of 12 acre-feet per year for panel washing and other maintenance activities. The operational demand will exist for the life of the Project, which is anticipated to be 25 to 30 years.

The construction water demand exceeds the reported average annual recharge to the Basin of 200 acre-feet per year (DWR, 2003). However, the construction water needs are short-term and temporary. This temporary water use is not anticipated to cause persistent and long-term lowering of groundwater levels. Therefore, the construction water demand will not cause or contribute to overdraft, exhaustion of water supplies, lowering of groundwater levels to depths that would be uneconomic for pumping, land subsidence, or significant alteration of groundwater quality.

The annual operational water needs are equivalent to six percent of the average annual recharge and 0.004 percent of the estimated current storage volume of the Basin. Therefore, the long-term operation and maintenance of the Project would not have any measurable effect or impact on groundwater resources in the Basin.

Based on the analysis presented in this WSA, there will be sufficient water available for existing water uses in the Basin and the Project water demand during normal, single dry year, and multiple dry year periods for the anticipated life of the Project, which is anticipated to be greater than 20 years.

8.0 DOCUMENTS CONSIDERED AND REFERENCES CITED

Department of Water Resources (DWR), 2003, Bulletin 118 Update 2003 – Basin Report 7_033, https://data.cnra.ca.gov/dataset/bulletin-118-update-2003-basin-reports/resource/bf769048-ac5c-4cb5-a03b-0cf12205dc4d, accessed November 28, 2022.

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Western Region Climate Center (WRCC), 2022, Niland, California Climate Summary, https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6197, accessed November 29, 2022.

RESOLUTION NO. __

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF IMPERIAL, CALIFORNIA FOR THE APPROVAL OF THE WATER SUPPLY ASSESSEMENT (WSA) ON THE VEGA SES 5 SOLAR ENERGY STORAGE PROJECT.

WHEREAS, the VEGA SES 5 Solar Energy Project qualifies as a "project" under the Water Code triggering the need to prepare a Water Supply Assessment because it proposed to a demand of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project, and/or because it is a proposed industrial use occupying more than 40 acres of land. The Water Supply Assessment (WSA) has been prepared in accordance with Water Code 10912(c) (4); and,

WHEREAS, the Imperial County Board of Supervisors has the authority and responsibility for approving the Water Supply Assessment; and,

WHEREAS, the duty to prepare a Water Supply Assessment falls to the County of Imperial ("County") because the Imperial Irrigation District (IID) is not a public water system within the meaning of the Water Code 10912(c); and,

WHEREAS, the County, in consultation with an expert engineering firm and the IID prepared the Water Supply Assessment , which includes any and all Water Supply Assessment addendums; and,

WHEREAS, the County has independently reviewed and considered the Water Supply Assessment and the entire administrative record, and;

WHEREAS, public notice of said application has been given, and the Board of Supervisors has considered the recommendation by the Planning Commission, evidence presented by the Imperial County Planning & Development Services Department and other interested parties at a public hearing held with respect to this item on October 24, 2023; and,

NOW THEREFORE, the Board of Supervisors for the County of Imperial **DOES HEREBY APPROVE OF WSA BASED ON THE FOLLOWING FINDINGS**:

SECTION 1. The Board of Supervisors has considered the proposed VEGA SES 5 SOLAR ENERGY STORAGE PROJECT WSA prior to making a decision to recommend approval of the proposed WSA. The Planning Commission finds and determines that the WSA is adequate and prepared in accordance with the requirements of Water Code, Section 10912(c)(4) and the analysis of the WSA demonstrates that the total projected water supplies, determined to be available by the County for the Project during normal, single dry, and multiple dry water years, will meet the projected water demand associated with the proposed project and based upon the following findings and determinations.

SECTION 2. That in accordance with State Planning and Zoning law, the County Planning Commission makes the following findings for the approval of the VEGA SES 5 SOLAR ENERGY project:

1. This Water Supply Assessment (WSA) has determined that adequate ground water supply is currently available as well as during normal water years. Adequate agreements, plans and policies are in place that enable the Imperial Unit water supply to be considered reliable for 40 years.

2. The WSA has determined that the construction water and operational water required for VEGA SES 5 Solar and Battery Storage project is sufficient.

3. A Water Well Conditional Use Permit approval will be required before ground water is allowed to be pumped for construction and operations. Total acreage feet of water allowed for this water well CUP will be 205 af. (acre feet) for the construction and 5 acre feet for VEGA SES 5 for the life of project. Conditions will be applied with CUP to require the owner of the facility to monitor and report annual acre feet used.

NOW, THEREFORE, based on the above findings, the Board of Supervisors of the County of Imperial **DOES HEREBY APPROVE** recommend the Water Supply Assessment (WSA) for VEGA SES 5 SOLAR ENERGY Project.

Ryan E. Kelley, Chairperson
Imperial County Board of Supervisors

I hereby certify that the preceding resolution was taken by the Board of Supervisors at a meeting conducted on October 24, 2023, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

Blanca Acosta
Clerk of the Board of Supervisors

Water Supply Assessment
For the ZGlobal
Vega SES 5, LLC
Solar Energy Project
Imperial County, California

Prepared for:

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November 30, 2022

Water Supply Assessment
For the ZGlobal
Vega SES 5, LLC
Solar Energy Project
Imperial County, California

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Water Supply Assessment
For the ZGlobal
Vega SES 5, LLC
Solar Energy Project
Imperial County, California

1.0 INTRODUCTION

EMKO Environmental, Inc. (EMKO) has prepared this Water Supply Assessment (WSA) as a subconsultant to ECORP Consulting, Inc. for the proposed ZGlobal Vega SES 5, LLC Solar Energy Project (Project) in Imperial County, California at the location indicated on Figure 1. Project water use includes dust control and soil conditioning requirements during construction and routine maintenance, primarily panel washing, during operation.

Water Code Sections 10910 through 10915 were amended by Senate Bill 610 (SB 610) in 2002. SB 610 requires that under specific circumstances, as detailed below, an assessment of available water supplies must be conducted. The purpose of the assessment is to determine if available water supplies are sufficient to serve the demand generated by the Project, as well as the reasonably foreseeable demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. Water Code Section 10910 was further amended by SB 1262 on September 24, 2016 to require a Water Supply Assessment to include additional information regarding the groundwater basin designation and adjacent water systems. This report provides the information required for a Water Supply Assessment (WSA), as described in the October 2003 *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001 to Assist Water Suppliers, Cities, and Counties in Integrating Water and Land Use Planning*, published by the California Department of Water Resources (DWR Guidebook) along with the additional information required by SB 1262.

2.0 PROJECT DESCRIPTION

Vega SES 5, LLC is proposing to construct and operate solar energy generation and storage facilities on private lands in the Imperial Valley in Imperial County. The Project site is located approximately four miles southeast of the community of Niland and 16 miles northeast of the City of Brawley (see Figure 1).

Vega SES 5 would cover approximately 410 acres in Sections 17 and 19 of Township 11 South, Range 15 East of the San Bernardino Base and Meridian (SBB&M) within the "Iris" 7.5-minute U.S. Geologic Survey (USGS) quadrangle. The Project site includes all or part of Imperial County Assessor's Parcel Numbers (APNs) 025-260-011

(approximately 160 acres), APN 025-260-019 (approximately 90 acres) and APN 025-260-022 (approximately 160 acres). The East Highline Canal runs diagonally through APN 025-260-022 (see Figure 2). The other two parcels are located east of the East Highline Canal. Vega SES 5 would include a 50-megawatt solar photovoltaic system and integrated 100-megawatt battery energy storage system along with related substations and transmission lines. Figure 3 is a Site Plan showing the Project layout and ancillary facilities.

All parcels are located within the Imperial County Renewable Energy Overlay Zone, requiring projects to be permitted through the issuance of a Conditional Use Permit (CUP), which is a discretionary action by the County requiring compliance with the California Environmental Quality Act (CEQA). This Water Supply Assessment is intended to support and be a part of the CEQA analysis.

Domestic water and sanitation facilities would be required during construction. These would be provided through bottled water and portable facilities. A domestic/potable water connection would not be required.

Construction is anticipated to require 12 months to complete. Anticipated operational Project life is 25 to 30 years.

Figure 1. Regional Location Map

Figure 2. Project Location

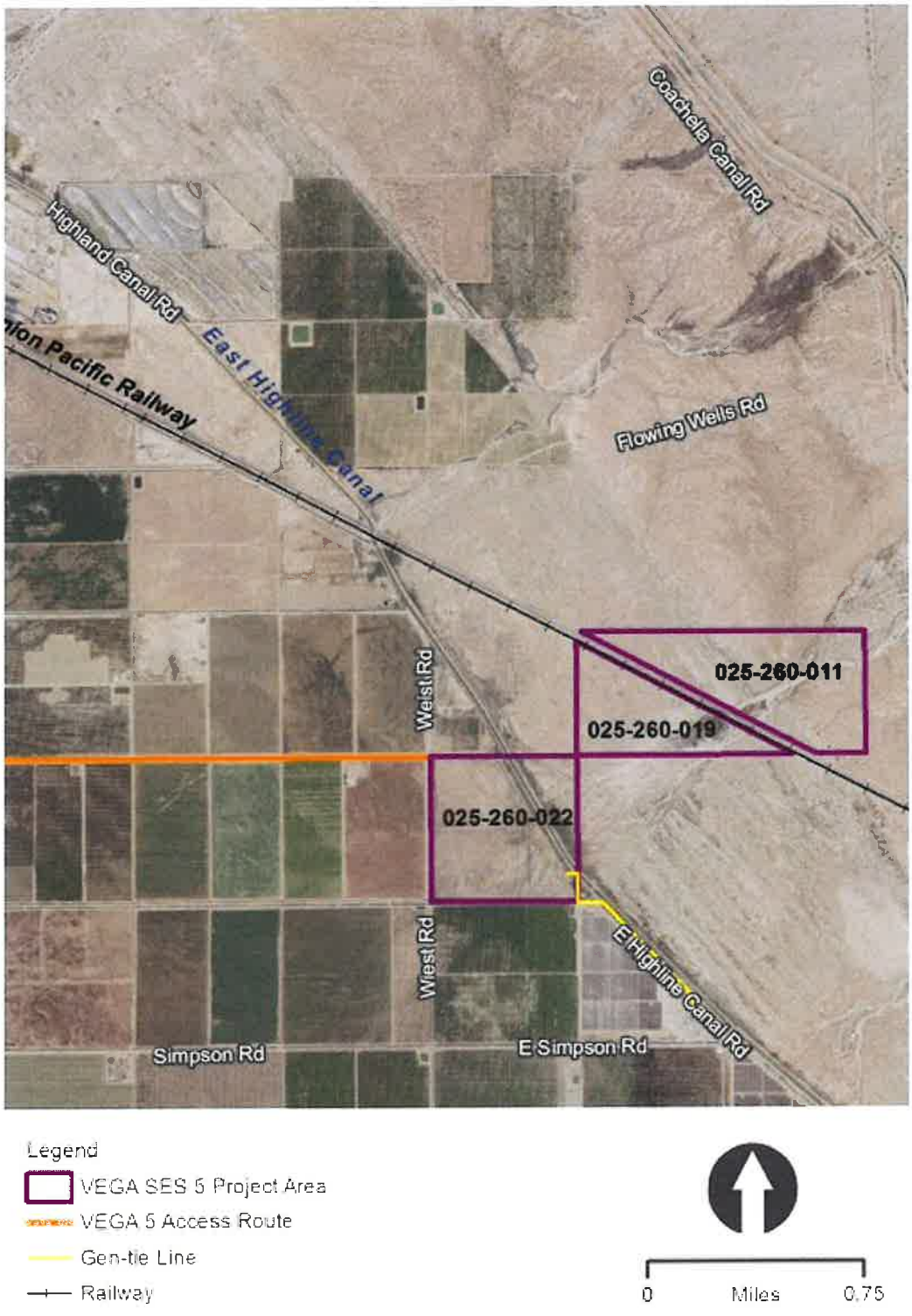
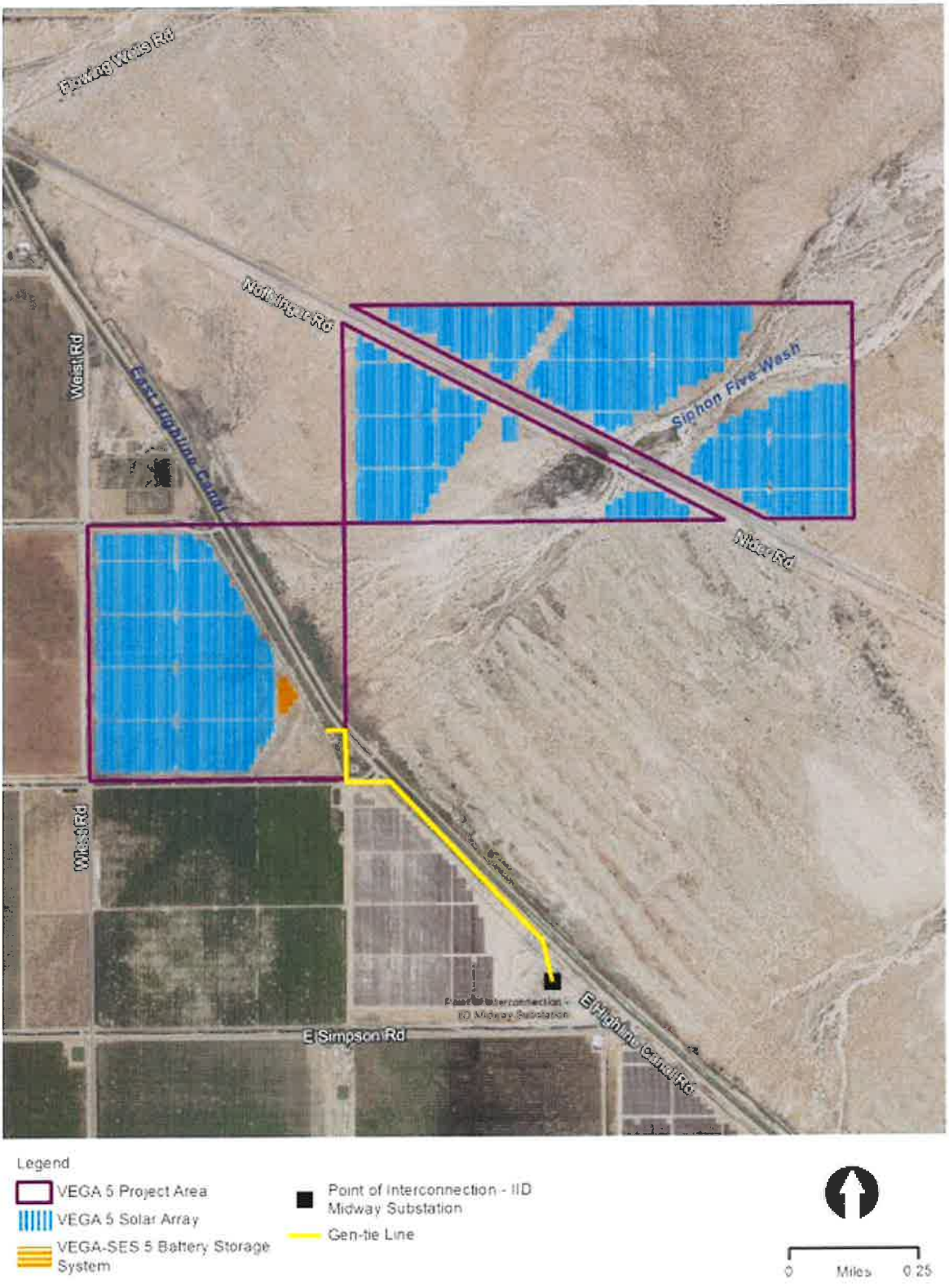


FIGURE 3. Site Plan



3.0 WATER SUPPLY PLANNING UNDER SB 610 and SB 1262

SB 610, effective January 1, 2002, amends Sections 10910 through 10915 of the Water Code by requiring preparation of a WSA for development projects subject to CEQA and other criteria, as discussed below. SB 610 also amends Section 10631 of the Water Code, which relates to Urban Water Management Plans (UWMPs). The WSA process under SB 610 is designed to rely on the information typically contained in UWMPs, where available.

On September 24, 2016, SB 1262 further amended Section 10910 of the Water Code to require additional information related to adjacent public water systems and the status of the groundwater basin. These amendments provide additional consistency with the Sustainable Groundwater Management Act of 2014, as discussed further in Section 4.4.

The first steps in the WSA process are to determine whether SB 610 applies to the proposed Project. If so, then documentation of available water supplies, anticipated Project demand, and the sufficiency of supplies must be conducted. These issues are summarized by the following questions, as outlined in the DWR Guidebook:

1. Is the proposed Project subject to CEQA?
2. Is the proposed Project a "Project" under SB 610?
3. Is there a public water system that will service the proposed Project?
4. Is there a current UWMP that accounts for the project demand?
5. Is groundwater a component of the supplies for the Project?
6. Are there sufficient supplies to serve the Project over the next twenty years?

Each of these issues are discussed in the following sections as they relate to the proposed Project.

3.1 Is the Proposed Project Subject to CEQA?

The first step in the SB 610 process is to determine whether the proposed project is subject to CEQA. Water Code Section 10910(a) states that any city or county that determines that an application meets the definition of "project", per Water Code Section 10912 (see Section 3.2, below), and is subject to CEQA, shall prepare a water supply assessment for the project. CEQA applies to projects requiring issuance of a discretionary permit by a public agency, projects undertaken by a public agency, or projects funded by a public agency. As noted in Section 2.0, the proposed Project is within the Imperial County Renewable Energy Overlay Zone, which requires discretionary approval of a CUP by Imperial County, a public agency. Therefore, the Project is subject

to CEQA. This WSA has been prepared to support the environmental review that will be conducted by Imperial County under CEQA.

3.2 Is the Proposed Project a "Project" Under SB 610?

The second step in the SB 610 process is to determine if the proposed Project meets the definition of "project" under Water Code Section 10912(a). Under Section 10912(a) a "project" is defined as meeting any of the following criteria:

1. a proposed residential development of more than 500 dwelling units;
2. a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
3. a proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
4. a proposed hotel or motel, or both, having more than 500 rooms;
5. a proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
6. a mixed-use project that includes one or more of the projects defined above; or
7. a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The Project encompasses 410 acres. As a result, the Project will include an industrial site that is larger than 40 acres and thus this WSA is being prepared in accordance with criterion 5, above.

3.3 Is There a Public Water System That Will Service the Proposed Project?

Section 10912(c) of the Water Code identifies a public water system as a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections. The Project site is approximately four miles southeast of the community of Niland and 16 miles northeast of the City of Brawley. APN 025-260-011, APN 025-260-019, and the area of APN 025-260-022 east of the East Highline Canal are located within Imperial Irrigation District's (IID's) East Mesa Unit, while 114.4 acres of the area of APN 025-260-022 west of the East Highline Canal is within IID's Imperial Unit (IID, 2022). The Project parcel areas in the East Mesa Unit do not currently have water service from IID. Although water service from IID is currently available for the area of APN 025-260-022 within the Imperial Unit, Vega SES 5, LLC does not plan to use surface water from IID to supply any area of the Project. Thus, there are no public water systems that will serve the Project. The water supply will be provided by new onsite groundwater supply wells to be drilled and installed as part of the Project.

3.4 Is There a Current Urban Water Management Plan That Accounts for the Project Demand?

The Water Code requires that all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet per year, must prepare an UWMP. The DWR Guidebook (page iii) states that SB 610 repeatedly refers to the UWMP as a planning document that can be used to meet the standards set forth in the statute, and that UWMPs act as a foundation to fulfill the requirements of the statute. As noted in Section 3.3, above, there are no public water systems that will serve the Project and, therefore, there is not an UWMP that addresses the Project area or Project demand. Since there is not an UWMP that accounts for the Project demand, this WSA is based upon available and relevant information from DWR, the USGS, and other publicly available data. As this WSA has been prepared for use by the CEQA lead agency, this document includes an evaluation of whether the total projected water supplies, determined to be available during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed Project, in addition to existing and planned future uses, including agricultural and manufacturing uses, in accordance with Water Code § 10910(c)(4).

3.5 Is Groundwater a Component of the Supplies for the Project?

Water Code Section 10910(f), paragraphs 1 through 5, must be addressed if groundwater is a source of supply for the proposed Project. As described in Section 3.3, the water supply will be provided by new groundwater supply wells that will be drilled and installed as part of the Project. One groundwater supply well is proposed to be drilled on APN 025-260-022. Additional water may be supplied from two wells to be installed as part of the ZGlobal Vega SES 2, LLC and Vega SES 3, LLC projects, located to the northeast of the Vega SES 5, LLC project area. Evaluation of available water supply from those two wells to the northeast has been conducted as part of a separate WSA for the adjacent Vega SES projects (EMKO, 2022). However, a separate assessment of groundwater conditions and availability for the Vega SES 5, LLC project is included in this document.

Water Code Section 10910(f) paragraphs 1 through 5, as modified by SB 1262, state:

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

> (1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.
>
> (2) (A) A description of any groundwater basin or basins from which the proposed project will be supplied. (B) For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to

comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. (C) For a basin that has not been adjudicated that is a basin designated as high- or medium priority pursuant to Section 10722.4, information regarding the following: (i) Whether the department has identified the basin as being subject to critical conditions of overdraft pursuant to Section 12924; and (ii) If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative, a copy of that alternative or plan. (D) For a basin that has not been adjudicated that is a basin designated as low- or very-low priority pursuant to Section 10722.4, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

Paragraphs 1 through 4, above, are addressed in Section 4.0, below, including a description of the groundwater basin, groundwater conditions, and available supply. Section 5.0 presents available information regarding water demand for the Project.

The Paragraph 5 requirement to provide an analysis of the sufficiency of the groundwater basin to meet the projected water demand associated with the proposed project is addressed in Section 6.0, below.

3.6 Are There Sufficient Supplies to Serve the Project Over the Next Twenty Years?

Water Code Section 10910(c)(4) requires the WSA to "*include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and future planned uses, including agricultural and manufacturing uses.*"

The sufficiency of water supply for the proposed Project is addressed in Sections 6.0 and 7.0, below.

4.0 PROJECT WATER SUPPLY

As stated in Section 3.3, above, water for the Project will be provided by new wells to be drilled for this and adjacent solar energy projects. As such, groundwater will be the sole water supply for both the construction and operational water needs. Because there are no public water systems or other significant users of groundwater in the groundwater basin, there are no Urban Water Management Plans or other planning documents that can be relied upon for this WSA. Thus, limited information is available regarding groundwater conditions in the Project vicinity.

Overall conditions within the groundwater basin are described in Section 4.1. Groundwater recharge and available supply are discussed in Section 4.2. Groundwater level trends and the status of the basin relative to the Sustainable Groundwater Management Act of 2014 (SGMA) is provided in Section 4.3, as required by SB 1262.

4.1 Groundwater Basin

Most of the Project is located within the western part of the East Salton Sea Groundwater Basin, designated as basin number 7-033, as defined by DWR (2022a) (see Figure 4). However, approximately 20 acres in the southwest corner of APN 025-260-022 overlies the adjacent Imperial Valley Groundwater Basin, designated as basin number 7-030 (DWR, 2022a). The inset on the left side of Figure 4 shows the area of the Project within the Imperial Valley Groundwater Basin. As discussed further below, all groundwater for the Project will be sourced from the East Salton Sea Groundwater Basin (Basin). Therefore, except for additional limited information provided in Section 4.3, below, the Imperial Valley Groundwater Basin is not addressed further in this WSA.

The Basin is bounded on the northeast by the Chocolate Mountains and on the southwest by the San Andreas and Banning Mission Creek fault zones (DWR, 2003). DWR (2003) reports that these faults zones may act as barriers to groundwater movement between basins. The northwest and southeast edges of the groundwater

basin are approximately defined by transitions between major surface drainages coming off of the Chocolate Mountains. The groundwater basin has an area of approximately 196,000 acres, or 306 square miles (DWR, 2003). The Basin has not been adjudicated (DWR, 2022b). Figure 4 shows the groundwater basin boundary and the approximate location of the Project.

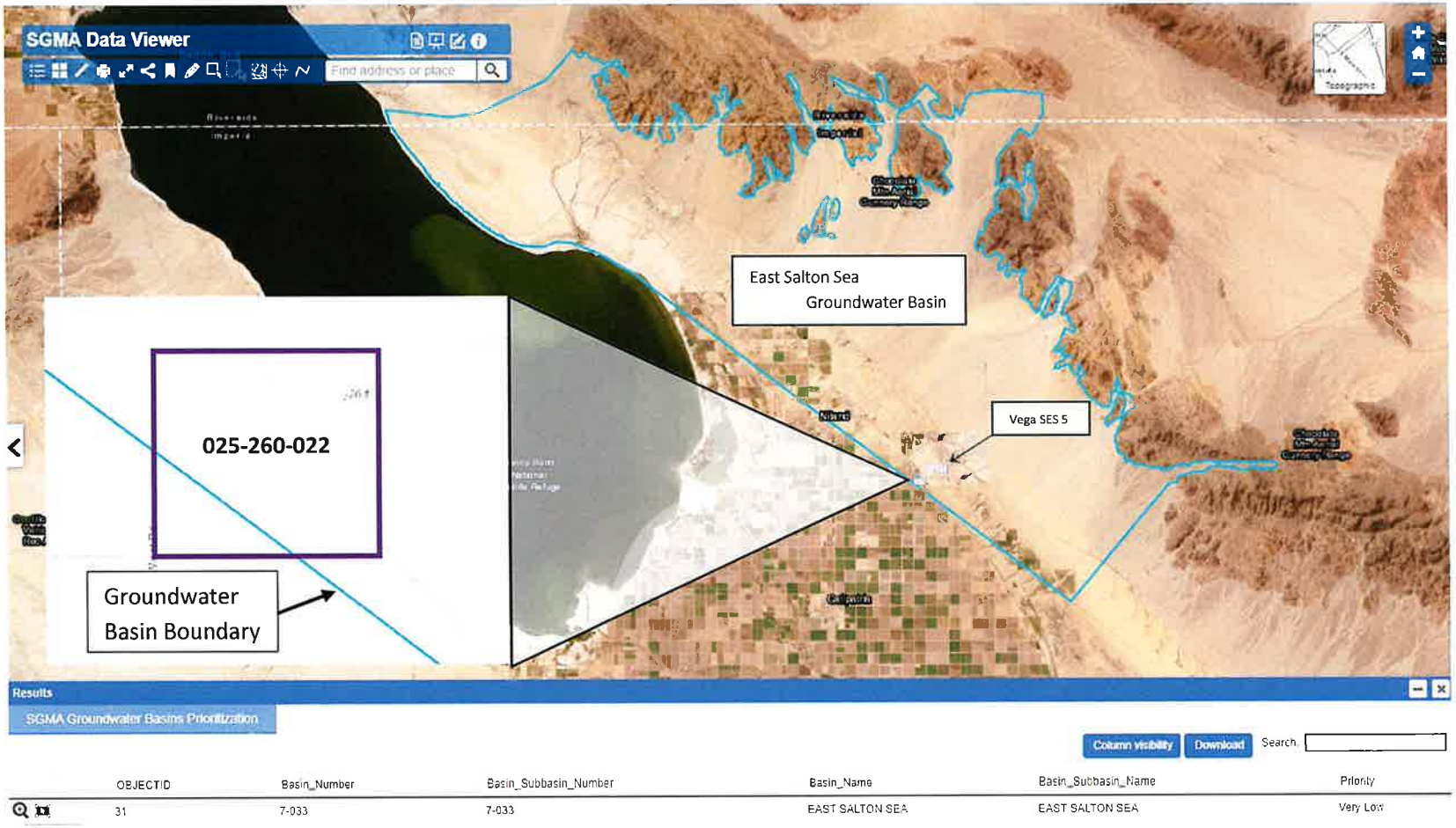
Groundwater occurs within unconsolidated to semi-consolidated coarse sediment eroded from the Chocolate Mountains (DWR, 2003). The sediment generally occurs within large alluvial fans that originate at drainages and canyons within the bedrock formations in the mountains and spread out as they decrease in elevation toward the floor of the Imperial Valley or the Salton Sea. The alluvial fan sediments range in age from Tertiary to Quaternary. DWR (2003) reports that the alluvium is at least 400 feet thick.

4.2 Groundwater Supply and Recharge

DWR (2022c) reports that the population in the Basin in 2010 was approximately 1,093 persons and that the population is expected to decrease 10 percent by 2030. There are no public water supply wells in the Basin and 11 total wells present. Only 4,906 acres of the 196,000-acre Basin, or 2.54 percent, are irrigated (DWR, 2022c). The total groundwater storage capacity of the groundwater basin is estimated to be 360,000 acre-feet (DWR, 2003).

The average annual rainfall is very low, as discussed further in Section 6.0 below, and typically does not provide a sufficient quantity of moisture to percolate deep into the alluvial sediments. As a result, recharge of groundwater occurs primarily due to runoff from the Chocolate Mountains during major storm events, which may not occur every year. The average annual recharge is estimated to be 200 acre-feet per year (DWR, 2003). That estimate is from a 1975 version of DWR Bulletin 118. No changes to basin conditions are reported in the most recent updates to DWR Bulletin 118 (DWR, 2021 and 2022a).

FIGURE 4. East Salton Sea Groundwater Basin



DWR's California Data Exchange Center website (https://cdec.water.ca.gov) and the USGS's National Water Information System mapping application (https://maps.waterdata.usgs.gov/mapper/index.html) show only one active groundwater monitoring location within the Basin at the time this report was prepared. That well is located approximately 3,600 feet southeast of the southeast corner of the Project site and 950 feet northeast of the Coachella Canal. The well has USGS identification number 331144115231501, which identifies the latitude and longitude of the well (i.e., 33°11'44" latitude, -115°23'15" longitude), and California state well number 011S015E23M001, which indicates the township, range, and quarter-quarter section (i.e., northwest quarter or the southwest quarter of township 11S, range 15E, San Bernardino Base and Meridian). The ground surface elevation at the well location is reported to be 120 feet above mean sea level (ft msl) while the borehole in which the well was installed is reported to have been drilled to a depth of 550 feet below ground surface (ft bgs) (USGS, 2022).

FIGURE 5. USGS Groundwater Level Hydrograph

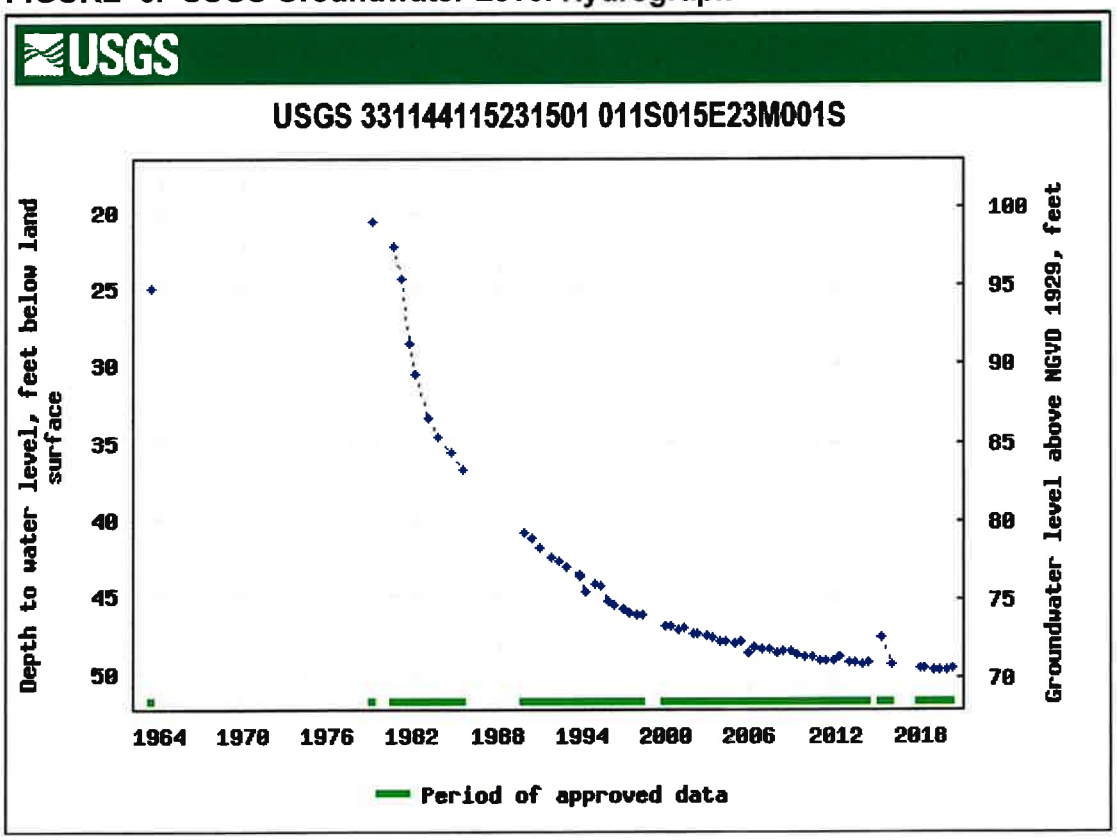


Figure 5 is a hydrograph from USGS (2022) showing the groundwater level and groundwater elevation measured since 1963 in the sole active monitoring well in the Basin. As indicated on Figure 5, the groundwater level decreased at a relatively rapid

rate from 1979 to approximately 2000, with the depth to water dropping from approximately 21 ft bgs to approximately 47 ft bgs over that period. Since 2000, the groundwater level has continued to decrease, but at a slower rate, with the level in March 2020 (the last date with a reported measurement by USGS) being approximately 50 ft bgs. While the groundwater level has decreased by almost 30 feet since 1979, it has changed by less than one foot over the past decade. Based on the depth to groundwater and the borehole depth for the monitoring well, the potential loss of aquifer volume since 1979 is only six percent of the total available storage reported by DWR (2003).

TABLE 1. USGS Water Quality Data (June 13, 1963)

Parameter	Units	Result
Temperature	Degrees Celsius (° C)	26.9
Specific Conductance	MicroSiemens per centimeter at 25° C	3630
pH	Standard units	7.4
Carbon Dioxide	Milligrams per liter (mg/L)	14
Acid Neutralizing Capacity	mg/L as calcium carbonate ($CaCO_3$)	174
Bicarbonate	mg/L	212
Carbonate	mg/L	0.0
Hardness	mg/L as $CaCO_3$	700
Non-carbonate hardness	mg/L as $CaCO_3$	530
Calcium	mg/L	106
Magnesium	mg/L	107
Sodium + Potassium	mg/L	500
Chloride	mg/L	635
Sulfate	mg/L	700
Fluoride	mg/L	1.6
Silica	mg/L as silica dioxide (SiO_2)	33
Dissolved Solids	mg/L	2190

Source:
https://nwis.waterdata.usgs.gov/nwis/qwdata?site_no=331144115231501&agency_cd=USGS&inventory_output=0&rdb_inventory_output=file&TZoutput=0&pm_cd_compare=Greater%20than&radio_parm_cds=all_parm_cds&format=html_table&qw_attributes=0&qw_sample_wide=wide&rdb_qw_attributes=0&date_format=YYYY-MM-DD&rdb_compression=file&submitted_form=brief_list

Water quality samples were collected and analyzed from the monitoring well within the Basin in June and September 1963 (USGS, 2022). Table 1 shows the water quality results from June 1963. The September results were comparable. The groundwater sampled from the monitoring well has a normal pH but the levels of sodium, chloride, and sulfate are elevated compared to what would be expected from percolation of local rainfall. The dissolved solids concentration of 2,190 milligrams per liter (mg/L) is more than twice the value of the high end of the range of the secondary maximum contaminant level (MCL) for drinking water of 1,000 mg/L. The high dissolved solids concentration renders the water unsuitable for potable or agricultural uses without treatment. The existing water quality is suitable for use for construction and maintenance purposes, though.

4.3 Groundwater Sustainability

A series of three bills passed by the California legislature and were signed by Governor Brown on September 16, 2014. These three bills, Assembly Bill (AB) 1739, SB 1168, and SB 1319, together comprise the Sustainable Groundwater Management Act of 2014 (SGMA). SGMA provides a structure under which local agencies are to develop a sustainable groundwater management program. SGMA focuses on basins or subbasins designated by DWR as high or medium priority basins, and those with critical conditions of overdraft.

According to DWR (2022b), the both the East Salton Sea Groundwater Basin and the Imperial Valley Groundwater Basin are very low priority basins. DWR has not identified these two basins as being overdrafted nor has it projected that these basins will become overdrafted if present management conditions continue (DWR, 2021 and 2022c). Thus, neither groundwater basin is subject to the current requirements of SGMA, including the formation of a groundwater sustainability agency (GSA) and preparation of a groundwater sustainability plan (GSP).

5.0 PROJECT WATER DEMAND

Water demand varies depending on the Project phase. During construction, water will be needed for dust control and soil conditioning during installation of the photovoltaic panels, battery storage units, and related infrastructure. During the operational phase of the project, water will be needed for routine maintenance activities, which primarily consists of washing the photovoltaic panels to maintain generation efficiency.

Table 2 provides a summary of Project parameters that affect water demand and the estimated water needs for construction and operation. The construction water demand is primarily for dust control. Thus, the water needs are proportional to the size of the disturbed area and the local climate. Construction water demand is approximately 365

acre-feet. Construction is anticipated to require 12 months to complete. Thus, the monthly water demand during that period will average about 30 acre-feet.

Table 2. Project Water Demand

Site	Area (acres)	Output (megawatts)	Construction Water (acre-feet)	Operational Water (acre-feet per year)
Vega SES 5	410	50	365	20

The operational water demand for panel washing and other maintenance needs is based primarily on the number of panels, which relates to the energy production or output, in megawatts. The operational water demand is anticipated to be 20 acre-feet per year. The maintenance activities are anticipated to be conducted up to twice a year over a one-to-two-week period each event, so the maintenance water demand is intermittent and not spread throughout the year. The operational water demand will occur throughout the life of the Project.

For the purpose of evaluating cumulative impacts, it should be noted that the evaluations in this WSA assume that Project construction will not occur simultaneously with construction of the adjacent Vega SES 2, LLC and Vega SES 3, LLC solar energy projects. However, operational water use for all three projects will occur over the same approximate timeframe during the next 25 to 30 years.

6.0 DRY YEAR SUPPLY

The volume and sustainability of dry-year water supply for the Project is addressed by comparing annual rainfall with changes in groundwater levels in the Basin. This comparison is made for a normal or average water year[1], for single dry year, and for multiple dry water years. Local rainfall data were obtained from the Western Region Climate Center (WRCC, 2022) for Niland, California, located approximately four miles northwest of the Project location (see Figure 1).

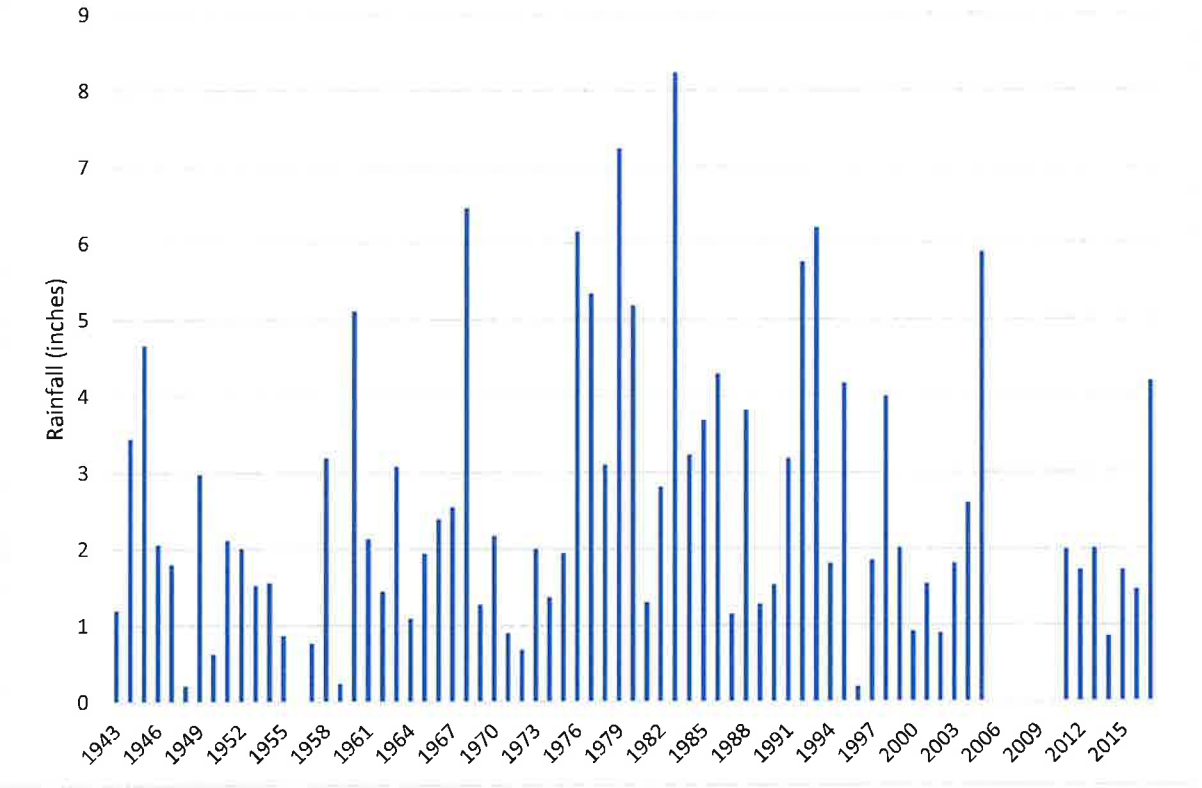
Figure 6 shows the annual water year rainfall for Niland, California from 1943 through 2017. The average water year rainfall during this period is 2.58 inches. The driest year was 1956, when no precipitation was recorded. The driest year during the period of available groundwater elevation data (see Figure 5) was 1996, with only 0.2 inch of rainfall

[1] In California, a water year is defined as the period from October 1 of a calendar year through September 30 of the subsequent calendar year. A water year is designated by the year in which it ends. For example, the period from October 1, 2006 through September 30, 2007 is referred to as the 2007 water year. Due to the nature of weather patterns in the state, a water year better represents hydrologic conditions related to wet and dry periods than does a calendar year.

reported. The wettest year was 1983, when 8.23 inches of rain was measured. As indicated on Figure 6, a relatively wet period occurred from 1976 to 1986, with 10 of 11 water years exceeding the average annual rainfall. In comparison, the period from 1996 to 2016 was relatively dry, with 18 of 21 water years having below normal rainfall.

The historic rainfall data on Figure 6 can be compared with the groundwater levels shown on Figure 5 to assess the effects of wet and dry periods on groundwater supply in the Basin. The wettest year recorded, 1983, and the relatively wet period from 1976 to 1986, correspond to a period when groundwater levels were dropping rapidly. In contrast, the dry period from 1996 to 2016 corresponds to a period when the rate of decline of the groundwater elevation was attenuating rapidly and beginning to stabilize. Thus, the available groundwater level and rainfall data do not indicate any relationship between wet, normal, single dry year, or multiple dry years and available groundwater supply. As noted above in Section 4.2, recharge of groundwater occurs primarily due to runoff from the mountains during individual major storm events (DWR, 2003). Such storm events typically occur infrequently and there may be many years between events that produce enough runoff to provide appreciable recharge.

Figure 6. Water Year Rainfall at Niland



The total groundwater storage capacity of the Basin is estimated to be 360,000 acre-feet (DWR, 2003) and the groundwater level decline from 1979 to 2018 decreased groundwater storage by approximately six percent (see Section 4.2). Thus, the current storage in the Basin may be in the range of 335,000 to 340,000 acre-feet. The single year construction water demand of 365 acre-feet and the annual combined operational water needs of 20 acre-feet are miniscule (0.1 percent and 0.006 percent, respectively) compared to the available groundwater in storage. Furthermore, the long term annual operational water needs are much less than the estimated annual recharge of 200 acre-feet per year. Overall, there is adequate water available to supply the Project water needs during single dry, and multiple dry year periods.

On a cumulative basis, the construction water demand for the Project and the adjacent Vega SES 2, LLC and Vega SES 3, LLC solar energy projects is equivalent to 0.3 percent of the available groundwater in storage. The annual cumulative operational water needs for all three solar energy projects is equivalent to 0.01 percent of the available groundwater in storage in the Basin. Thus, the cumulative effect on groundwater availability in the Basin would also be miniscule such that there would be adequate water available to supply the water needs of all three solar projects during single dry, and multiple dry year periods.

7.0 FINDINGS and DISCUSSION

This WSA has been prepared in accordance with SB 610 and SB 1262 to support the CEQA environmental review for the proposed Project and provides an assessment of water supply adequacy for the Project in accordance with Water Code Sections 10910 through 10915. As stated in Section 1.0, the purpose of the assessment is to determine if available water supplies are sufficient to serve the demand generated by the Project, as well as the reasonably foreseeable demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. As noted in Section 4.2, above, while groundwater levels in the Basin had been declining during the period from the late 1970s to the early 2000s, over the past decade they have stabilized, indicating that current water demands are in balance with recharge and replenishment. The population, and presumably the related water demand, are anticipated to decrease over the next decade. Therefore, the Basin has adequate resources for current and anticipated future existing water needs.

The water demand for the proposed Project will consist of water needed during construction and water needed for maintenance once the Project is operational. The construction water demand is anticipated to be a combined total of 365 acre-feet over 12 months, primarily for dust control. The operational demand is anticipated to be 20 acre-

feet per year for panel washing and other maintenance activities. The operational demand will exist for the life of the Project, which is anticipated to be 25 to 30 years.

The construction water demand exceeds the reported average annual recharge to the Basin of 200 acre-feet per year (DWR, 2003). However, the construction water needs are short-term and temporary. This temporary water use is not anticipated to cause persistent and long-term lowering of groundwater levels. Therefore, the construction water demand will not cause or contribute to overdraft, exhaustion of water supplies, lowering of groundwater levels to depths that would be uneconomic for pumping, land subsidence, or significant alteration of groundwater quality. As discussed in Section 6.0, above, cumulative construction water demand from the Project and the adjacent Vega SES 2, LLC and Vegs SES 3, LLC solar energy projects would also not cause persistent and long-term lowering of groundwater levels.

The annual operational water needs are equivalent to 10 percent of the average annual recharge and 0.006 percent of the estimated current storage volume of the Basin. Therefore, the long-term operation and maintenance of the Project would not have any measurable effect or impact on groundwater resources in the Basin. As discussed in Section 6.0, above, cumulative operational water demand from the Project and the adjacent Vega SES 2, LLC and Vegs SES 3, LLC solar energy projects would also not cause any measurable effect or impact on groundwater resources in the Basin.

Based on the analysis presented in this WSA, there will be sufficient water available for existing water uses in the Basin, along with the Project water demand and the water demands for the adjacent solar energy projects during normal, single dry year, and multiple dry year periods for the anticipated life of the Project, which is anticipated to be greater than 20 years.

8.0 DOCUMENTS CONSIDERED AND REFERENCES CITED

Department of Water Resources (DWR), 2003, Bulletin 118 Update 2003 – Basin Report 7_033, https://data.cnra.ca.gov/dataset/bulletin-118-update-2003-basin-reports/resource/bf769048-ac5c-4cb5-a03b-0cf12205dc4d, accessed November 28, 2022.

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EMKO Environmental, Inc. (EMKO), 2022, Water Supply Assessment for the ZGlobal Vega SES 2, LLC and Vega SES 3, LLC Solar Energy Projects, Imperial County, California.

Imperial Irrigation District (IID), 2022, Public Water Map, https://mygis.iid.com/portal/apps/webappviewer/index.html?id=a33cfeb3714f4eb8a1c85320613a2d1b, accessed multiple times between November 22 and November 30, 2022.

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ATTACHMENT "C" – FINAL ENVIRONMENTAL IMPACT REPORT & CEQA FINDINGS RESOLUTION

RESOLUTION NO. __

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF IMPERIAL FOR THE CERTIFICATION OF THE FINAL PROJECT ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE VEGA SES 2, 3 & 5 SOLAR ENERGY PROJECTS.

WHEREAS, a Final Project EIR SCH #2021050013 and Candidate CEQA Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State CEQA Guidelines, and the County's Rules to Implement CEQA; as amended for the VEGA SES 2, 3 & 5 SOLAR ENERGY PROJECTS. Projects consist of a Water Supply Assessments (WSA), an Environmental Impact Report (FEIR), a Mitigation Monitoring & Reporting Program and Conditional Use Permits (CUP) 20-0021, 22, 23, & Water Well CUP's 22-0025, 26, & 27 and,

WHEREAS, the Board of Supervisors of the County of Imperial has been delegated with the responsibility regarding the certification of the proposed Final Environmental Impact Report (FEIR); and,

WHEREAS, the Final Project EIR has been provided in a timely manner to public agencies; and

WHEREAS, timely public notice of the Board of Supervisors hearing on the Project application has been given. The Board of Supervisors has considered the recommendation for approval by the Board of Supervisors, evidence presented by the Imperial County Planning & Development Services Department and other interested parties at that public hearing held with respect to this item on October 24, 2023; and

WHEREAS, the Final Project EIR includes analysis of various alternatives as required by CEQA, including the Conditional Use Permit, Mitigation Monitoring & Reporting Program and Water Supply Assessment; and,

NOW THEREFORE, the Board of Supervisors of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Board of Supervisors independently has reviewed and considered the proposed Final Environmental Impact Report (FEIR) and Candidate CEQA Findings prior to making a decision to recommend that the Board of Supervisors approve the proposed FEIR and Findings of Fact. The Planning Commission finds and determines that the Environmental Impact Report is adequate and prepared in accordance with the requirements of the California Environmental Quality Act (CEQA), which analyzes environmental effects, based upon the following findings and determinations.

SECTION 2. That in accordance with, CEQA, State Planning and Zoning law and the County of Imperial Land Use Ordinance, the following findings for the recommendation for approval and certification of the FEIR and Findings of Fact have been made as follows:

1. That the Final Project EIR SCH #2021050013 , Candidate CEQA Findings for the VEGA SES 2, 3 & 5 Solar Energy ("Project") have been prepared in accordance with the requirements of the California Environmental Quality Act, the State CEQA Guidelines, and the County's Rules to Implement CEQA as amended, and such findings are incorporated by reference herein.

2. That the County independently has reviewed, analyzed, and considered the Final Project EIR, the environmental impacts therein identified for this Project, the Candidate CEQA Findings, and the Mitigation Monitoring and Reporting Program, and the entire Record of Proceedings prior to recommending approval of this project.

3. That the Final Project EIR and the Candidate CEQA Findings reflect the independent judgment of the County.

4. That the Candidate CEQA Findings are supported by substantial evidence and backed by information provided to the County by experts, including but not limited to the County staff and the EIR preparer, on whom the County relies.

5. That the County accept as its own, incorporate as if set forth in full herein, and make each and every one of the findings contained in the Candidate CEQA Findings, including feasibility of mitigation measures pursuant to Public Resources Code 21081(a)/CEQA Guidelines 15091, and the infeasibility of project alternatives.

6. That the Project will not individually or cumulative have an unmitigated adverse effect on fish and wildlife resources, as defined in Section 711.2 of the Fish and Game Code.

7. That the Record of Proceedings consists of the Final Project EIR (and all its technical reports and addendums thereto); the County staff reports; the CEQA Findings; the Mitigation Monitoring and Reporting Program; the various Project entitlements and documents referenced therein; all final reports, applications, memoranda, maps, letters, and other planning documents prepared and/or utilized by the EIR planning/environmental consultant; all final reports, memoranda, maps, letters, and other planning documents prepared and/or utilized by the County staff; all documents submitted by members of the public and public agencies in connection with the Final Project EIR; minutes and transcripts of all public meetings and public hearings; all written and verbal public testimony presented during a noticed public hearing for the proposed project which such testimony was taken and any and all other materials which constitute the record of proceeding pursuant to Public Resources Code section 21167.6(e); and matters of common knowledge to the County staff, Planning Commission, and Board of Supervisors, including, but not limited to the County General Plan, the County Zoning Ordinance, and County policies, which may be found at the Clerk's Office located at 940 Main Street, Suite 209, El Centro, CA, 92243 during regular business hours, and the Imperial County Planning & Development Services Department at 801 Main Street, El Centro, CA 92243.

NOW, THEREFORE, based on the above findings, the Board of Supervisors of the County of Imperial **DOES HEREBY APPROVE** the Final EIR **SCH #2021050013**, Candidate CEQA Findings, for the VEGA SES 2, 3 & 5 SOLAR ENERGY ("Projects").

Ryan E. Kelley, Chairperson
Imperial County Board of Supervisors

I hereby certify that the preceding resolution was taken by the Board of Supervisors at a meeting conducted on October 24, 2023, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

Blanca Acosta
Clerk of the Board of Supervisors

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CALIFORNIA ENVIRONMENTAL QUALITY ACT FINDINGS
(Public Resource Code §21081, CEQA Guidelines §15091)
Final Environmental Impact Report for the
VEGA SES 2,3 and 5 Solar Energy Project
(SCH No. 2021050013)

1 Introduction

The following Findings are made for the Environmental Impact Report SCH #2021050013 (the "EIR") for the proposed VEGA SES 2,3 and 5 Solar Energy Project (herein referred to as the "project"). The EIR analyzes the significant and potentially significant environmental impacts, which may occur as a result of the project.

The proposed project consists of three primary components: 1) solar energy generation equipment and associated facilities including a substation and access roads (herein referred to as "solar energy facility"); 2) battery energy storage system (BESS); and, 3) gen-tie line that would connect the proposed on-site substation to the point of interconnection with the IID KN/KS Line.

The project site is located on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, California. The site is approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The project area is transected by the Coachella and East Highline Canals and the Union Pacific Railway.

Three separate Conditional Use Permits (CUPs) have been filed with the County for the construction and operation of the solar facilities, which together define the project sites. The three CUP applications or individual site locations consist of the following:

- CUP 20-0021: VEGA SES 2
- CUP 20-0022: VEGA SES 3
- CUP 20-0023: VEGA SES 5

1.1 Purpose of CEQA Findings; Terminology

CEQA Findings play an important role in the consideration of projects for which an EIR is prepared. Under Public Resources Code §21081 and CEQA Guidelines §15091 above, where a final EIR identifies one or more significant environmental effects, a project may not be approved until the public agency makes written findings supported by substantial evidence in the administrative record regarding each of the significant effects. In turn, the three possible findings specified in CEQA Guidelines §15091(a) are:

1. Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the final EIR.
2. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

3. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

CEQA Guidelines §15092(b) provides that no agency shall approve a project for which an EIR was prepared unless either:

1. The project approved will not have a significant effect on the environment, or
2. The agency has:
   a. Eliminated or substantially lessened all significant effects where feasible as shown in the findings under Section 15091, and
   b. Determined that any remaining significant effects on the environment found to be unavoidable under Section 15091 are acceptable due to overriding concerns as described in Section 15093.

1.2 EIR Process

After the County reviewed the applications for the proposed project, it concluded that the project could have a significant impact on the environment and that preparation of an environmental impact report was determined to be the appropriate CEQA environmental document. The County issued a Notice of Preparation (NOP) on May 4, 2021 and made the NOP available for review and comment for a 35-day period closing on June 7, 2021. The NOP was distributed to city, county, and state and federal agencies, other public agencies, and various interested private organizations and individuals. The NOP was also published in the Imperial Valley Press and The Desert Review on May 4, 2021. A public scoping meeting was held on May 13, 2021. Three comment letters were received during the NOP review period. A copy of the NOP and written comments received in response to the NOP are included in Appendix A of the Final EIR.

Based upon comments the County received in response to the NOP, it was determined that the Draft EIR should analyze project related environmental impacts relative to the following 14 substantive potential impact areas in the Environmental Analysis section:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- GHG Emissions
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use and Planning
- Noise and Vibration

- Public Services (Fire Protection and Police Protection)
- Transportation
- Tribal Cultural Resources
- Utilities/Service Systems (Water Supply)

Additionally, the Draft EIR was required to include other CEQA substantive sections including an Executive Summary, Introduction, Environmental Setting, Project Description, Analysis of Long-Term Effects, Cumulative Impacts, Effects Not Significant, and Alternatives.

The Draft EIR was circulated for a statutory 45-day public review period starting on December 14, 2022 and ending on February 2, 2022 (50 actual days). The public review period was extended for an additional 30 days, ending on March 3, 2023. Six letters were received during the comment period, and are responded to in the responses to comments section of the Final EIR.

2 Project Location

VEGA SES 2

The VEGA SES 2 project site is located on three non-contiguous parcels (APNs 025-010-006 [partial], 025-260-011 [partial], and 025-270-023).

The northernmost parcel, APN 025-010-006, comprises 640 acres. The VEGA SES 2 project site is located on the southern 410 acres of the 640-acre parcel. This parcel is approximately 2.31 miles northeast of the East Highline Canal Road/Wiest Road/Flowing Wells Road intersection. This parcel is transected by Coachella Canal Road (intersected by Flowing Wells Road approximately halfway through the parcel) and the Coachella Canal, which runs southeast parallel to the roadway.

The southwestern parcel, APN 025-260-011, comprises 488 acres. The VEGA SES 2 project is located on the northern 288 acres of the 488-acre parcel.

The southeastern parcel, APN 025-270-023, encompasses approximately 625 acres and is adjacent to the southeast corner of APN 025-010-006. An approximately 934-foot segment of the Coachella Canal traverses the southwestern corner of the parcel. This parcel is transected by Niland Pegleg Well Road and Ted Kipf Road in the northern half of the parcel.

VEGA SES 3

The VEGA SES 3 project site is located on the northern portion of APN 025-010-006, comprising the remaining 230 acres of the 640-acre parcel.

VEGA SES 5

The VEGA SES 5 project site is located on three parcels (APNs 025-260-011 [partial], 025-260-019 and 025-260-022) encompassing approximately 410 acres. A portion of the VEGA SES 5 project site is located on the southern 160 acres of APN 025-260-011. APN 025-260-019 is adjacent to the Union Pacific Railway and Noffsinger Road to the northeast. APN 025-260-022 is adjacent to Wiest Road to the west and McDonald Road to the north and transected by East Highline Canal Road and the East Highline Canal.

The agricultural portion of VEGA SES 5 (APN 025-260-022) that is west of the East Highline Canal contains fallow agricultural land with scattered dry crop residue. The agricultural field is bounded by McDonald Road to the north, Schrimpf Road to the south, and Weist Road to the west. The East Highline Canal cuts across APN 025-260-022 diagonally in a northwest to southeast direction. Within the agricultural portion of the VEGA SES 5 project site, there are subsurface tile drainage pipelines that are generally aligned north to south and carry irrigation wastewater to the N Drain at the southwest corner of the field.

3 Project Description

The proposed projects (VEGA SES 2, 3, and 5) would involve the construction and operation of an expansive PV solar energy facility and associated infrastructure on approximately 1,963 acres of privately-owned land. The project sites would be developed with a ground mounted PV solar power generating system, supporting structures, on-site substations, battery energy storage system (BESS), interconnection facilities, and internal access roads. The projects would employ the use of PV power systems to convert solar energy into electricity using non-reflective technology.

Collectively, the proposed projects involve the construction of up to 350 megawatt (MW) alternating current (AC) photovoltaic (PV) solar energy facility with an integrated battery storage system (not to exceed 700 MW) (Table 1).

Table 1. Megawatt Output

Solar Facility	Proposed Megawatt Output	Battery Storage
VEGA SES 2	240 MW	480 MW
VEGA SES 3	60 MW	120 MW
VEGA SES 5	50 MW	100 MW
Total	**350MW**	**700 MW**

The projects propose to utilize either thin film or crystalline solar photovoltaic (PV) technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems.

The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The depth of the piles would be dependent on the recommendations of the geotechnical report prepared for the projects. The fixed-frame racks would be secured at a fixed tilt of 20-30 degrees from horizontal facing a southerly direction. Current project designs would have individual PV modules, mounted two high on a fixed frame, providing a two-foot ground clearance and resulting in the tops of the panels at approximately 7.5 feet above the ground. The fixed PV modules would be arranged in arrays spaced approximately 15 to 25 feet apart (pile-to-pile) to maximize performance and to allow access for panel cleaning. These arrays would be separated from each other and the perimeter security fence by up to 30-foot wide interior roads.

If HSAT technology is used, the PV modules would rotate around the north-south HSAT axis so that the PV modules would continue to face the sun as the sun moves across the sky throughout the day. The PV modules would reach their maximum height (up to 9 feet above the ground, depending on the final design) at both sunrise and sunset, when the HSAT is rotated to point the modules at the rising or setting sun. At noon, or when stowed during high winds, when the HSAT system is rotated so that

the PV modules are horizontal, the nominal height would be about 6 feet above the ground, depending on the final design.

The individual PV systems would be arranged in large arrays by placing them in columns spaced approximately 10 feet apart to maximize operational performance and to allow access for panel cleaning and maintenance. Current project designs would have individual HSAT PV modules, each approximately two feet wide by four feet long (depending on the specific PV technology selected), mounted on a frame which is attached to an HSAT system. The HSAT arrays would be separated from each other and the perimeter security fence by up to 30-foot-wide roads, consistent with Imperial County Fire Department emergency access requirements.

3.1.1 Electrical Power System

Electricity generated by the PV modules would be collected by a direct current (DC) collection system routed underground in trenches. This DC power would be delivered to one of the pad-mounted inverters in weatherproof enclosures located within the arrays. The inverters would convert the DC power to three-phase alternating current (AC). The inverters could be connected to AC interconnection facilities which, if needed, would raise the voltage to 34.5 kilovolt (kV), or the interconnection voltage selected by the projects. Underground or overhead 12.5 kV or 34.5 kV collection lines would transmit the electricity to the new substations.

3.1.2 Substations, Distribution/Electrical Collection and Transmission

VEGA SES 2

Substations

As shown in Figure 2-3 of the Final EIR, two new substations would be constructed on the VEGA SES 2 project site. The first substation would be constructed in the northwestern corner of APN 025-260-011 on approximately two acres. The substation would take the delivery of up to 60 kV electricity and increase the voltage of the electricity to 230 kV, where it would feed into the interconnection switching station for metering and delivery to the IID KN/KS Line. The substation would include two transformers, circuit breakers, disconnect switches, microwave or other communication facilities, and an electrical control building.

The second substation would be located in the northwestern corner of APN 025-270-023 on approximately two acres. This substation would be comprised of an underground combiner box used to connect all of the low voltage AC outputs of the inverters, a medium voltage transformer to increased the voltage up to 60 kV, a protective relay system and associated circuit breakers and disconnect switches. This substation would take delivery of the energy generated on APN 025-270-023 and transmit it through the proposed 34.5 kV or 60 kV lines to the primary project substation on APN 025-260-011. The substation would include a transformer, circuit breaker, meters, disconnect switches, and microwave or other communication facilities.

One new interconnection switching station would be constructed on APN 025-260-011, immediately adjacent to the substation. The interconnection switching station and substation would be connected via a single overhead 230 kV line. The switching station would include circuit breakers, switches, overhead bus work, protective relay equipment and an electrical control building. The switching station would operate at 230 kV and be configured in a Breaker-And-A-Half arrangement. This would allow

for looping in of one or two of the IID 230 kV lines as well as connection of the total project output at 230 kV. The switching station would be enclosed within its own fence.

To connect the project's interconnection facilities, the medium voltage power produced by the project would be conveyed underground, or above ground where necessary, to cross over any sensitive site features. The design of the project's interconnection facilities would meet all necessary utility standards and requirements. As required, surge arrestors would be used to protect facilities and auxiliary equipment from lightning strikes or other disturbances. Distribution from the site would be via an overhead connection.

Distribution and Interconnection

The VEGA SES 2 project's distribution and interconnection would be as follows: the medium voltage power would be conveyed underground or aboveground via 34.5 kV or 60 kV distribution circuits from the substation located in the northwest corner of 025-270-023 to the substation located in the northwest corner of APN 025-260-011. The height of the proposed gen-tie transmission structures would be 40 feet. The electrical energy produced by the VEGA SES 2 project would be delivered to the IID through the project's interconnection switching station to the IID's 230 kV KN/KS Line.

Bureau of Reclamation Right-of-Way Request – VEGA SES 2

60-Foot-Wide ROW for Gen-Tie Interconnection

As shown in Figure 2-4 and Figure 2-5 of the Final EIR, there is a portion of the VEGA SES 2 gen-tie line, from the southwest corner of APN 025-010-006 to the northeast corner of APN 025-260-011, that would traverse BOR land. The project applicant is requesting a 60-foot-wide ROW for a single power pole structure from BOR to construct a portion of the gen-tie line on BOR land. This ROW would be 1,200-foot-long X 60-foot wide for an area of approximately 1.82 acres.

BLM Right-of-Way Request – VEGA SES 2

Aerial Crossing ROWs for Overhead Powerlines

As shown in Figure 2-4 and Figure 2-5 of the Final EIR, a triangular aerial crossing ROW would be required at the southeastern corner of APN 025-010-006 to the northwestern corner of APN 025-270-023. The triangular ROW would be required for overhead powerlines that would span the two corners of these parcels. No power poles would be set within this ROW. The total land area would be approximately 0.02 acres.

Additionally, as shown in Figure 2-4 and Figure 2-5 of the Final EIR, a triangular aerial crossing ROW would be required at the northeastern corner of APN 025-260-035 to APN 025-010-006. This triangular ROW would be required for overhead powerlines that would span the two corners of these parcels. No power poles would be set within this ROW. The total land area would be approximately 0.02 acres.

VEGA SES 3

Substation

A new substation would be constructed on the northwestern corner of the VEGA SES 3 project site. The substation site will comprise approximately two acres. Medium voltage power electricity generated from the site would be conveyed underground, or above ground where necessary, to cross over any sensitive site features, to connect to the substation.

Interconnection

A new interconnection switching station would be constructed immediately adjacent to the substation. The interconnection switching station and substation would be connected via a single overhead 161 kV line. The switching station would include circuit breakers, switches, overhead bus work, protective relay equipment and an electrical control building. The switching station would operate at 161 kV and be configured in a Breaker-And-A-Half or three breaker ring bus arrangement. This would allow for looping in of the IID 161 kV "F" transmission line as well as connection of the project gen-tie line. The switching station would be enclosed within its own fence. As shown in Figure 2-3, the electrical energy produced by the VEGA SES 3 project would be connected to the existing utility approved point of interconnection at the northeast corner of the site to the IID's 161 kV "F" Line.

The design of the project's interconnection facilities would meet all necessary utility standards and requirements. As required, surge arrestors would be used to protect facilities and auxiliary equipment from lightning strikes or other disturbances. Distribution from the site would be via an overhead connection.

BLM Right-of-Way Request – VEGA SES 3

140-Foot-Wide ROW for Gen-Tie Interconnection

As shown in Figure 2-3 of the Final EIR, the electrical energy produced by the VEGA SES 3 project would be connected to the existing utility approved point of interconnection at the northeastern corner of the site to the IID's 161 kV "F" Line. Because the "F" Line is located on BLM land, the project applicant is requesting a 140-foot-wide ROW from BLM for the proposed interconnection road to IID and along the IID's 161 kV "F" Line for approximately 200 feet in length and the width of the existing IID ROW. There would be two new H Frame poles installed in the corridor of the "F" Line. The total area would be approximately 0.25 acres (Figure 2-4 and Figure 2-5 of the Final EIR).

VEGA SES 5

Substation

A new substation would be constructed on the VEGA SES 5 project site, on the southeastern boundary of APN 025-260-022. This substation would take the delivery of the up to 34.5 kV power generated on the site and increase the voltage of the electricity to 92 kV, where it would be delivered to the IID 92 kV Midway Substation.

Interconnection

The proposed gen-tie line alignment for VEGA SES 5 is depicted on Figure 2-5. The substation would include a transformer, circuit breakers, meters, disconnect switches, and microwave or other communication facilities. The medium voltage power electricity generated from the project would be conveyed underground, or above ground where necessary, to cross over any sensitive site features, to connect to the projects' interconnection facilities.

The design of the project's interconnection facilities would meet all necessary utility standards and requirements. As required, surge arrestors would be used to protect facilities and auxiliary equipment from lightning strikes or other disturbances. Distribution from the site would be via an overhead connection.

BLM Right-of-Way Request – VEGA SES 5

Aerial Crossing ROW for Overhead Powerline

As shown in Figure 2-4 and Figure 2-5 of the Final EIR, BLM approval of one triangular aerial crossing ROW would be required. At the northeast corner of APN 025-260-022 to APN 025-260-019, a triangular aerial crossing ROW would be required for the overhead power line that would span the two-corner intersection of the parcel. No power poles would be set within this area. The total land area would be approximately 0.02 acres.

Bureau of Reclamation Right-of-Way Request – VEGA SES 5

Aerial Crossing ROW for Overhead Powerline

As shown in Figure 2-4 and Figure 2-5 of the Final EIR, BOR approval of one triangular aerial crossing ROW would be required. At the southeast corner of APN 025-260-022 to APN 025-260-017, a triangular aerial crossing ROW would be required for the overhead power line that would span the two-corner intersection of the parcel. No power poles would be set within this area. The total land area would be approximately 0.02 acres.

No ground disturbance would occur associated with the aerial crossing ROWs.

Battery Energy Storage System

A BESS is proposed on an approximately 5-acre site within the VEGA SES 2 project site in the southwestern corner of APN 025-010-006. The BESS on the VEGA SES 5 project site is proposed to be located in the southeastern corner of APN 025-260-022. The proposed BESS would consist of either lithium ion or flow batteries. The batteries will either be housed in storage containers or buildings fitted with HVAC and fire suppression systems as necessary, depending on the final selection of battery technology. Inside the housing the batteries will be placed on racks, the orientation of which depends on the type of housing. Underground trenches with conduits will be used to connect the batteries to the control and monitoring systems, and inverters to convert the PV produced DC power to AC power.

3.2 Project Objectives

The following are the project objectives:

- Construct and operate a solar energy facility capable of producing up to 350 megawatt (MW) alternating current (AC) of electricity to assist the State of California in achieving its 60 percent renewable portfolio standard by 2030.
- Provide a 700 MW energy (battery storage) system, that would accommodate and store the power generated by the project so that the facility can continue to provide renewable energy during non-daylight hours.
- Interconnect directly to IID's existing electrical transmission system.
- Help California meet its statutory and regulatory goal of increasing renewable power generation, including greenhouse gas reduction goals of Senate Bill 32.
- Minimize and mitigate any potential impact to sensitive environmental resources within the project area.

3.3 Discretionary Actions/Approvals by the County of Imperial

The County is the "lead agency" for the proposed project. Lead agency is defined as, "the public agency, which has the principal responsibility for carrying out or approving a project." The County must undertake the following discretionary actions and approvals for the project:

1. **Approval of CUPs.** Implementation of the projects would require the approval of CUPs by the County to allow for the construction and operation of the proposed solar energy facilities with an integrated battery storage system. The following CUPs are under consideration for approval as evaluated in this EIR:
    - CUP 20-0021: VEGA SES 2
    - CUP 20-0022: VEGA SES 3
    - CUP 20-0023: VEGA SES 5

VEGA SES 2, 3, and 5 CUPs – Solar Facilities

Project	APN	Acreage	Zoning
VEGA SES 2 (CUP 20-0021)	025-010-006 (partial)	410	S-2-RE
	025-260-011 (partial)	288	S-2-RE
	025-270-023	625	S-2-RE
	Subtotal	***1,323***	--
VEGA SES 3 (CUP 20-0022)	025-010-006 (partial)	230	S-2-RE
	Subtotal	***230***	--
VEGA SES 5 (CUP 20-0023)	025-260-011 (partial)	160	S-2-RE
	025-260-019	90	S-2-RE
	025-260-022	160	A-2-RE, A-3-RE, S-2-RE
	Subtotal	***410***	--
Total Gross Acres		**1,963**	--

The project parcels are currently zoned as A-2-RE, A-3-RE, and S-2-RE.

Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

> *j) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)*
>
> *s) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *z) Electrical substations in an electrical transmission system (500 kv/230 kv/161 kv)*
>
> *bb) Facilities for the transmission of electrical energy (100-200 kv)*
>
> *ww) Resource extraction and energy development as per Division 17*

aaa) Solar energy electrical generator

Pursuant to Title 9, Division 5, Chapter 9, the following uses are permitted in the A-3 zone subject to approval of a CUP from Imperial County:

i) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)

o) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.

oo) Major facilities relating to the generation and transmission of electrical energy provided such facilities are not under State or Federal law, to be approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters, meeting the requirements in Division 17.

zz) Solar energy plants meeting the requirements in Division 17

Pursuant to Title 9, Division 5, Chapter 19, the following uses are permitted in the S-2 zone subject to approval of a CUP from Imperial County:

d) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.

i) Major facilities relating to the generation and transmission of electrical energy provide[d] such facilities are not under State or Federal law, to [be] approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters. Such uses shall include but be limited to the following:

- *Electrical generation plants*
- *Facilities for the transmission of electrical energy (100-200 kV)*
- *Electrical substations in an electrical transmission system (500 kv/230 kv/161 kV)*

2. **Approval of CUPs (CUP 22-0025-0026, and -0027) – Groundwater Wells.** Pursuant to Title 9 Division 21: Water Well Regulations, §92102.00, the Applicant will be required to obtain a CUP for each proposed on-site groundwater well. As required by §92102.00, no person shall (1) drill a new well, (2) activate a previously drilled but unused well, (unused shall mean a well or wells that have not been used for a 12 month) period by installing pumps, motors, pressure tanks, piping, or other equipment necessary or intended to make the well operational, (3) increase the pumping capacity of a well, or (4) change the use of a well, without first obtaining a CUP through the County Planning & Development Services Department.
3. **Certification of the EIR.** After the required public review for the Draft EIR, the County will respond to written comments, edit the document, and produce a Final EIR to be certified by

the Planning Commission and Board of Supervisors prior to making a decision on approval or denial of the project.

3.4 Discretionary Actions/Approvals by Other Agencies

Responsible Agencies are those agencies that have discretionary approval over one or more actions involved with development of the project. Trustee Agencies are state agencies that have discretionary approval or jurisdiction by law over natural resources affected by a project. These agencies may include, but are not limited to the following:

- California RWQCB – Notice of Intent for General Construction Permit, CWA 401 Water Quality Certification
- ICAPCD – Fugitive Dust Control Plan, Rule 801 Compliance
- CDFW (Trustee Agency) – ESA Compliance, Section 1600 Streambed Alteration Agreement
- USFWS – ESA Compliance
- USACE – Section 404 of the CWA Permit
- Bureau of Land Management
    - Right-of-way easement to use Flowing Wells Road for access during construction and maintenance
    - Right-of-way grant for the off-site gen-tie lines to be located on federal lands under the jurisdiction of the BLM
    - Aerial easements to allow gen-tie connections between the facilities
- Bureau of Reclamation
    - Right-of-way easement to cross the Coachella Canal to access the project site (APN 025-010-006)
    - Right-of-way grant for the off-site gen-tie line to be located on federal lands under the jurisdiction of the BOR
    - Aerial easement to allow gen-tie connections between the facilities
    - There are two training dikes within the project area. The locations of these dikes are depicted on Figure 2-2 of the Final EIR. As shown, one dike extends northerly from the Coachella Canal through APN #025-010-006 (VEGA SES 2) and a portion of APN #025-010-006 (VEGA SES 3). Any modifications to these dikes will require appropriate authorization from Bureau of Reclamation.
- Coachella Valley Water District
    - Drainage Plan

4 Issues Addressed In the EIR

Based on the analysis presented in the NOP and the information provided in the comments to the NOP, the following environmental topics were analyzed in the EIR.

- Aesthetics
- Agriculture Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use/Planning
- Noise and Vibration
- Transportation
- Tribal Cultural Resources
- Utilities/Service Systems

5 Mitigation Monitoring Program

Pursuant to PRC §21081.6, the County has adopted a detailed mitigation and monitoring program prepared under the County's direction. The program is designed to ensure that all mitigation measures as hereafter required are in fact implemented on a timely basis as the project is implemented.

6 Record of Proceedings

For all purposes of CEQA compliance, including these Findings of Fact, the administrative record of all County proceedings and decisions regarding the environmental analysis of the project include but are not limited to:

- The Draft and Final EIR for the project, together with all appendices and technical reports referred to therein, whether separately bound or not, or on a CD;
- All reports, letters, applications, memoranda, maps or other planning and engineering documents prepared by the County, its planning consultant and environmental consultant, the applicant or others and presented to or before the decision-makers or staff;
- All minutes of any public workshops, meetings or hearings, and any recorded or verbatim transcripts or videotapes thereof;
- Any letters, reports or other documents or evidence submitted into the record at any public workshops, meetings or hearings; and

- Matters of common general knowledge to the County which it may consider, including applicable state or local laws, ordinances and policies, the General Plan and all applicable planning programs and policies of the County.

Documents or other materials that constitute the record of proceedings upon which these Findings are made are located at the Department of Planning and Development Services of the County of Imperial, 801 Main Street, El Centro, CA 92243.

7 Findings of Significant Impacts, Required Mitigation Measures and Supporting Facts

The County, having reviewed and considered the information contained in the EIR and the entire administrative record, including but not limited to the expert opinions of the County's professional planning staff and independent consultants familiar with the environmental conditions of the County and the facts and circumstances of the project who prepared the EIR, finds pursuant to Public Resources Code §21081(a)(1) and Guidelines §15091(a)(1) that changes or alterations have been required in, or incorporated into, the project which would mitigate, avoid, or substantially lessen to below a level of significance the following potential significant environmental effects identified in the EIR.

7.1 Agricultural Resources

7.1.1 Conversion of Important Farmlands to Non-Agricultural Use

A. Potential Impact (VEGA 5 Only). There is the potential that weeds or other pests may occur within the solar fields if the area is not properly maintained and managed to control weeds and pests.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.3 of the Final EIR, the project's potentially significant impact would be mitigated to below a level of significance with the implementation of Mitigation Measures AG-1 of the Final EIR as identified below. With the implementation of Mitigation Measure AG-1, the project applicant would be required to minimize the impact associated with control of weeds and other pests within the solar fields that, if not properly controlled, could impact adjacent farmlands. Mitigation Measure AG-1 will ensure that the project applicant prepares and implements a Pest Management Plan as approved by the County Agricultural Commissioner.

Mitigation Measure AG-1 Prior to the issuance of a grading permit or building permit (whichever occurs first), a Pest Management Plan shall be developed by the project applicant and approved by the County of Imperial Agricultural Commissioner. The project applicant shall maintain a Pest Management Plan until reclamation is complete. The plan shall provide the following:

1. Monitoring, preventative, and management strategies for weed and pest control during construction activities at any portion of the project (e.g., transmission line);

2. Control and management of weeds and pests in areas temporarily disturbed during construction where native seed will aid in site revegetation as follows:
    - Monitor for all pests including insects, vertebrates, weeds, and pathogens. Promptly control or eradicate pests when found, or when notified by the Agricultural Commissioner's office that a pest problem is present on the project site. The assistance of a licensed pest control advisor is recommended. All treatments must be performed by a qualified applicator or a licensed pest control business.
    - All treatments must be performed by a qualified applicator or a licensed pest control operator.
    - "Control" means to reduce the population of common pests below economically damaging levels, and includes attempts to exclude pests before infestation, and effective control methods after infestation. Effective control methods may include physical/mechanical removal, bio control, cultural control, or chemical treatments.
    - Use of "permanent" soil sterilants to control weeds or other pests is prohibited because this would interfere with reclamation.
    - Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of Food Agriculture and the U.S. Department of Agriculture. Request a sample be taken by the Agricultural Commissioner's Office of a suspected invasive species. Eradication of exotic pests shall be done under the direction of the Agricultural Commissioner's Office and/or California Department of Food and Agriculture.
    - Obey all pesticide use laws, regulations, and permit conditions.
    - Allow access by Agricultural Commissioner staff for routine visual and trap pest surveys, compliance inspections, eradication of exotic pests, and other official duties.
    - Ensure all project employees that handle pest control issues are appropriately trained and certified, all required records are maintained and made available for inspection, and all required permits and other required legal documents are current.
    - Maintain records of pests found and treatments or pest management methods used. Records should include the date, location/block, project name (current and previous if changed), and methods used. For pesticides include the chemical(s) used, EPA Registration numbers, application rates, etc. A pesticide use report may be used for this.
    - Submit a report of monitoring, pest finds, and treatments, or other pest management methods to the Agricultural Commissioner quarterly within 15 days after the end of the previous quarter, and upon request. The report is required even if no pests were found or treatment occurred. It may consist of a copy of all records for the previous quarter, or may be a summary letter/report as long as the original detailed records are available upon request.
3. A long-term strategy for weed and pest control and management during the operation of the proposed project. Such strategies may include, but are not limited to:
    - Use of specific types of herbicides and pesticides on a scheduled basis.

4. Maintenance and management of project site conditions to reduce the potential for a significant increase in pest-related nuisance conditions on surrounding agricultural lands.
5. The project shall reimburse the Agricultural Commissioner's office for the actual cost of investigations, inspections, or other required non-routine responses to the site that are not funded by other sources.

7.2 Air Quality

7.2.1 Air Quality Emissions - Construction

A. Potential Impact. As shown in Table 3.4-7 of the Final EIR, the VEGA SES 2 and 3 projects' daily construction emissions would not exceed the ICAPCD thresholds for ROG, NOx, CO, SO_2, and $PM_{2.5}$. However, emissions of PM_{10} would exceed the ICAPCD significance threshold on the peak day(s).

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII - Fugitive Dust Control Measures. The project must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. Regulation VIII requires all unpaved roadways, on- and off-site, to be conditioned and maintained with soil stabilizers to reduce dust opacity to no more than 20 percent; all unpaved disturbed surfaces, on- and off-site, to be stabilized with a dust suppressant, watering, or soil stabilizers to reduce opacity to no greater than 20 percent; and to reduce vehicle speed to no greater than 15 mph on all unpaved surfaces. Final EIR Table 3.4-8 shows the projects' emissions with implementation of the Regulation VIII fugitive dust control measures (Mitigation Measure AQ-1). With implementation of Mitigation Measure AQ-1, the project would not exceed the ICAPCD's thresholds of significance for PM_{10} emissions.

In addition, as described in Mitigation Measure AQ-2, construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at the project site by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit. The equipment list shall be submitted periodically to ICAPCD to perform a NOx analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds.

Mitigation Measure AQ-1 Fugitive Dust Control. During construction activities, the constructor contractor shall employ the following PM_{10} reducing measures:

1. All unpaved roads associated with construction shall be effectively stabilized of dust emissions using Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant before the commencement of construction, and every 30 days thereafter until the end of all construction activities. Unpaved roads associated with construction include:
    - The 1.65 miles of unpaved road on Weist Road and Flowing Wells Road to the VEGA SES 2 and 3 project sites. Monthly application of Imperial County Air Pollution Control District-

approved chemical stabilizers/suppressant shall be applied at a rate of 0.1 gallon/square yard of chemical dust suppressant.

2. Prior to any earthmoving activity, the applicant shall submit a construction dust control plan and obtain Imperial County Air Pollution Control District and Imperial County Planning and Development Services Department (ICPDS) approval.
3. Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII – Fugitive Dust Control Measures. Whereas these Regulation VIII measures are mandatory and are not considered project environmental mitigation measures, the ICAPCD CEQA Handbook's required additional standard and enhanced mitigation measures listed below shall be implemented prior to and during construction. ICAPCD will verify implementation and compliance with these measures as part of the grading permit review/approval process.

ICAPCD Standard Measures for Fugitive Dust (PM_{10}) Control

- All disturbed areas, including bulk material storage, which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material, such as vegetative ground cover.
- All on-site and off-site unpaved roads will be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material.
- All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.
- Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.
- The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants, and/or watering.

ICAPCD "Discretionary" Measures for Fugitive Dust (PM_{10}) Control

- Water exposed soil only in those areas where active grading and vehicle movement occurs with adequate frequency to control dust.

- Replace ground cover in disturbed areas as quickly as possible.
- Automatic sprinkler system installed on all soil piles.
- Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site.
- Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees.
- Implement a shuttle service to and from retail services and food establishments during lunch hours.

Standard Mitigation Measures for Construction Combustion Equipment

- Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum.
- Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

Enhanced Mitigation Measures for Construction Equipment

To help provide a greater degree of reduction of PM emissions from construction combustion equipment, ICAPCD recommends the following enhanced measures.

- Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways.
- Implement activity management (e.g., rescheduling activities to reduce short-term impacts).

Mitigation Measure AQ-2 Construction Equipment. Construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at the project sites by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit. The equipment list shall be submitted periodically to ICAPCD to perform a NO_x analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds. The Planning and Development Services Department and ICAPCD shall verify implementation of this measure.

7.2.2 Air Quality Emissions - Operation

A. Potential Impact. The proposed project requires minimal operations and maintenance activities. Long-term operational emissions attributable to the project are identified in Final EIR Table 3.4-9 and compared to the operational significance thresholds promulgated by the ICAPCD. As shown in Final EIR Table 3.4-9, the project's operational emissions would not exceed the ICAPCD thresholds for CO, ROG, NOx, PM_{10} and $PM_{2.5}$. Although no significant air quality impact would occur during operation, the project applicant is required to submit a Dust Suppression

Management Plan for both construction and operation in order to reduce fugitive dust emissions. Implementation of Mitigation Measures AQ-3 and AQ-4 would ensure that a Dust Suppression Management Plan is implemented, thereby ensuring that this potential impact would remain less than significant.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.4 of the Final EIR, no significant air quality impact would occur during operation. Although no significant air quality impact would occur during operation, the project applicant is required to submit a Dust Suppression Management Plan for both construction and operation in order to reduce fugitive dust emissions. Implementation of Mitigation Measures AQ-3 and AQ-4 would ensure that a Dust Suppression Management Plan is implemented, thereby ensuring that this potential impact would remain less than significant.

Mitigation Measure AQ-3 Dust Suppression. The project applicant shall employ a method of dust suppression (such as water or chemical stabilization) approved by ICAPCD. The project applicant shall apply chemical stabilization as directed by the product manufacturer to control dust between the panels as approved by ICAPCD, and other non-used areas (exceptions will be the paved entrance and parking area, and Fire Department access/emergency entry/exit points as approved by Fire/Office of Emergency Services [OES] Department). All chemicals used for stabilization of Flowing Wells Road must be approved by BLM.

Mitigation Measure AQ-4 Operational Dust Control Plan. Prior to issuance of a Certificate of Occupancy, the applicant shall submit an operations dust control plan and obtain ICAPCD and ICPDS approval.

ICAPCD Rule 301 Operational Fees apply to any project applying for a building permit. At the time that building permits are submitted for the proposed projects, ICAPCD shall review the project to determine if Rule 310 fees are applicable to the projects.

7.3 Biological Resources

7.3.1 VEGA SES 2 and 3 Special-Status Plants

A. Potential Impact. The literature review identified 18 special-status plant species that have the potential to occur within the VEGA SES 2 and 3 project sites. A total of 13 plant species have a low potential to occur due to the limited suitable habitat within the VEGA SES 2 and 3 project sites. A total of 4 plant species have a moderate potential to occur due to the presence of suitable habitat within the VEGA SES 2 and 3 project sites: gravel milk-vetch, Wiggins' croton, glandular ditaxis, and sand food. One rare plant species, Munz's cholla (CRPR 1B.3), was found to be present within the VEGA SES 2 and 3 project sites. Potential impacts that may occur on special-status species during construction of the VEGA SES 2 and 3 projects include loss of individuals, habitat, and seedbank. Depending on the size of the population, impacts on special-status plant species within the project impact area may be considered significant.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. **Facts in Support of Finding.** Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-1a, BIO-2, and BIO-3of the Final EIR. Mitigation Measure BIO-1a requires rare plants surveys to be conducted within suitable habitat during the appropriate blooming period. If species are determined to be present and project impacts are unavoidable, consultation with CDFW may be required to develop a mitigation plan and/or avoidance measures. Mitigation Measure BIO-2 requires general impact avoidance and minimization measures, and Mitigation Measure BIO-3 requires implementation of a worker environmental awareness program.

Mitigation Measure BIO-1a Rare Plant Surveys. Prior to initiating ground disturbance, rare plant surveys shall be conducted within suitable habitat on the VEGA SES 2 and 3 project sites during the appropriate blooming period for gravel milk-vetch, Wiggins' croton, glandular ditaxis, sand food, and Munz's cholla. The surveys shall be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If project-related impacts to rare plants on the project sites are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements.

Mitigation Measure BIO-2 General Impact Avoidance and Minimization Measures. The following measures will be applicable throughout the life of the projects:

- To reduce the potential indirect impact on migratory birds, bats and raptors, the project shall comply with the APLIC 2012 Guidelines for overhead utilities, as appropriate, to minimize avian collisions with transmission facilities (APLIC 2012)
- All electrical components on the project sites shall be either undergrounded or protected so that there will be no exposure to wildlife and therefore no potential for electrocution.
- The project proponent shall designate a Project Biologist who shall be responsible for overseeing compliance with protective measures for biological resources during vegetation clearing and work activities within and adjacent to areas of native habitat. The Project Biologist shall be familiar with the local habitats, plants, and wildlife. The Project Biologist shall also maintain communications with the Contractor to ensure that issues relating to biological resources are appropriately and lawfully managed and shall monitor construction. The Project Biologist shall monitor activities within construction areas during nesting bird season (generally February 1 to September 15), such as vegetation removal, the implementation of Best Management Practices (BMPs), and installation of security fencing to protect native species. The Project Biologist shall ensure that all wildlife and regulatory agency permit requirements, conservation measures, and general avoidance and minimization measures are properly implemented and followed.

- The boundaries of all areas to be newly disturbed (including solar facility areas, staging areas, access roads, and sites for temporary placement of construction materials and spoils) shall be delineated with stakes and flagging prior to disturbance. All disturbances, vehicles, and equipment shall be confined to the flagged areas.
- No potential wildlife entrapments (e.g., trenches, bores) shall be left uncovered overnight. Any uncovered pitfalls will be excavated to 3:1 slopes at the ends to provide wildlife escape ramps. Alternatively, man-made ramps may be installed. Covered pitfalls will be covered completely to prevent access by small mammals or reptiles.
- To avoid wildlife entrapment (including birds), all pipes or other construction materials or supplies shall be covered or capped in storage or laydown areas, and at the end of each work day in construction, quarrying and processing/handling areas. No pipes or tubing of sizes or inside diameters ranging from 1 to 10 inches shall be left open either temporarily or permanently.
- No anticoagulant rodenticides, such as Warfarin and related compounds (indandiones and hydroxycoumarins), shall be used within the project sites, on off-site project facilities and activities, or in support of any other project activities.
- Avoid wildlife attractants. All trash and food-related waste shall be placed in self-closing containers and removed regularly from the sites to prevent overflow. Workers shall not feed wildlife. Water applied to dirt roads and construction areas for dust abatement shall use the minimal amount needed to meet safety and air quality standards to prevent the formation of puddles, which could attract wildlife. Pooled rainwater or floodwater within retention basins shall be removed to avoid attracting wildlife to the active work areas.
- To minimize the likelihood for vehicle strikes on wildlife, speed limits shall not exceed 15 miles per hour when driving on access roads. All vehicles required for O&M must remain on designated access/maintenance roads.
- Avoid nighttime construction lighting or if nighttime construction cannot be avoided, use shielded directional lighting pointed downward and towards the interior of the project sites, thereby avoiding illumination of adjacent natural areas and the night sky.
- All construction equipment used for the projects shall be equipped with properly operating and maintained mufflers.
- Hazardous materials and equipment stored overnight, including small amounts of fuel to refuel hand-held equipment, shall be stored within secondary containment when within 50 feet of open water to the fullest extent practicable. Secondary containment shall consist of a ring of sand bags around each piece of stored equipment/structure. A plastic tarp/visqueen lining with no seams shall be placed under the equipment and over the edges of the sandbags, or a plastic hazardous materials secondary containment unit shall be utilized by the Contractor.
- The Contractor will be required to conduct vehicle refueling in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species. Any fuel containers, repair materials, including creosote-treated wood, and/or stockpiled material that is left on site

overnight, shall be secured in secondary containment within the work area and staging/assembly area and covered with plastic at the end of each work day.

- In the event that no activity is to occur in the work area for the weekend and/or a period of time greater than 48 hours, the Contractor shall ensure that all portable fuel containers are removed from the project sites.
- All equipment shall be maintained in accordance with manufacturer's recommendations and requirements.
- Equipment and containers shall be inspected daily for leaks. Should a leak occur, contaminated soils and surfaces will be cleaned up and disposed of following the guidelines identified in the Stormwater Pollution Prevention Plan or equivalent, Materials Safety Data Sheets, and any specifications required by other permits issued for the projects.
- The Contractor shall utilize off-site maintenance and repair shops as much as possible for maintenance and repair of equipment.
- If maintenance of equipment must occur onsite, fuel/oil pans, absorbent pads, or appropriate containment will be used to capture spills/leaks within all areas. Where feasible, maintenance of equipment shall occur in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species.
- Appropriate BMPs shall be used by the Contractor to control erosion and sedimentation and to capture debris and contaminants from construction to prevent their deposition in waterways.
- Erosion and sediment control devices used for the proposed projects, including fiber rolls and bonded fiber matrix, shall be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.
- Firearms, open fires, and pets shall be prohibited at all work locations and access roads. Smoking shall be prohibited along the project alignment.
- Cross-country vehicle and equipment use outside of approved designated work areas and access roads shall be prohibited to prevent unnecessary ground and vegetation disturbance.
- Any injured or dead wildlife encountered during project-related activities shall be reported to the project biologist, biological monitor, CDFW, or a CDFW-approved veterinary facility as soon as possible to report the observation and determine the best course of action. For special-status species, the Project Biologist shall notify the County, USFWS, and/or CDFW, as appropriate, within 24 hours of the discovery.
- Stockpiling of material shall only be allowed within established work areas.
- The Contractor shall actively manage the spread of noxious weeds by implementing weed control activities. The introduction of exotic, nonnative, weed, and/or invasive plant species will be avoided and controlled wherever possible, and may be achieved through physical or chemical removal and prevention, limiting the size of any vegetation and/or ground disturbance to the absolute minimum, and limiting ingress and egress to defined routes. Preventing exotic plants from entering the sites via

vehicular sources will include measures such as cleaning vehicles coming into and going from the sites. All equipment will be cleaned and inspected prior to transport to the sites.

- The ground beneath all parked equipment and vehicles shall be inspected for wildlife before moving.

Mitigation Measure BIO-3 Worker Environmental Awareness Program. Prior to project construction, a Worker Environmental Awareness Program shall be developed and implemented by a qualified biologist and shall be available in both English and Spanish. Handouts summarizing potential impacts on special-status biological resources and the potential penalties for impacts on these resources shall be provided to all construction personnel. At a minimum, the education program shall including the following:

- the purpose for resource protection;
- a description of special-status species including representative photographs and general ecology;
- occurrences of USACE, RWQCB, and CDFW regulated features in the project study area;
- regulatory framework for biological resource protection and consequences if violated
- sensitivity of the species to human activities;
- avoidance and minimization measures designed to reduce the impacts on special-status biological resources
- environmentally responsible construction practices;
- reporting requirements;
- the protocol to resolve conflicts that may arise at any time during the construction process; and
- workers sign acknowledgement form indicating that the Environmental Awareness Training and Education Program that has been completed, which shall be kept on record.

7.3.2 VEGA SES 2 and 3 Special-Status Wildlife

A. Potential Impact. The literature review identified 27 special-status wildlife species that have the potential to occur within the VEGA SES 2 and 3 BSA. Fifteen (15) of these species have a low or no potential to occur due to the lack of suitable and/or limited habitat within the BSA. Of the 27 special-status species identified, 10 species have a moderate or high potential to occur on the VEGA SES 2 and 3 project sites: flat-tailed horned lizard, Mojave desert tortoise, northern harrier, California horned lark, merlin, Crissal thrasher, California black rail, Yuma hispid cotton rat, Palm Springs pocket mouse, and burrowing owl. Additionally, two special-status wildlife species were observed onsite during the habitat assessment; loggerhead shrike and black-tailed gnatcatcher were observed in the tamarisk thickets, bush seepweed scrub, blue palo verde-ironwood woodland, and creosote bush scrub on the VEGA SES 2 and 3 project sites. Direct impacts on these species that could occur include injury, mortality, nest failures, and loss of young. Indirect impacts include loss of nesting and foraging habitat and an increase in anthropogenic effects (i.e.,

noise levels, introduction of invasive and non-native species, increase in human activity, increase in dust). Potential impacts on these special-status wildlife species may be considered significant.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-2, BIO-3, BIO-4, BIO-5, BIO-6a, and BIO-7a of the Final EIR. Mitigation Measure BIO-2 requires the implementation of general impact avoidance and minimization measures. Mitigation Measure BIO-3 requires implementation of a worker environmental awareness program. Mitigation Measure BIO-4 requires pre-construction burrowing owl surveys, and if present implementation of avoidance and minimization measures. Mitigation Measure BIO-5 requires pre-construction nesting bird survey. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist. Mitigation Measure 6a requires a pre-construction survey for special-status wildlife species within all areas of potential permanent and temporary disturbance. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken. Mitigation Measure Bio-7a requires avoidance, to the greatest extent possible, of sensitive habitats on the project sites.

Mitigation Measure BIO-2 General Impact Avoidance and Minimization Measures (as previously described above).

Mitigation Measure BIO-3 Worker Environmental Awareness Program (as previously described above).

Mitigation Measure BIO-4 Burrowing Owl Avoidance and Minimization. Take avoidance (pre-construction) surveys for burrowing owl shall be completed prior to project construction. Surveys shall be conducted as detailed within Appendix D of the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game [CDFG] 2012). If burrowing owl is not detected, construction may proceed.

- If burrowing owl is identified during the non-breeding season (September 1 through January 31), then a 50-meter buffer will be established by the biological monitor. Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until a CDFW-approved exclusion plan has been implemented. The buffer distance may be reduced if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities.
- If burrowing owl is identified during the breeding season (February 1 through August 31), then an appropriate buffer will be established by the biological monitor in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until young have fledged. The buffer distance may be reduced in consultation with

CDFW if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities.

Mitigation Measure BIO-5 Pre-Construction Nesting Bird Survey. If construction or other project activities are scheduled to occur during the bird breeding season (typically February 1 through August 31 for raptors and February 15 through August 31 for the majority of migratory bird species), a pre-construction nesting-bird survey shall be conducted by a qualified avian biologist to ensure that active bird nests, including those for loggerhead shrike, black-tailed gnatcatcher, and burrowing owl, will not be disturbed or destroyed. The survey shall be completed no more than three days prior to initial ground disturbance. The nesting-bird survey shall include the project site and adjacent areas where project activities have the potential to affect active nests, either directly or indirectly, due to construction activity or noise. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist. If construction activities cease for a period of greater than three days during the bird breeding season, a pre-construction nesting bird survey shall be conducted prior to the commencement of activities. Final construction buffers or setback distances shall be determined by the qualified biologist in coordination with USFWS and CDFW on a case-by-case basis, depending on the species, season in which disturbance shall occur, the type of disturbance, and other factors that could influence susceptibility to disturbance (e.g., topography, vegetation, existing disturbance levels, etc.).

Mitigation Measure BIO-6a Pre-Construction Survey for Special-Status Species. A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 2 and 3 project sites or that were identified as having a high potential to occur on the sites. These species include, but are not limited to, burrowing owl, loggerhead shrike, California black rail, and black-tailed gnatcatcher. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.

Mitigation Measure BIO-7a Sensitive Habitat Avoidance. To the greatest extent possible, plans should avoid impacts on blue palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets habitats within the VEGA SES 2 and 3 project sites to minimize potential impacts on special-status species. Excluding these habitats from the projects should also minimize mitigation and permitting requirements to meet the less-than-significance threshold.

7.3.3 VEGA SES 5 Special-Status Plants

A. **Potential Impact.** The literature review identified 22 special-status plant species that have the potential to occur within the VEGA SES 5 project site. Eleven (11) of these plant species have a low potential to occur due to the limited suitable habitat within the site. There is moderate or high potential for 11 rare plant species to occur on the VEGA SES 5 project site: Salton's milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster. Suitable

habitat for these species is present within the existing washes and creosote bush scrub habitats. Potential impacts that may occur on these species include loss of individuals, habitat, and seedbank. Depending on the size of the population, potential impacts may be considered significant.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-1b, BIO-2, and BIO-3 of the Final EIR. Mitigation Measure BIO-1b requires rare plants surveys to be conducted within suitable habitat during the appropriate blooming period. If species are determined to be present and project impacts are unavoidable, consultation with CDFW may be required to develop a mitigation plan and/or avoidance measures. Mitigation Measure BIO-2 requires general impact avoidance and minimization measures, and Mitigation Measure BIO-3 requires implementation of a worker environmental awareness program.

Mitigation Measure BIO-1b Rare Plant Surveys. Prior to initiating ground disturbance, rare plant surveys shall be conducted within suitable habitat on the VEGA SES 5 project site during the appropriate blooming period for Salton milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster. The surveys shall be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If project-related impacts to rare plants on the project sites are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements.

Mitigation Measure BIO-2 General Impact Avoidance and Minimization Measures (as previously described above).

Mitigation Measure BIO-3 Worker Environmental Awareness Program (as previously described above).

7.3.4 VEGA SES 5 Special-Status Wildlife

A. Potential Impact. The literature review identified 23 special-status wildlife species that have the potential to occur within the VEGA SES 5 project site. Sixteen (16) of these species have a low or no potential to occur due to the lack of suitable and limited habitat on the site. The following four species have a moderate or high potential to occur onsite: mountain plover, merlin, California black rail, and Yuma hispid cotton rat. Additionally, 3 special-status wildlife species were observed onsite during the habitat assessment. Black-tailed gnatcatchers, burrowing owl, and loggerhead strikes

were observed in the tamarisk thickets and creosote bush scrub in the northern portion of the VEGA SES 5 project site.

Direct impacts on these species that could occur include injury, mortality, nest failures, and loss of young. Indirect impacts include loss of nesting and foraging habitat, increase in anthropogenic effects (i.e., noise levels, introduction of invasive/non-native species, increase in human activity, increase in dust). Potential impacts on these species may be considered significant.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-2, BIO-3, BIO-4, BIO-5, BIO-6b, and BIO-7b of the Final EIR. Mitigation Measure BIO-2 requires the implementation of general impact avoidance and minimization measures and Mitigation Measure BIO-3 requires implementation of a worker environmental awareness program. Mitigation Measure BIO-4 requires pre-construction burrowing owl surveys, and if present implementation of avoidance and minimization measures. Mitigation Measure BIO-5 requires pre-construction nesting bird survey. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist. Mitigation Measure 6b requires a pre-construction survey for special-status wildlife species within all areas of potential permanent and temporary disturbance. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken. Mitigation Measure Bio-7b requires avoidance, to the greatest extent possible, of sensitive habitats.

Mitigation Measure BIO-2 General Impact Avoidance and Minimization Measures (as previously described above).

Mitigation Measure BIO-3 Worker Environmental Awareness Program (as previously described above).

Mitigation Measure BIO-4 Burrowing Owl Avoidance and Minimization (as previously described above).

Mitigation Measure BIO-5 Pre-Construction Nesting Bird Survey (as previously described above).

Mitigation Measure BIO-6b Pre-Construction Survey for Special-Status Species. A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 5 project site or that were identified as having a high potential to occur on the site. These species include, but are not limited to, mountain plover, California black rail, merlin, Yuma hispid cotton rat, burrowing owl, black-tailed gnatcatcher, and loggerhead strike. Should any special-status species be identified during the pre-construction

survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.

Mitigation Measure BIO-7b Sensitive Habitat Avoidance. To the greatest extent possible, plans should avoid impacts on bush seepweed scrub and tamarisk thicket habitats within the VEGA SES 5 project site to minimize potential impacts to special-status species. Excluding these habitats from the project should also minimize mitigation and permitting requirements to meet the less-than-significance threshold.

7.3.5 VEGA SES 2 and 3 Riparian Habitat or Sensitive Natural Community

A. Potential Impact. Both alkali sinks and riparian habitat are present within the VEGA SES 2 and 3 BSAs. These sensitive natural communities are regulated under Section 1600 of the California FGC. Impacts on features that fall under the definition of streambed and associated riparian habitat would trigger the need for Streambed Alteration Notification and the VEGA SES 2 and 3 projects may need to enter into formal Agreements with CDFW. This is a potentially significant impact.

Blue palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets occur within the VEGA SES 2 and 3 project sites and are considered sensitive natural communities by CDFW. During project construction, sensitive natural communities would be directly impacted by grading activities.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-7a, BIO-8 and BIO-9 of the Final EIR. Mitigation Measure BIO-7a requires avoidance, to the greatest extent possible, of sensitive habitats. Mitigation Measure BIO-8 requires that applicable regulatory permits be obtained for any impacts to aquatic resources that fall under the jurisdiction of USACE, CDFW, or RWQCB and mitigation be implemented as required by the permits. Mitigation Measure BIO-9 requires that impacts to wetlands/riparian habitat be minimized through establishment of buffers during construction and operation.

Mitigation Measure BIO-7a Sensitive Habitat Avoidance (as previously described above).

Mitigation Measure BIO-8 Aquatic Resources Regulatory Permitting. If project-related impacts occur to the riparian areas that may also fall under the jurisdiction of the USACE, CDFW, or RWQCB a regulatory permit with those agencies will be needed prior to the impact occurring. Refer to the ECORP Jurisdiction Delineation Report (2022) for preliminary determination of regulatory limits of areas that may be regulated by the USACE, CDFW, or RWRCB. Permitting includes preparation and submittal of a Pre-Construction Notification under Section 404 of the federal CWA, an Application for Water Quality Certification under Section 401 of the federal CWA, and a Notification of Lake or Streambed Alteration under Section 1600 of the California Fish and Game Code. A completed CEQA document, and Notice of Determination, will be necessary to submit along with the applications. Other items such as finalized project plans, quantities of fill material, supporting technical studies, etc., are also submitted along with the applications. As a part of this process, the projects must also identify and approve mitigation through the respective

agencies. Mitigation can include onsite or offsite options or could include purchase of credits from an existing mitigation or conservation bank or payment of an in-lieu fee to a conservation organization. Types of mitigation can include restoration, creation, rehabilitation, enhancement, or other types of habitat improvement. Typically, the type of mitigation and acreage of mitigation is negotiated with the regulatory agencies during the permitting process.

Mitigation Measure BIO-9 Minimization of Impacts to Wetland/Riparian Habitat. Solar panels, structures, and new access roads should not be placed within 50 feet of wetland and riparian habitat boundaries. A construction buffer of 300 feet shall be established around the wetlands and riparian habitat during the bird breading season (February 1 – August 31). Prior to construction, fencing should be installed approximately 10 feet from the wetland and riparian habitat boundaries within 50 feet of the projects. Fencing should be easily visible to construction. The extensive alluvial fan systems should not be used as access roads between the projects.

7.3.6 VEGA SES 5 Riparian Habitat or Sensitive Natural Community

A. Potential Impact. Both alkali sinks and riparian habitat are present within the VEGA SES 5 BSA. These sensitive natural communities are regulated under Section 1600 of the California FGC. Impacts on features that fall under the definition of streambed and associated riparian habitat would trigger the need for Streambed Alteration Notification and the VEGA SES 2 and 3 projects may need to enter into formal Agreements with CDFW. This is a potentially significant impact. However, implementation of Mitigation Measures BIO-7b, BIO-8, and BIO-9 would reduce potential impacts on riparian habitat to a level less than significant (see Appendix E1 of this EIR).

Blue palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets occur within the VEGA SES 2 and 3 project sites and are considered sensitive natural communities by CDFW. During project construction, sensitive natural communities would be directly impacted by grading activities. However, the proposed project would comply with mitigation requirements recommended through consultation with CDFW, including the in-kind replacement of palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-7b, BIO-8 and BIO-9. Mitigation Measure BIO-7b requires avoidance, to the greatest extent possible, of sensitive habitats. Mitigation Measure BIO-8 requires that applicable regulatory permits be obtained for any impacts to aquatic resources that fall under the jurisdiction of USACE, CDFW, or RWQCB and mitigation be implemented as required by the permits. Mitigation Measure BIO-9 requires that impacts to wetlands/riparian habitat be minimized through establishment of buffers during construction and operation.

Mitigation Measure BIO-7b Sensitive Habitat Avoidance (as previously described above).

Mitigation Measure BIO-8 Aquatic Resources Regulatory Permitting (as previously described above).

Mitigation Measure BIO-9 Minimization of Impacts to Wetland/Riparian Habitat (as previously described above).

7.3.7 VEGA SES 2 and 3 State or Federally-Protected Wetlands

A. **Potential Impact.** The Aquatic Resources Delineation report prepared for the VEGA SES 2 and 3 projects identified numerous aquatic resources on the project site. Construction of the project has the potential to directly impact these resources.

B. **Finding.** Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. **Facts in Support of Finding.** Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-7a, BIO-8 and BIO-9. Mitigation Measure BIO-7a requires avoidance, to the greatest extent possible, of sensitive habitat. Mitigation Measure BIO-8 requires that applicable regulatory permits be obtained for any impacts to aquatic resources that fall under the jurisdiction of USACE, CDFW, or RWQCB and mitigation be implemented as required by the permits. Mitigation Measure BIO-9 requires that impacts to wetlands/riparian habitat be minimized through establishment of buffers during construction and operation.

Mitigation Measure BIO-7a Sensitive Habitat Avoidance (as previously described above).

Mitigation Measure BIO-8 Aquatic Resources Regulatory Permitting (as previously described above).

Mitigation Measure BIO-9 Minimization of Impacts to Wetland/Riparian Habitat (as previously described above).

7.3.8 VEGA SES 5 State or Federally-Protected Wetlands

A. **Potential Impact.** The Aquatic Resources Delineation report prepared for the VEGA SES 5 project identified numerous aquatic resources on the project site. Construction of the project has the potential to directly impact these resources.

B. **Finding.** Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. **Facts in Support of Finding.** Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-7b, BIO-8 and BIO-9. Mitigation Measure BIO-7b requires avoidance, to the greatest extent possible, of sensitive habitats. Mitigation Measure BIO-8 requires that applicable regulatory permits be obtained for any impacts to aquatic resources that fall under the jurisdiction of USACE, CDFW, or RWQCB and mitigation be implemented as required by the permits. Mitigation Measure BIO-9 requires that impacts to wetlands/riparian habitat be minimized through establishment of buffers during construction and operation.

Mitigation Measure BIO-7b Sensitive Habitat Avoidance (as previously described above).

Mitigation Measure BIO-8 Aquatic Resources Regulatory Permitting (as previously described above).

Mitigation Measure BIO-9 Minimization of Impacts to Wetland/Riparian Habitat (as previously described above).

7.3.9 VEGA SES 2 and 3 Interfere with Migratory Fish and Wildlife Species

A. Potential Impact. The majority of the project sites do not contain suitable vegetation or cover to support wildlife movement and are nestled between agricultural and development; therefore wildlife movement opportunities connecting the project sites to large, undeveloped natural areas is limited. However, the existing riparian corridor could act as potential corridor and nursery site for migrating wildlife species.

Foraging habitat for a number of raptor species and breeding habitat for numerous passerine species that are protected by the MBTA occurs throughout the project sites. The sites provide nesting habitat for ground-nesting species as well as species that nest in riparian scrub habitat. The presence of large ironwood and palo verde trees within the BSA provides suitable nesting habitat for raptor species. Additionally, northern harriers are ground nesters, and the existing tamarisk thickets and other dense habitats provide potential nesting habitat for this species. Project construction has the potential to result in both direct and indirect impacts on nesting birds. Direct impacts on nesting avian species include injury, mortality, loss of young, and nest failure. Indirect impacts include loss of foraging and nesting habitat for passerine and raptors species, increase in noise and human activities, and potential introduction of invasive or non-native species. Impacts on species protected by the MBTA would be potentially significant during project construction.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-2, BIO-4, BIO-5, BIO-6a, and BIO-7a. Mitigation Measure BIO-2 requires implementation of general avoidance and minimization measures. Mitigation Measure BIO-4 requires burrowing owl avoidance and minimization measures. Mitigation Measures BIO-5 requires a pre-construction nesting bird survey and avoidance of active bird nests. Mitigation Measure BIO-6a requires a pre-construction survey for special-status species and development of appropriate avoidance and minimization measures in the event that species are present on-site. Mitigation Measure BIO-7a requires avoidance of sensitive habitat to the extent possible.

Mitigation Measure BIO-2 General Impact Avoidance and Minimization Measures (as previously described above).

Mitigation Measure BIO-4 Burrowing Owl Avoidance and Minimization (as previously described above).

Mitigation Measure BIO-5 Pre-Construction Nesting Bird Survey (as previously described above).

Mitigation Measure BIO-7a Sensitive Habitat Avoidance (as previously described above).

7.3.10 VEGA SES 5 Interfere with Migratory Fish and Wildlife Species

A. Potential Impact. The majority of the project sites do not contain suitable vegetation or cover to support wildlife movement and are nestled between agricultural and development; therefore wildlife movement opportunities connecting the project sites to large, undeveloped natural areas is limited. However, the existing riparian corridor could act as potential corridor and nursery site for migrating wildlife species.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-2, BIO-4, BIO-5, BIO-6b and BIO-7b. Mitigation Measure BIO-2 requires implementation of general avoidance and minimization measures. Mitigation Measure BIO-4 requires burrowing owl avoidance and minimization measures. Mitigation Measures BIO-5 requires a pre-construction nesting bird survey and avoidance of active bird nests. Mitigation Measure BIO-6b requires a pre-construction survey for special-status species and development of appropriate avoidance and minimization measures in the event that species are present on-site. Mitigation Measure BIO-7b requires avoidance of sensitive habitat to the extent possible.

Mitigation Measure BIO-2 General Impact Avoidance and Minimization Measures (as previously described above).

Mitigation Measure BIO-4 Burrowing Owl Avoidance and Minimization (as previously described above).

Mitigation Measure BIO-5 Pre-Construction Nesting Bird Survey (as previously described above).

Mitigation Measure BIO-7b Sensitive Habitat Avoidance (as previously described above).

7.4 Cultural Resources

7.4.1 Archaeological Resources

A. Potential Impact. Historical resources are located throughout the project area, which are assumed to be significant and will require further evaluation, and implementation of measures as necessary (e.g., avoidance, data collection and/or recovery, documentation) if determined to be significant. EIR Tables 3.6-4, 3.6-5 and 3.6-6 identify historic resources on each site. While the majority of resources are likely not significant/eligible for NRHP/CRHR, it is assumed that all sites are significant.

Furthermore, construction activities associated with the project as planned will include ground disturbing actions that would impact unevaluated archaeological resources within the project area. In addition, ground disturbing activities have the potential to disturb previously undocumented resources that could qualify as significant archaeological resources pursuant to CEQA.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.6 of the Final EIR, the project's potentially significant impact would be mitigated to below a level of significance with implementation of Mitigation Measures CUL-1 through CUL-4 of the Final EIR. Mitigation Measure CUL-1 requires preparation, approval, and implementation of a Cultural Resources Management Plan that would address appropriate mitigation for any significant cultural resources. Mitigation Measure CUL-2 would involve retaining a Qualified Archaeologist to monitor ground disturbing work and provide WEAP training to construction personnel If ground disturbing activities encounter unanticipated discoveries that are potentially significant historical resources pursuant to CEQA. Mitigation Measures CUL-3 and CUL-4 would require construction to be halted in the area surrounding the discovery so that the Qualified Archaeologist can conduct formal site evaluations to assess whether resource(s) are potentially eligible for listing in the CRHR. At the completion of construction, an Archaeological Resources Monitoring Report will be prepared to summarize all monitoring efforts and observations, as performed, and all prehistoric or historic archaeological finds. Implementation of Mitigation Measures CUL-1 through CUL-4 would reduce potential impacts associated with cultural resources to a level less than significant.

Mitigation Measure CR-1 Cultural Resources Management Plan. Project proponent will develop a cultural resources management plan (CRMP) to outline the process for compliance with applicable cultural resources laws, management of resources during operation, and consideration of the effect of decommissioning. The CRMP shall include the following: identification of California Native American tribes, identification of long and short term management goals for cultural resources within the project area, evaluation of eligibility for the CRHR and NRHP for all resources within the project area as identified on EIR Tables 3.6-3, 3.6-4 and 3.6-5, recommendations for eligibility for the CRHR and NRHP, description of measures to avoid, minimize, and reduce significant impacts to cultural resources (including both historical and archaeological resources), unanticipated discovery procedures, monitoring needs, data recovery of significant cultural resources where avoidance is not possible, curation procedures for recovered artifacts, anticipated personnel requirements and qualifications. The CRMP shall specifically address pre-contact fishing village site Resource P-13-147 and all resources identified in EIR Tables 3.6-3, 3.6-3 and 3.6-5. The draft CRMP shall be prepared by a registered professional archaeologist and reviewed and approved by the County of Imperial Planning and Development Services Department.

Mitigation Measure CR-2 Cultural Resources Training. Project proponent will provide cultural resources training for all project personnel regarding the laws protecting cultural resources, appropriate conduct in the field, and other project-specific issues identified in the CRMP prepared for each site as required by Mitigation Measure CR-1.

Mitigation Measure CR-3 Construction Monitoring. A qualified Archaeologist shall be present on site for ground disturbing activities within 100-feet of all unevaluated or sites eligible for inclusion to the NRHP or CRHR. Ground disturbing activities include grubbing, trenching, and grading. Monitoring will be limited to natural surfaces and undisturbed sediments. Monitoring is not required for previously disturbed areas or fill. Monitors will complete daily monitoring reports documenting activities and results of the day. After construction activities have finished a comprehensive monitoring report shall be prepared.

Mitigation Measure CR-4 Unanticipated Discovery Procedures. In the event of the discovery of previously unidentified archaeological materials, the contractor shall immediately cease all work activities within approximately 100 feet of the discovery. After cessation of excavation, the contractor shall immediately contact the Imperial County Department of Planning and Development Services. Except in the case of cultural items that fall within the scope of the Native American Grave Protection and Repatriation Act, the discovery of any cultural resource within the project area shall not be grounds for a "stop work" notice or otherwise interfere with the project's continuation except as set forth in this paragraph.

In the event of an unanticipated discovery of archaeological materials during construction, the applicant shall retain the services of a qualified professional archaeologist, meeting the Secretary of the Interior's Standards for a Qualified Archaeologist, to evaluate the significance of the materials prior to resuming any construction related activities in the vicinity of the find. If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA and it cannot be avoided, the applicant shall implement an archaeological data recovery program.

7.4.2 Human Remains

A. **Potential Impact.** During the construction and operational phases of the proposed project, grading, excavation and trenching will be required. Although the potential for encountering subsurface human remains within the project site is low, there remains a possibility that human remains are present beneath the ground surface, and that such remains could be exposed during project construction. The potential to encounter human remains is considered a significant impact.

B. **Finding.** Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. **Facts in Support of Finding.** Based on the analysis provided in Section 3.6 of the Final EIR, the project's potential impact to human remains would be mitigated to below a level of significance with implementation of Mitigation Measure CUL-5, provided below from the Final EIR. This measure requires that construction be halted in the area where the remains are found and the procedures set forth in California Health and Safety Code 7050.5, CEQA Section 15064.5, and California Public Resources Code Section 5097.98 (NPS 1983), as applicable.

Mitigation Measure CUL-5 Discovery of Human Remains. If subsurface deposits believed to be human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist who meets the Secretary of the Interior's Standards for prehistoric and historic archaeology and is familiar with the resources of the region, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the find includes human remains, or remains that are potentially human, the professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Imperial County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented.

- If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC may mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the Imperial County Planning and Development Services Department, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

7.5 Geology and Soils

7.5.1 Seismic Ground Shaking

A. Potential Impact. Even with the integration of building standards, ground shaking within the project sites could cause some structural damage to the facility structures or, at least, cause unsecured objects to fall. During a stronger seismic event, ground shaking could expose employees to injury from structural damage or collapse of electrical distribution facilities. Given the potentially hazardous nature of the project facilities, the potential impact of ground motion during an earthquake is considered a significant impact, as proposed structures, such as the substation and transmission lines could be damaged.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.7 of the Final EIR, the project's potential impact would be mitigated to below a level of significance with implementation of Mitigation Measure GEO-1 of the Final EIR. This measure includes preparing geotechnical reports and implementing required measures.

Mitigation Measure GEO-1 Prepare Geotechnical Report(s) as Part of Final Engineering for the Project and Implement Required Measures. Facility design for all project components shall comply with the site-specific design recommendations as provided by a licensed geotechnical or civil engineer to be retained by the project applicant. The final geotechnical and/or civil engineering report shall address and make recommendations on the following:

- Site preparation
- Soil bearing capacity
- Appropriate sources and types of fill
- Potential need for soil amendments
- Structural foundations

- Grading practices
- Soil corrosion of concrete and steel
- Erosion/winterization
- Seismic ground shaking
- Liquefaction
- Expansive/unstable soils

In addition to the recommendations for the conditions listed above, the geotechnical investigation shall include subsurface testing of soil and groundwater conditions, and shall determine appropriate foundation designs that are consistent with the version of the CBC that is applicable at the time building and grading permits are applied for. All recommendations contained in the final geotechnical engineering report shall be implemented by the project applicant. The final geotechnical and/or civil engineering report shall be submitted to Imperial County Public Works Department, Engineering Division for review and approval prior to issuance of building permits.

7.5.2 Liquefaction

A. **Potential Impact.** Liquefaction is most prevalent in loose- to medium-dense, silty, sandy, and gravelly soils below the groundwater table. The project sites have not been mapped for liquefaction potential by CGS. However, given that the project sites are underlain by sand and clay, there is a potential for liquefaction to occur on the project sites. Additional geotechnical investigation would be required in order to assess the risk of liquefaction on the project sites. The potential impact related to liquefaction is considered a significant impact.

B. **Finding.** Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. **Facts in Support of Finding.** Based on the analysis provided in Section 3.7 of the Final EIR, the project's potential impact would be mitigated to below a level of significance with implementation of Mitigation Measure GEO-1. This measure includes preparing geotechnical reports and implementing recommendations made by a licensed geotechnical engineer in compliance with the CBC prepared as part of a formal geotechnical investigation.

Mitigation Measure GEO-1 (as previously described above).

7.5.3 Construction Related Erosion

A. **Potential Impact.** During the site grading and construction phases, large areas of unvegetated soil would be exposed to erosive forces by water or wind for extended periods of time. Unvegetated soils are much more likely to erode from precipitation than vegetated areas because plants act to disperse, infiltrate, and retain water. Construction activities involving soil disturbance, excavation, cutting/filling, stockpiling, and grading activities could result in increased erosion and sedimentation to surface waters. Construction could produce sediment-laden stormwater runoff (nonpoint source pollution), a major contributor to the degradation of water quality. If precautions are not taken to contain contaminants, construction-related erosion impacts are considered significant.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.7 of the Final EIR, the project's potential impact would be mitigated to below a level of significance with implementation of Mitigation Measure GEO-1, and Mitigation Measure HYD-1 of the Final EIR (refer to Final EIR Section 3.10 Hydrology/Water Quality). Mitigation Measure HYD-1 requires that soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching) are implemented during the construction phase.

Mitigation Measure GEO-1 (as previously described above).

Mitigation Measure HYD-1 (described below).

7.5.4 Unstable Geologic Unit or Soil

A. Potential Impact. The potential for lateral spreading to occur on the project sites has not yet been determined. Additional geotechnical investigation would be required in order to assess the risk of lateral spreading to occur on the project sites. The potential impact associated with lateral spreading is considered a significant impact.

As described above, given that the project sites are underlain by sand and clay, there is a potential for liquefaction to occur on the project sites. Additional geotechnical investigation would be required in order to assess the risk of liquefaction on the project sites. The potential impact related to liquefaction is considered a significant impact.

It is unknown whether collapsible soils are present on the project sites. Additional geotechnical investigation would be required in order to assess the risk of collapsible soils to occur on the project sites. The potential impact associated with collapsible soils is considered a significant impact.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.7 of the Final EIR, the project's potential impact would be mitigated to below a level of significance with implementation of Mitigation Measure GEO-1. This measure includes preparing geotechnical reports and implementing recommendations made by a licensed geotechnical engineer in compliance with the CBC prepared as part of a formal geotechnical investigation.

Mitigation Measure GEO-1 (as previously described above).

7.5.5 Expansive or Corrosive Soils

A. Potential Impact. The project sites are underlain by sand, gravelly sand, and clay/silty clay. Generally, sands are not considered expansive soils. However, clays may exhibit moderate to high expansion potential due to variation in moisture content. Unless properly mitigated, shrink-swell soils could exert additional pressure on buried structures and electrical connections producing shrinkage cracks that could allow water infiltration and compromise the integrity of backfill material. These conditions could be worsened if structural facilities are constructed directly on expansive soil materials. This potential impact would be significant as structures could be damaged by these types of soils. In addition, the on-site soils, particularly clay/silty clay, are known to be corrosive.

Corrosive soils can damage underground utilities, including pipelines and cables, or weaken roadway structures. A site-specific geotechnical investigation would be required at the project sites to determine the extent and effect of problematic soils.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.7 of the Final EIR, the project's potential impact would be mitigated to below a level of significance with implementation of Mitigation Measure GEO-1. A site-specific geotechnical investigation would be required at the project site to determine the extent and effect of problematic soils which have been identified during preliminary laboratory screenings of near surface on-site soils. Implementation of Mitigation Measure GEO-1, which requires the preparation of a design-level geotechnical report, would reduce potential impacts associated with expansive and corrosive soils to a level less than significant.

Mitigation Measure GEO-1 (as previously described above).

7.5.6 Paleontological Resources

A. Potential Impact. the project sites are in the Salton Basin near the shoreline of ancient Lake Cahuilla. The lake covered much of the Imperial Valley and created an extensive lacustrine environment. Lake Cahuilla experienced several fill recession episodes before it finally dried up about 300 years ago. In 1905, the Colorado River overflowed into the Salton Basin creating the present-day Salton Sea. As previously noted, the project sites are generally underlain by deposits from periodic flooding of the Colorado River and Lake Cahuilla (Appendix H of this EIR). Sediments from this formation have yielded fossilized remains of continental vertebrates, invertebrates, and plants at numerous previously recorded fossil sites in the Imperial Valley. Therefore, the project sites are considered paleontologically sensitive.

Although unlikely, project construction has the potential to unearth and/or potentially destroy previously undiscovered paleontological resources. This potential impact is considered a significant impact. However, implementation of Mitigation Measure GEO-2 would reduce the potential impact on paleontological resources to a level less than significant.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.7 of the Final EIR, Mitigation Measure GEO-2 would reduce the potential impact on paleontological resources to a level less than significant. Mitigation Measure GEO-2 would require that a consulting paleontologist be retained should unanticipated paleontological resources or unique geologic resources be encountered during ground-disturbing activities and a Paleontological Treatment Plan be prepared which would contain recommendations to mitigation impacts to paleontological resources.

Mitigation Measure GEO-2 Paleontological Resources. In the event that unanticipated paleontological resources or unique geologic resources are encountered during ground-disturbing activities, work must cease within 50 feet of the discovery and a paleontologist shall be hired to assess the scientific significance of the find. The consulting paleontologist shall have knowledge

of local paleontology and the minimum levels of experience and expertise as defined by the Society of Vertebrate Paleontology's Standard Procedures (2010) for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. If any paleontological resources or unique geologic features are found within the project sites, the consulting paleontologist shall prepare a paleontological Treatment and Monitoring Plan to include the methods that will be used to protect paleontological resources that may exist within the project sites, as well as procedures for monitoring, fossil preparation and identification, curation of specimens into an accredited repository, and preparation of a report at the conclusion of the monitoring program.

7.6 Hydrology and Water Quality

7.6.1 Violation of Water Quality Standards during Construction

A. Potential Impact. During the construction phase, sedimentation and erosion can occur because of tracking from earthmoving equipment, erosion and subsequent runoff of soil, and improperly designed stockpiles. The utilization of proper erosion and sediment control BMPs is critical in preventing discharge to surface waters/drains.

In addition to erosion and sedimentation, many different types of hazardous compounds will be used during the construction phase, with proper application, management, and containment being of high importance. Poorly managed construction materials can lead to the possibility for exposure of potential contaminants to precipitation. When this occurs, these visible and/or non-visible constituents become entrained in storm water runoff. If they are not intercepted or are left uncontrolled, the polluted runoff would otherwise freely sheet flow from the project to the IID Imperial Valley Drains and could cause pollution accumulation of these pollutants in the receiving waters. This is considered a potentially significant impact.

A. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

B. Facts in Support of Finding. Based on the analysis provided in Section 3.10 of the Final EIR, the project's potentially significant impact would be mitigated to below a level of significance with implementation of Mitigation Measures HYD-1 of the Final EIR. Prior to construction and grading activities, the project applicant is required to file an NOI with the SWRCB to comply with the General NPDES Construction Permit and prepare a SWPPP, which addresses the measures that would be included during construction or the project to minimize and control construction and post-construction runoff to the "maximum extent practicable." In addition, NPDES permits require the implementation of BMPs that achieve a level of pollution control to the maximum extent practical. With the implementation of Mitigation Measures HYD-1, impacts on surface water quality as attributable to the project would be reduced to a less than significant level through the inclusion of focused BMPs for the protection of surface water resources. Monitoring and contingency response measures would be included to verify compliance with water quality objectives for all surface waters crossed during construction. In addition, given that site decommissioning would result in similar activities as identified for construction, these impacts could also occur in the future during site restoration activities.

Mitigation Measure HYD-1 Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration. The project applicant or its contractor shall prepare a SWPPP specific to the project and be responsible for securing coverage under SWRCB's NPDES stormwater permit for

general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the appropriate agency, including the County of Imperial Department of Public Works and the Coachella Valley Water District, prior to commencement of work and shall be made conditions of the contract with the contractor selected to build and decommission the project. The SWPPP shall incorporate control measures in the following categories:

- Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching)
- Sediment control practices (e.g., temporary sediment basins, fiber rolls)
- Temporary and post-construction on- and off-site runoff controls
- Special considerations and BMPs for water crossings and drainages
- Monitoring protocols for discharge(s) and receiving waters, with emphasis place on the following water quality objectives: dissolved oxygen, floating material, oil and grease, potential of hydrogen (pH), and turbidity
- Waste management, handling, and disposal control practices
- Corrective action and spill contingency measures
- Agency and responsible party contact information
- Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP

The SWPPP shall be prepared by a Qualified SWPPP Practitioner and/or Qualified SWPPP Developer with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. BMPs for soil stabilization and erosion control practices and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure.

7.6.2 Violation of Water Quality Standards during Operation

A. Potential Impact. As runoff flows over developed surfaces, water can entrain a variety of potential pollutants including, but not limited to, oil and grease, pesticides, trace metals, and nutrients. These pollutants can become suspended in runoff and carried to receiving waters. These effects are commonly referred to as non-point source water quality impacts.

Long-term operation of the solar facility poses a limited threat to surface water quality after the completion of construction. The project would be subject to the County's Grading Regulations as specified in Section 91010.02 of the Ordinance Code. However, since the project site is located in unincorporated Imperial County and not subject to a Municipal Separate Storm Sewer System or

NPDES General Industrial Permit, there is no regulatory mechanism in place to address post-construction water quality concerns.

B. **Finding.** Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. **Facts in Support of Findings.** Based on the analysis provided in Section 3.10 of the Final EIR, the project's potentially significant impact would be mitigated to below a level of significance with implementation of Mitigation Measure HYD-2 of the Final EIR. The study area is located in unincorporated Imperial County and not subject to a Municipal Stormwater (MS4) Permit, which requires the implementation of post-construction stormwater BMPs to achieve pollutant removal to the maximum extent practicable. The implementation of the prescribed mitigation would incorporate post-construction runoff BMPs into the Project Drainage Plan. The proposed project will be designed to include site design, source control, and treatment control BMPs, as described below. The use of source control, site design, and treatment BMPs would result in a decrease potential for storm water pollution.

Mitigation Measure HYD-2 Incorporate Post-Construction Runoff BMPs into Project Drainage Plan. The project Drainage Plan shall adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of stormwater to existing drainage systems. Infiltration basins will be integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary. The Drainage Plan shall be submitted to the County of Imperial Department of Public Works and Coachella Valley Water District for review and approval.

8 Cumulative Impacts

As analyzed in Chapter 5 of the Final EIR, cumulative impacts to agricultural resources, air quality, biological resources, cultural resources, geology and soils, and hydrology/water quality, would be significant prior to implementation of project specific mitigation measures, and mitigation that would be required of other cumulative projects.

Agricultural Resources

As discussed in Section 3.3, Agricultural Resources, the project sites do not contain Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Therefore, the proposed projects would not convert land designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland to non-agricultural uses or incrementally add to the conversion of agricultural land in Imperial County on a temporary or permanent basis. Furthermore, the project sites are located within the Renewable Energy Zone and is, therefore, considered an appropriate use in this area. Additionally, as a condition of project approval (CUP condition), the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of its lifespan.

The VEGA 2 and 3 project sites do not contain agricultural resources and are not mapped as agricultural land. The majority of the VEGA SES 5 project site is designated as Other Land with a portion of the VEGA SES 5 project site is designated as Farmland of Local Importance. It should be

noted that analysis of Other Land and Farmland of Local Importance is not required under CEQA significance criteria, as these designations are not considered an "agricultural land" per CEQA Statute Section 21060.1(a). However, in terms of preservation of agricultural land Mitigation Measure AG-1 would be implemented to reduce potential impacts related to pests to a less than significant level.

Each individual cumulative project would be or would have been required to provide mitigation for any impacts on agricultural resources in accordance with the County's policies directed at mitigating the impact associated with the conversion of important farmlands, the implementation of which would reduce the impact to less than significant. Because the project would not result in the conversion of farmland, the projects contribution to this impact would be less than cumulatively considerable.

Air Quality

Construction. The proposed projects would generate air emissions due to vehicle and dust emissions associated with construction activities. Similar effects would also be realized upon site decommissioning, which would be carried out in conjunction with the project's restoration plan, and subject to applicable ICAPCD standards. Likewise, the other cumulative projects that are approved, but not yet built (Midway Solar Farm IV and Wilkinson Solar Farm) or pending entitlement (Nider Solar Project and Orni 30) identified in Final EIR Table 5-1 would result in the generation of air emissions during construction activities.

With respect to the proposed projects, during the construction and decommissioning phases, the project would generate PM_{10}, $PM_{2.5}$, ROG, CO, SO_2, and NO_x emissions during each active day of construction. As discussed in Section 3.4, Air Quality, the VEGA SES 2 and 3 projects' daily construction emissions daily construction emissions would not exceed the ICAPCD thresholds for ROG, NOx, CO, SO_2, and $PM_{2.5}$. However, the VEGA SES 2 and 3 projects' daily construction emissions would exceed the ICAPCD threshold for PM_{10} and represents a significant air quality impact. The VEGA SES 2 and 3 projects' impact could be cumulatively considerable because the Imperial County portion of the SSAB are nonattainment already for O_3 and PM_{10} under state standards and for O_3 and $PM_{2.5}$ federal standards. Thus, existing O_3 and PM_{10} levels in the SSAB are at unhealthy levels during certain periods. Additionally, the cumulative construction effects could again be experienced in the future during decommissioning and site restoration activities.

Several of the projects listed in Final EIR Table 5-1 are already constructed and in operation. In the event the proposed projects are constructed in conjunction with the Nider Solar Project (pending entitlement), Midway Solar Farm IV and Wilkinson Solar Farm (approved but not built), each project would be subject to mitigation pursuant to ICAPCD's Regulations. Therefore, the cumulative impact would be reduced to a level less than significant through compliance with these measures. Further, because the proposed projects will be required to implement measures consistent with ICAPCD regulations designed to alleviate the cumulative impact associated with fugitive dust (PM_{10}) and NO_x, the projects contribution would be rendered less than cumulatively considerable and is therefore, less than significant.

Operation. As the proposed project would have no major stationary emission sources and would require minimal vehicular trips, operation of the proposed solar facilities would result in substantially lower emissions than project construction. The projects' operational emissions would not exceed the Tier I thresholds; therefore, the impact would be less than significant. Operational impacts of other renewable energy facilities identified in Final EIR Table 5-1 would also be similar. Although these cumulative projects generally involve large areas, their operational requirements are very minimal, requiring minimal staff or use of machinery or equipment that generate emissions. Further, alternative

energy projects, such as the project, would assist attainment of regional air quality standards and improvement of regional air quality by providing clean, renewable energy sources. Consequently, the projects would provide a positive contribution to the implementation of applicable air quality plan policies and compliance with EO S-3-05.

However, from a cumulative air quality standpoint, the potential cumulative impact associated with the generation of O_3, $PM_{2.5}$ and PM_{10} emissions during operation of the cumulative projects is a consideration because existing O_3 and PM_{10} levels in the SSAB are at unhealthy levels during certain periods. Imperial County is classified as non-attainment for $PM_{2.5}$ for the urban areas of Imperial County. However, the projects' operational contribution to O_3, $PM_{2.5}$ and PM_{10} would be below a level of significance. As with the construction phases, the cumulative projects would be required to comply with ICAPCD's Regulation VIII for dust control (Regulation VIII applies to both the construction and operational phases of projects). As a result, the ICAPCD would be required to comply with the various dust control measures and to prepare and implement operational dust control plans as approved by the ICAPCD, which is a component of ICAPCD's overall framework of the AQAP that sets forth a comprehensive program for SSAB's compliance with all federal and state air quality standards. Therefore, the projects would not contribute to long-term cumulatively considerable air quality impacts and the projects would not result in cumulatively significant air quality impacts, and cumulative impacts would be less than significant.

Biological Resources

The geographic scope for considering cumulative impacts on biological resources includes the Imperial Valley and related biological habitats. Table 5-1 of the Final EIR lists the projects considered for the biological resources cumulative impact analysis.

In general terms, in instances where a potential impact could occur, CDFW and USFWS have promulgated a regulatory scheme that limits impacts on these species. The effects of the project would be rendered less than significant through mitigation requiring compliance with all applicable regulations that protect plant, fish, and animal species, as well as waters of the U.S. and state. Other cumulative projects would also be required to avoid impacts on special-status species and/or mitigate to the satisfaction of the CDFW and USFWS for the potential loss of habitat. As described in Section 3.4, Biological Resources, the projects have the potential to result in impacts on biological resources. These impacts are generally associated with the potential construction-related effects to burrowing owl, bird species, and bats (foraging only).

Burrowing Owls are protected by the CDFW mitigation guidelines for burrowing owl (CDFW 2012) and Consortium guidance (1993), which require a suite of mitigation measures to ensure direct effects to burrowing owls during construction activities are avoided and indirect effects through burrow destruction and loss of foraging habitat are mitigated at prescribed ratios. Mitigation measures identified in Section 3.5, Biological Resources, contain these requirements thereby minimizing potential impacts on these species to a less than significant level. Additionally, as provided in Section 3.5, Biological Resources, special-status bird species have a potential to be present. In addition, several common bird species could nest on the project site. As a result of project-related construction activities, one or more of these species could be impacted. However, with the implementation of mitigation as identified in Section 3.5, Biological Resources, these impacts would be reduced to a level of less than significant, primarily through avoidance of direct and indirect impacts to these species via pre-construction surveys and monitoring requirements during construction. Similarly, the cumulative projects within the geographic scope of the project would be required to comply with the legal

framework as described above, and similar avoidance and minimization measures. Based on these considerations, impacts on biological resources would not be cumulatively considerable.

As with the proposed projects, each of the cumulative projects would be required to provide mitigation for impacts on biological resources. The analysis below is conducted qualitatively and in the context that the cumulative projects would be subject to a variety of statutes and administrative frameworks that require mitigation for impacts on biological resources.

Birds listed at 50 CFR 10.3 are protected by the MBTA (16 USC 703 et seq.), a Federal statute that implements treaties with several countries on the conservation and protection of Birds listed at 50 CFR 10.3 are protected by the MBTA (16 USC 703 et seq.), a Federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The MBTA is enforced by USFWS. This act prohibits the killing of any migratory birds without a valid permit. Any activity which contributes to unnatural migratory bird mortality could be prosecuted under this act. With few exceptions, most birds are considered migratory under this act. Raptors and active raptor nests are protected under California FGCs 3503.5, 3503, and 3513.

The CWA and California's Porter-Cologne Water Quality Control Act provide protection for water-related biological resources by controlling pollution, setting water quality standards, and preventing jurisdictional streams, lakes, and rivers from being filled without a federal permit. Two types of jurisdictional features were documented within the BSA: USACE non-wetland Waters of the U.S. and CDFW State Waters. These drainages ultimately flow into the Salton Sea, which is considered a Traditionally Navigable Water. As such, these drainage features would likely be considered federally and state jurisdictional. Consultation will be initiated with USACE and CDFW to avoid or minimize impacts upon federally and state jurisdictional drainage features.

The proposed projects would comply with these and other laws, regulations and guidelines and therefore would not contribute substantially to a cumulative biological resources impact. Similarly, the cumulative projects within the geographic scope of the proposed projects will be required to comply with the legal frameworks set forth above, as well as others, and will be required to mitigate their impacts to a less than significant level. Therefore, the project would not contribute to a cumulatively considerable impact to biological resources, and cumulative impacts would be less than significant.

Cultural Resources

As discussed in Section 3.6, Cultural Resources, the Old Coachella Canal (P-13-7858) and East Highline Canal (P-13-8333) have been previously evaluated for potential eligibility for listing in the NRHP and CRHR. However, neither the Old Coachella Canal or the East Highline Canal would be impacted by project construction and no impact to historical resources would occur.

As discussed in Section 3.6, Cultural Resources, there are 168 cultural resources within the project area, therefore, there is potential of finding a buried archaeological site during construction. However, like all construction projects in the state, the possibility exists. This potential impact is considered significant. Implementation of Mitigation Measures CR-1 through CR-4 would reduce potential impacts associated with the unanticipated discovery of unknown buried archaeological resources. Implementation of Mitigation Measure CR-5 would reduce potential impacts on human remains to a level less than significant.

Future projects with potentially significant impacts on cultural resources would be required to comply with federal, state, and local regulations and ordinances protecting cultural resources through implementation of similar project-specific mitigation measures during construction. Therefore, through

compliance with regulatory requirements, standard conditions of approval, and Mitigation Measures CR-1 through CR-5, the proposed projects would have a less than cumulatively considerable contribution to impacts on cultural resources.

During operations and decommissioning of the projects, no additional impacts on archeological resources would be anticipated because the soil disturbance would have already occurred and been mitigated during construction.

Geology and Soils

The Imperial Valley portion of the Salton Trough physiographic province of Southern California is used as the geographic scope for the analysis of cumulative impacts on geology/soils and mineral resources. Cumulative development would result in an increase in population and development that could be exposed to hazardous geological conditions, depending on the location of proposed developments. Geologic and soil conditions are typically site specific and can be addressed through appropriate engineering practices. Cumulative impacts on geologic resources would be considered significant if the project would be impacted by geologic hazard(s) and if the impact could combine with off-site geologic hazards to be cumulatively considerable. None of the projects identified within the geographic scope of potential cumulative impacts would intersect or be additive to the project's site-specific geology and soils impacts; therefore, no cumulatively considerable effects are identified for geology/soils, and cumulative impacts would be less than significant.

Development of the proposed projects, in combination with other projects in the area, has the potential to contribute to a cumulatively significant paleontological resources impact due to the potential loss of paleontological resources unique to the region. However, mitigation is included in this EIR to reduce potentially significant project impacts to paleontological resources during construction of the proposed project. Implementation of Mitigation Measure GEO-2 would ensure that the potential impacts on paleontological resources do not rise to the level of significance. Future projects with potentially significant impacts on paleontological resources would be required to comply with federal, state, and local regulations and ordinances protecting paleontological resources through implementation of similar project-specific mitigation measures during construction. Therefore, through compliance with regulatory requirements, standard conditions of approval, and Mitigation Measure GEO-2, the proposed projects would have a less than cumulatively considerable contribution to impacts on paleontological resources.

Hydrology/Water Quality

Final EIR Table 5-1 lists the projects considered for the hydrology and water quality cumulative impact analysis. The geographic scope for considering cumulative hydrology and water quality impacts is the Imperial Valley Hydrologic Unit as defined by the Colorado Basin RWQCB Basin Plan.

The construction of the projects is expected to result in short-term water quality impacts. Compliance with the SWRCB's NPDES general permit for activities associated with construction (2009-0009-DWQ) per Mitigation Measure HYD-1 would reduce water quality impacts. As with the proposed projects, each of the cumulative projects would be required to comply with the Construction General Permit. The SWRCB has determined that the Construction General Permit protects water quality, is consistent with the CWA, and addresses the cumulative impacts of numerous construction activities throughout the state. This determination in conjunction with the implementation of mitigation would ensure short-term water quality impacts are not cumulatively considerable.

The projects are not expected to result in long-term operations-related impacts related to water quality. The projects would mitigate potential water quality impacts by implementing site design, source control, and treatment control BMPs. Some cumulative projects would require compliance with the SWRCB's NPDES general permit for industrial activities, as well as rules found in the CWA, Section 402(p)(1) and 40 CFR 122.26, and implemented Order No. 90-42 of the RWQCB. With implementation of SWRCB, Colorado River RWQCB, and County policies, plans, and ordinances governing land use activities that may degrade or contribute to the violation of water quality standards, cumulatively considerable impacts on water quality would be minimized to a less than significant level.

Based on a review of the FEMA Flood Insurance Rate Map FIRM, the majority of the proposed projects are located within Zone X (unshaded). The FEMA Zone X (unshaded) designation is an area determined to be outside the 0.2 percent annual chance floodplain. However, there are ephemeral wash beds that transect the project site parcels and these areas are designated as Zone A or Special Flood Hazard Areas and are subject to "flash flooding." Compliance with County Flood Zone Ordinances, guidelines, and regulations would be required alongside the construction of retention basins to reduce potential impacts. Cumulative projects listed in Final EIR Table 5-1 that are located in similar locations would also comply with County ordinances, guidelines, and regulations therefore, cumulatively considerable impacts on floodplains would be considered less than significant.

Based on these considerations, the projects would not contribute to or result in a significant cumulatively considerable impact to hydrology or water quality, and cumulative impacts would be less than significant.

9 Effects Found Not to Be Significant

CEQA Guidelines §15128 require that an EIR contain a brief statement disclosing the reasons why various possible significant effects of the project were found not to be significant, and therefore would not be discussed in detail in the EIR. The following issues areas that will not be impacted by the project: Forestry Resources, Energy, Mineral Resources, Population and Housing, Public Services (schools, parks, and other facilities), Recreation, Utilities and Service Systems (wastewater, stormwater, and solid waste), and Wildfire.

10 Findings Regarding Feasible Alternatives

Pursuant to CEQA Guidelines §15126.6(a), EIRs must "describe a range of reasonable alternatives to the project, or to the location of this project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."

CEQA establishes no categorical legal imperative as to the scope of alternatives to be analyzed in an EIR. To be legally sufficient, the consideration of project alternatives in an EIR must permit informed agency decision-making and informed public participation. The analysis of alternatives is evaluated against a rule of reason. Alternatives are suitable for study in an EIR if they meet all of the following thresholds: (1) substantially reduce or avoid the project's significant environmental impacts; (2) attain most of the basic project objectives; (3) are potentially feasible; and (4) are reasonable and realistic. (Guidelines §15126.6, Subds. (a), (c).) Candidate alternatives that do not satisfy these requirements may be excluded from further analysis. An EIR need not consider alternatives that would change the

fundamental nature of the project or that cannot achieve the fundamental goals and purposes of the proposed project.

The alternatives to the project are evaluated in Chapter 7 of the EIR in terms of their ability to meet the basic objectives of the project, and eliminate or further reduce its significant environmental effects. Based on these parameters, the following alternatives were considered and analyzed in the EIR:

1) Alternative 1–No Project/No Development Alternative
2) Alternative 2–Reduced Project Site

10.1 Alternative 1 – No Project/No Development

The State CEQA Guidelines require analysis of the No Project Alternative. According to §15126.6(e)(1) "[t]he specific alternative of 'no project' shall also be evaluated along with its impact." Additionally, according to CEQA Guidelines §15126.6(3)(2), the 'no project' analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on the current plans and consistent with available infrastructure and community services.

Because the solar energy facility would not be constructed on the proposed project site, the Alternative 1-No Project/No Development Alternative would avoid the project impacts associated with agricultural resources; air quality; biological resources; cultural resources; geology and soils; and hydrology and water quality.

A. Finding. Alternative 1 is infeasible. It is found pursuant to Public Resources Code Section 21081(a)(3), that specific economic, legal, social, technological, or other considerations, make Alternative 1 infeasible.

B. Facts in Support of Findings. Alternative 1-No Project/No Development Alternative is rejected as infeasible because it will not meet the primary objectives of the proposed project which include:

- Construct and operate a solar energy facility capable of producing up to 350 megawatt (MW) alternating current (AC) of electricity to assist the State of California in achieving its 60 percent renewable portfolio standard by 2030.
- Provide a 350 MW energy (battery storage) system, that would accommodate and store the power generated by the project so that the facility can continue to provide renewable energy during non-daylight hours.
- Interconnect directly to IID's existing electrical transmission system.
- Help California meet its statutory and regulatory goal of increasing renewable power generation, including greenhouse gas reduction goals of Senate Bill 32.
- Minimize and mitigate any potential impact to sensitive environmental resources within the project area.

For the reasons stated above, the County finds that this alternative is infeasible and less desirable than the proposed project and rejects this alternative.

10.2 Alternative 2 – Reduced Project Site

The purpose of this alternative is to reduce the size of the project sites to minimize impacts on sensitive vegetation communities and riparian habitat. Iodine bush scrub, bush seepweed scrub, tamarisk thickets, and blue palo verde-ironwood woodland occur within the project sites and are considered sensitive natural communities by CDFW.

In addition, riparian habitat associated with the drainage systems throughout the VEGA SES 2 and 3 project sites consists of blue palo verde-ironwood woodland and tamarisk thickets. Riparian habitat associated with the drainage systems throughout the VEGA SES 5 project site consists of tamarisk thickets.

This alternative would remove the portion of VEGA SES 2 that is located on APN 025-010-006 and remove APN 025-260-019 and a portion of APN 025-260-011 from VEGA SES 5. Therefore, the project site would be reduced by 660 acres from a total of 1,963 acres to 1,303 acres. Final EIR Figure 7-1 depicts this alternative.

This alternative would meet most of the basic objectives of the proposed project. However, this alternative would make it more difficult to achieve the overall objective of providing a total of 350 MW of renewable solar energy, as there would be less area available for the placement of PV structures.

A. Finding. It is found pursuant to Public Resources Code Section 21081(a)(3), that specific economic, legal, social, technological, or other considerations, make Alternative 2 infeasible.

B. Facts in Support of Findings. The purpose of studying alternatives to the proposed project is to identify alternatives that would substantially reduce or avoid the significant environmental impacts of the proposed project. This alternative would result in reduced aesthetics and agricultural resources impacts compared to the proposed project.

This alternative would result in greater impacts for the following environmental issue areas as compared to the proposed project: cultural resources, hydrology and water quality, and tribal cultural resources. Further, the project applicant does not own, or otherwise control this property.

For the reasons stated above, the County finds that this alternative is infeasible and less desirable than the proposed project and rejects this alternative.

10.3 Findings Regarding Range of Alternatives

A. Finding. The EIR considers a reasonable range of alternatives. Substantial evidence supports the conclusion of the EIR regarding alternatives considered and rejected.

B. Facts in Support of Findings. The purpose of studying alternatives to the proposed project is to identify alternatives that would substantially reduce or avoid the significant environmental impacts of the proposed project. Substantial evidence shows that all potentially significant environmental impacts of the proposed project are mitigated below significant levels and that no significant unavoidable significant environmental impacts remain. Consequently, the range of alternatives studied in the EIR is reasonable because it included two alternatives to the proposed project despite there being no significant unavoidable environmental impacts necessitating consideration of alternatives to substantially reduce or avoid such impacts. Although some alternatives would reduce the less-than-significant impacts of the proposed project, CEQA does not require that such alternatives be adopted.

Findings Regarding Growth Inducing Impacts

The proposed projects are located within the unincorporated area of Imperial County and does not involve the development of permanent residences that would directly result in population growth in the area. The unemployment rate in Imperial County, as of September 2022, was 16.0 percent (State of California Employment Development Department 2022). The applicant expects to utilize construction workers from the local and regional area, a workforce similar to that involved in the development of other utility-scale solar facilities. Based on the unemployment rate, and the availability of the local workforce, construction of the proposed projects would not have a growth-inducing effect related to workers moving into the area and increasing the demand for housing and services.

Once construction is completed, the facilities would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. Security personnel may conduct unscheduled security rounds and would be dispatched to the project sites in response to a fence breach or other alarm. It is anticipated that maintenance of the facilities would require minimal site presence to perform periodic visual inspections and minor repairs. On intermittent occasions, the presence of additional workers may be required for repairs or replacement of equipment and panel cleaning; however, because of the nature of the facilities, such actions would likely occur infrequently. Overall, minimal maintenance requirements are anticipated. The proposed projects would not result in substantial population growth, as the number of employees required to operate and maintain the facility is minimal.

While the proposed projects would contribute to energy supply, which indirectly supports population growth, the proposed projects are a response to the state's need for renewable energy to meet its Renewable Portfolio Standard, and while it would increase the availability of renewable energy, it would also replace existing sources of non-renewable energy. Unlike a gas-fired power plant, the proposed projects are not being developed as a source of base-load power in response to growth in demand for electricity. The power generated would be added to the state's electricity grid with the intent that it would displace fossil fueled power plants and their associated environmental impacts, consistent with the findings and declarations in SB 100 that a benefit of the Renewable Portfolio Standard is displacing fossil fuel consumption within the state. The projects are being proposed in response to state policy and legislation promoting development of renewable energy.

The proposed projects would supply energy to accommodate and support existing demand and projected growth, but the energy provided by the projects would not foster any new growth because (1) the additional energy would be used to ease the burdens of meeting existing statewide energy demands within and beyond the area of the project sites; (2) the energy would be used to support already-projected growth; or, (3) the factors affecting growth are so diverse that any potential connection between additional energy production and growth would necessarily be too speculative and uncertain to merit further analysis.

Under CEQA, an EIR should consider potentially significant energy implications of a project (CEQA Guidelines Appendix F(II); PRC Section 21100(b)(3)). However, the relationship between the proposed projects' increased electrical capacity and the growth-inducing impacts outside the surrounding area is too speculative and uncertain to warrant further analysis. When a project's growth-inducing impacts are speculative, the lead agency should consider 14 CCR §15145, which provides that, if an impact is too speculative for evaluation, the agency should note this conclusion and terminate discussion of the impact. As the court explained in Napa Citizens for Honest Gov't v. Napa County Board of Supervisors, 91 Cal. App.4th 342, 368: "Nothing in the Guidelines, or in the cases, requires more than a general analysis of projected growth" *Napa Citizens, 91* CA4th at 369.

The problem of uncertainty of the proposed projects' growth-inducing effects cannot be resolved by collection of further data because of the diversity of factors affecting growth.

While this document has considered that the proposed projects, as energy projects, might foster regional growth, the particular growth that could be attributed to the proposed projects are unpredictable, given the multitude of variables at play, including uncertainty about the nature, extent, and location of growth and the effect of other contributors to growth besides the proposed projects. No accurate and reliable data is available that could be used to predict the amount of growth outside the area that would result from the proposed projects' contribution of additional electrical capacity. The County of Imperial has not adopted a threshold of significance for determining when an energy project is growth-inducing. Further evaluation of this impact is not required under CEQA.

Additionally, the projects would not involve the development of any new roadways, new water systems, or sewer; and thus, the projects would not further facilitate additional development into outlying areas. For these reasons, the proposed projects would not be growth-inducing.

Findings Regarding Significant Irreversible Environmental Changes

Energy resources needed for the construction of the proposed projects would contribute to the incremental depletion of renewable and non-renewable resources. Resources, such as timber, used in building construction are generally considered renewable and would ultimately be replenished. Non-renewable resources, such as petrochemical construction materials, steel, copper, lead and other metals, gravel, concrete, and other materials, are typically considered finite and would not be replenished over the lifetime of the project. Thus, the project would irretrievably commit resources over the anticipated 30-year life of the projects.

At the end of the projects' operation term, the applicant may determine that the projects should be decommissioned and deconstructed. Should the projects be decommissioned, the project applicant is required to restore land to its pre-project state. Consequently, some of the resources on the sites could potentially be retrieved after the sites have been decommissioned. Concrete footings, foundations, and pads would be removed and recycled at an off-site location. All remaining components would be removed, and all disturbed areas would be reclaimed and recontoured. The applicant anticipates using the best available recycling measures at the time of decommissioning.

Implementation and operation of the proposed projects would promote the use of renewable energy and contribute incrementally to the reduction in demand for fossil fuel use for electricity-generating purposes. Therefore, the incremental reduction in fossil fuels would be a positive effect of the commitment of nonrenewable resources. Additionally, the projects are consistent with the state's definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California PRC.

1. The County of Imperial (the County), acting through the Board of Supervisors, is the Lead Agency for the project evaluated in the EIR. The County finds that the EIR was prepared in compliance with CEQA and the CEQA Guidelines. The County finds that it has independently reviewed and analyzed the EIR for the project, that the Draft EIR which was circulated for public review reflected its independent judgment and that the Final EIR reflects the independent judgment of the County.
2. The County finds that the EIR provides objective information to assist the decision-makers and the public at large in their consideration of the environmental consequences of the project. The public review period provided all interested jurisdictions, agencies, private organizations, and

individuals the opportunity to submit comments regarding the Draft EIR. The Final EIR was prepared after the review period and responds to comments made during the public review period.

3. The Planning and Development Services Department evaluated comments on environmental issues received from persons who reviewed the Draft EIR. In accordance with CEQA, the Planning and Development Services Department prepared written responses describing the disposition of significant environmental issues raised. The Final EIR provides adequate, good faith and reasoned responses to the comments. The Planning Department reviewed the comments received and responses thereto and has determined that neither the comments received nor the responses to such comments add significant new information regarding environmental impacts to the Draft EIR. The Lead Agency has based its actions on full appraisal of all viewpoints, including all comments received up to the date of adoption of these findings, concerning the environmental impacts identified and analyzed in the EIR.
4. The EIR evaluated the following potential project and cumulative environmental impacts:
    - Aesthetics
    - Agriculture Resources
    - Air Quality
    - Biological Resources
    - Cultural Resources
    - Geology and Soils
    - Greenhouse Gas Emissions
    - Hazards and Hazardous Materials
    - Hydrology/Water Quality
    - Land Use Planning
    - Noise and Vibration
    - Transportation
    - Tribal Cultural Resources
    - Utilities and Service Systems

    Additionally, the EIR considered, in separate sections, Significant Irreversible Environmental Changes, Growth Inducing Impacts and potential secondary effects of the project. The significant environmental impacts of the project were identified in the Final EIR. The significant environmental impacts of the project and the alternatives were also identified in the Draft and Final EIR.
5. The mitigation measures which have been identified for the project were identified in the Draft and Final EIR. The final mitigation measures are described in the MMRP. Each of the mitigation measures identified in the MMRP, and contained in the Final EIR, is incorporated into the project. The County finds that the impacts of the project have been mitigated to the extent feasible by the mitigation measures identified in the MMRP, and contained in the Final EIR.

6. Textual refinements and errata were compiled and presented to the decision-makers for review and consideration. The Planning and Development Services Department staff has made every effort to notify the decision-makers and the interested public/agencies of each textual change in the various documents associated with the project review. These textual refinements arose for a variety of reasons. First, it is inevitable that draft documents would contain errors and would require clarifications and corrections. Second, textual clarifications were necessitated in order to describe refinements suggested as part of the public participation process.
7. The responses to the comments on the Draft EIR, which are contained in the Final EIR, clarify and amplify the analysis in the Draft EIR.
8. Having reviewed the information contained in the EIR and in the administrative record as well as the requirements of CEQA and the CEQA Guidelines regarding recirculation of Draft EIRs, the County finds that there is no new significant information in the Final EIR, finds that the additional information provided therein merely clarifies, amplifies and/or makes insignificant modifications to the adequate Draft EIR, and finds that recirculation of the Draft EIR is not required.
9. CEQA requires the Lead Agency approving a project to adopt an MMRP for the changes to the project which it has adopted or made a condition of project approval in order to ensure compliance with the mitigation measures during project implementation. The mitigation measures included in the EIR as certified by the County and included in the MMRP as adopted by the County serves that function. The MMRP includes all of the mitigation measures identified in the EIR and adopted by the County in connection with the approval of the project and has been designed to ensure compliance with such measures during implementation of the project. In accordance with CEQA, the MMRP provides the means to ensure that the mitigation measures are fully enforceable. In accordance with the requirements of Public Resources Code §21081.6, the County hereby adopts the MMRP.
10. In accordance with the requirements of Public Resources Code §21081.6, the County hereby adopts each of the mitigation measures expressly set forth herein as conditions of approval for the project.
11. The custodian of the documents or other material which constitute the record of proceedings upon which the County's decision is based is the Imperial County Planning and Development Services Department, 801 Main Street, El Centro, California, 92243.
12. The County finds and declares that substantial evidence for each and every finding made herein is contained in the EIR, which is incorporated herein by this reference, or is in the record of proceedings in the matter.
13. The County is certifying an EIR for, and is approving and adopting findings for, the entirety of the actions described in these Findings and in the EIR as comprising the project. It is contemplated that there may be a variety of actions undertaken by other State and local agencies (who might be referred to as "responsible agencies" under CEQA). Because the County is the Lead Agency for the project, the EIR is intended to be the basis for compliance with CEQA for each of the possible discretionary actions by other State and local agencies to carry out the project.
14. The EIR is a Project EIR for purposes of environmental analysis of the project. A Project EIR examines the environmental effects of a specific project. The EIR serves as the primary

environmental compliance document for entitlement decisions regarding the project by the County of Imperial and the other regulatory jurisdictions.

ATTACHMENT "D" – MITIGATION MONITORING AND REPORTING PROGRAM RESOLUTION

RESOLUTION NO. ___

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF IMPERIAL, CALIFORNIA ON THE APPROVAL OF THE MITIGATION MONTORING AND REPORTING PROGRAM FOR THE VEGA SES 2, 3 & 5 SOLAR ENERGY STORAGE PROJECTS.

WHEREAS, a Mitigation Monitoring and Reporting Program has been prepared in accordance with the requirements of the California Environmental Quality Act, the State CEQA Guidelines, and the County's Rules to Implement CEQA as amended; and

WHEREAS, the Board of Supervisors of the County of Imperial has been delegated with the responsibility of the consideration for the approval of the Mitigation Monitoring and Reporting Program; and

WHEREAS, public notice of said application has been given, and Board of Supervisors has considered evidence presented by the Imperial County Planning & Development Services Department, and other interested parties at a public hearing held with respect to this item on October 24, 2023; and,

NOW THEREFORE, the Board of Supervisors of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Board of Supervisors has considered the proposed Mitigation Monitoring and Reporting Program (MM&RP) prior to making a decision to recommend the adoption of the proposed MM&RP. The Planning Commission finds and determines that the Environmental Impact Report is adequate and prepared in accordance with the requirements of the California Environmental Quality Act (CEQA), which analyzes environmental effects, based upon the following findings and determinations.

SECTION 2. That in accordance with CEQA, State Planning and Zoning law, Imperial County Land Use Ordinance and the County of Imperial General Plan, the following findings for recommending the approval of the MM&RP as follows:

1. That the Final Project EIR **SCH #2021050013**, Candidate CEQA Findings for the Vega SES 2, 3 & 5 Solar Energy Storage Projects ("Project") have been prepared in accordance with the requirements of the California Environmental Quality Act, the State CEQA Guidelines, and the County's "Rules and Regulations to Implement CEQA as amended".

2. That the County has reviewed, analyzed, and considered Final Project EIR, the environmental impacts therein identified for this Project, the Candidate CEQA Findings, and the Mitigation Monitoring and Reporting Program, and the entire Record of Proceedings prior to approving this project.

3. That the Mitigation Monitoring and Reporting Program is designed to ensure that during project implementation, the Developer and any other responsible parties implement the Project components and comply with feasible mitigation measures identified in the CEQA Findings, the Project entitlements, and the Mitigation Monitoring and Reporting Program and that these measures are fully enforceable through permit conditions, agreements, and/or other measures, such as their inclusion in the Mitigation Monitoring and Reporting Program.

4. That the Project will not individually or cumulatively have an unmitigated adverse effect on fish and wildlife resources, as defined in Section 711.2 of the Fish and Game Code.

5. That the Record of Proceedings consists of the Final Project EIR (and all its technical reports and addendums thereto); the County staff reports; the CEQA Findings; the Mitigation Monitoring and Reporting Program; the various Project entitlements and documents referenced therein; all final reports, applications, memoranda, maps, letters, and other planning documents prepared by the EIR planning/environmental consultant; all final reports, memoranda, maps, letters, and other planning documents prepared by the County staff; all documents submitted by members of the public and public agencies in connection with the Final Project EIR; minutes and transcripts of all public meetings and public hearings; all written and verbal public testimony presented during a noticed public hearing for the proposed project which such testimony was taken and any and all other materials which constitute the record of proceeding pursuant to Public Resources Code section 21167.6(e); and matters of common knowledge to the County staff, Planning Commission, including, but not limited to the County General Plan, the County Zoning Ordinance, County policies, which may be found at the Clerk's Office located at 940 Main Street, Suite 209, El Centro, CA, 92243 during regular business hours, and the Imperial County Planning & Development Services Department at 801 Main Street, El Centro, CA 92243.

NOW, THEREFORE, based on the above findings, the **IMPERIAL COUNTY BOARD OF SUPERVISORS DOES APPROVE OF** the Mitigation Monitoring Reporting Program (MMRP) for the VEGA SES 2, 3 & 5 solar and battery storage projects.

Ryan E. Kelley, Chairman
Imperial County Board of Supervisors

I hereby certify that the preceding resolution was taken by the Board of Supervisors at a meeting conducted on October 24, 2023, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

_____

Blanca Acosta
Clerk of the Board of Supervisors

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0.4 Mitigation Monitoring and Reporting Program

The County of Imperial will adopt this Mitigation Monitoring and Reporting Program (MMRP) in accordance with Public Resources Code (PRC) Section 21081.6 and Section 15097 of the California Environmental Quality Act (CEQA) Guidelines. The purpose of the MMRP is to ensure that the VEGA SES 2, 3, and 5 Solar Energy Project, which is the subject of the Environmental Impact Report (EIR), complies with all applicable environmental mitigation requirements. The mitigation measures for the project will be adopted by the County of Imperial, in conjunction with the certification of the Final EIR. The mitigation measures have been integrated into this MMRP.

The mitigation measures are provided in Table 0.4-1. The specific mitigation measures are identified, as well as the monitoring method, responsible monitoring party, monitoring phase, verification/approval party, date mitigation measure verified or implemented, location of documents (monitoring record), and completion requirement for each mitigation measure.

The mitigation measures applicable to the project include avoiding certain impacts altogether, minimizing impacts by limiting the degree or magnitude of the action and its implementation, and/or reducing or eliminating impacts over time by maintenance operations during the life of the action.

Public Resources Code Section 21081.6 requires the Lead Agency, for each project that is subject to CEQA, to monitor performance of the mitigation measures included in any environmental document to ensure that implementation does, in fact, take place. The County of Imperial is the designated CEQA lead agency for the Mitigation Monitoring and Reporting Program. The County of Imperial is responsible for review of all monitoring reports, enforcement actions, and document disposition as it relates to impacts within the County's jurisdiction. The County of Imperial will rely on information provided by the monitor as accurate and up to date and will field check mitigation measure status as required.

A record of the MMRP will be maintained at County of Imperial, Department of Planning and Development Services, 801 Main Street, El Centro, CA 92243. All mitigation measures contained in the EIR shall be made conditions of the project as may be further described below.

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
Agricultural Resources								
AG-1	Prior to the issuance of a grading permit or building permit (whichever occurs first), a Pest Management Plan shall be developed by the project applicant and approved by the County of Imperial Agricultural Commissioner. The project applicant shall maintain a Pest Management Plan until reclamation is complete. The plan shall provide the following: 1. Monitoring, preventative, and management strategies for weed and pest control during construction activities at any portion of the project (e.g., transmission line); 2. Control and management of weeds and pests in areas temporarily disturbed during construction where native seed will aid in site revegetation as follows: • Monitor for all pests including insects, vertebrates, weeds, and pathogens. Promptly control or eradicate pests when found, or when notified by the Agricultural Commissioner's office that a pest problem is present on the project site. The assistance of a licensed pest control advisor is recommended. All treatments must be performed by a qualified applicator or a licensed pest control business. • All treatments must be performed by a qualified applicator or a licensed pest control operator. • "Control" means to reduce the population of common pests below economically damaging levels, and includes attempts to exclude pests before infestation, and effective control methods after infestation. Effective control methods may include physical/mechanical removal, bio control, cultural control, or chemical treatments. • Use of "permanent" soil sterilants to control weeds or other pests is prohibited because this would interfere with reclamation.	The Department of Planning and Development Services shall verify that a Pest Management Plan has been reviewed and approved by the Imperial County Agricultural Commissioner.	Department of Planning and Development Services and Imperial County Agricultural Commissioner	Prior to the issuance of a grading permit or building permit, during construction	Department of Planning and Development Services and Imperial County Agricultural Commissioner			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of Food Agriculture and the U.S. Department of Agriculture. Request a sample be taken by the Agricultural Commissioner's Office of a suspected invasive species. Eradication of exotic pests shall be done under the direction of the Agricultural Commissioner's Office and/or California Department of Food and Agriculture. • Obey all pesticide use laws, regulations, and permit conditions. • Allow access by Agricultural Commissioner staff for routine visual and trap pest surveys, compliance inspections, eradication of exotic pests, and other official duties. • Ensure all project employees that handle pest control issues are appropriately trained and certified, all required records are maintained and made available for inspection, and all required permits and other required legal documents are current. • Maintain records of pests found and treatments or pest management methods used. Records should include the date, location/block, project name (current and previous if changed), and methods used. For pesticides include the chemical(s) used, EPA Registration numbers, application rates, etc. A pesticide use report may be used for this.							

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• Submit a report of monitoring, pest finds, and treatments, or other pest management methods to the Agricultural Commissioner quarterly within 15 days after the end of the previous quarter, and upon request. The report is required even if no pests were found or treatment occurred. It may consist of a copy of all records for the previous quarter, or may be a summary letter/report as long as the original detailed records are available upon request. 3. A long-term strategy for weed and pest control and management during the operation of the proposed project. Such strategies may include, but are not limited to: • Use of specific types of herbicides and pesticides on a scheduled basis. 4. Maintenance and management of project site conditions to reduce the potential for a significant increase in pest-related nuisance conditions on surrounding agricultural lands. 5. The project shall reimburse the Agricultural Commissioner's office for the actual cost of investigations, inspections, or other required non-routine responses to the site that are not funded by other sources.							
Air Quality								
AQ-1	**Fugitive Dust Control.** During construction activities, the constructor contractor shall employ the following PM_{10} reducing measures: • All unpaved roads associated with construction shall be effectively stabilized of dust emissions using Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant before the commencement of construction, and every 30 days thereafter until the end of all construction activities. Unpaved roads associated with construction include: • The 1.65 miles of unpaved road on Weist Road and Flowing Wells Road to the VEGA SES 2 and	Prior to construction, a dust control plan shall be prepared and approved by ICAPCD and ICPDS.	Department of Planning and Development Services and ICAPCD	Prior to and during construction	Department of Planning and Development Services and ICAPCD			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	3 project sites. Monthly application of Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant shall be applied at a rate of 0.1 gallon/square yard of chemical dust suppressant. • Prior to any earthmoving activity, the applicant shall submit a construction dust control plan and obtain Imperial County Air Pollution Control District and Imperial County Planning and Development Services Department (ICPDS) approval. • Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII – Fugitive Dust Control Measures. Whereas these Regulation VIII measures are mandatory and are not considered project environmental mitigation measures, the ICAPCD CEQA Handbook's required additional standard and enhanced mitigation measures listed below shall be implemented prior to and during construction. ICAPCD will verify implementation and compliance with these measures as part of the grading permit review/approval process. ***ICAPCD Standard Measures for Fugitive Dust (PM_{10}) Control*** • All disturbed areas, including bulk material storage, which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material, such as vegetative ground cover. • All on-site and offsite unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering. • All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity							

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering. • The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material. • All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area. • Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line. • The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants, and/or watering. ***ICAPCD "Discretionary" Measures for Fugitive Dust (PM_{10}) Control*** • Water exposed soil only in those areas where active grading and vehicle movement occurs with adequate frequency to control dust. • Replace ground cover in disturbed areas as quickly as possible. • Automatic sprinkler system installed on all soil piles. • Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site. • Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees.							

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• Implement a shuttle service to and from retail services and food establishments during lunch hours. ***Standard Mitigation Measures for Construction Combustion Equipment*** • Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum. • Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use. • Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set). ***Enhanced Mitigation Measures for Construction Equipment*** To help provide a greater degree of reduction of PM emissions from construction combustion equipment, ICAPCD recommends the following enhanced measures. • Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways. • Implement activity management (e.g., rescheduling activities to reduce short-term impacts).							

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
AQ-2	**Construction Equipment.** Construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at the project sites by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit. The equipment list shall be submitted periodically to ICAPCD to perform a NO_x analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds. The Planning and Development Services Department and ICAPCD shall verify implementation of this measure.	Prior to the issuance of a grading permit, ICAPCD shall verify that construction equipment are equipped with an engine designation of EPA Tier 2 or better. The equipment list shall be submitted periodically to ICAPCD to perform a NOx analysis.	Department of Planning and Development Services and ICAPCD	Prior to the issuance of a grading permit and during construction	Department of Planning and Development Services and ICAPCD			
AQ-3	**Dust Suppression.** The project applicant shall employ a method of dust suppression (such as water or chemical stabilization) approved by ICAPCD. The project applicant shall apply chemical stabilization as directed by the product manufacturer to control dust between the panels as approved by ICAPCD, and other non-used areas (exceptions will be the paved entrance and parking area, and Fire Department access/emergency entry/exit points as approved by Fire/ Office of Emergency Services [OES] Department). All chemicals used for stabilization of Flowing Wells Road must be approved by BLM.	During construction, the Department of Planning and Development Services shall verify that the project applicant is employing a method of dust suppression approved by ICAPCD.	Department of Planning and Development Services	During construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
APM AQ-4	**Operational Dust Control Plan.** Prior to issuance of a Certificate of Occupancy, the applicant shall submit an operations dust control plan and obtain ICAPCD and ICPDS approval. ICAPCD Rule 301 Operational Fees apply to any project applying for a building permit. At the time that building permits are submitted for the proposed project, the ICAPCD shall review the project to determine if Rule 310 fees are applicable to the project.	Prior to the issuance of a Certificate of Occupancy, the applicant shall submit an operations dust control plan and obtain ICAPCD and ICPDS approval.	Department of Planning and Development Services	Prior to the issuance of a Certificate of Occupancy	Department of Planning and Development Services and ICAPCD			
Biological Resources								
BIO-1a	**Rare Plant Surveys.** Prior to initiating ground disturbance, rare plant surveys shall be conducted within suitable habitat on the VEGA SES 2 and 3 project sites during the appropriate blooming period for gravel milk-vetch, Wiggins' croton, glandular ditaxis, sand food, and Munz's cholla. The surveys shall be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If project-related impacts to rare plants on the project sites are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements.	Prior to initiating ground disturbance, rare plant surveys shall be conducted.	Department of Planning and Development Services	Prior to construction, during construction, and post-construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
BIO-1b	**Rare Plant Surveys.** Prior to initiating ground disturbance, rare plant surveys shall be conducted within suitable habitat on the VEGA SES 5 project site during the appropriate blooming period for Salton milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster. The surveys shall be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If project-related impacts to rare plants on the project sites are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements.	Prior to initiating ground disturbance, rare plant surveys shall be conducted.	Department of Planning and Development Services	Prior to construction, during construction, and post-construction	Department of Planning and Development Services			
BIO-2	**pact Avoidance and Minimization Measures.** The following measures will be applicable throughout the life of the projects: • To reduce the potential indirect impact on migratory birds, bats and raptors, the project shall comply with the APLIC 2012 Guidelines for overhead utilities, as appropriate, to minimize avian collisions with transmission facilities (APLIC 2012) • All electrical components on the project sites shall be either undergrounded or protected so that there will be no exposure to wildlife and therefore no potential for electrocution.	Prior to and during construction a Project Biologist shall be designated and responsible for overseeing compliance with avoidance and minimization measures	Department of Planning and Development Services	Prior to construction, during construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• The project proponent shall designate a Project Biologist who shall be responsible for overseeing compliance with protective measures for biological resources during vegetation clearing and work activities within and adjacent to areas of native habitat. The Project Biologist shall be familiar with the local habitats, plants, and wildlife. The Project Biologist shall also maintain communications with the Contractor to ensure that issues relating to biological resources are appropriately and lawfully managed and shall monitor construction. The Project Biologist shall monitor activities within construction areas during nesting bird season (generally February 1 to September 15), such as vegetation removal, the implementation of Best Management Practices (BMPs), and installation of security fencing to protect native species. The Project Biologist shall ensure that all wildlife and regulatory agency permit requirements, conservation measures, and general avoidance and minimization measures are properly implemented and followed. • The boundaries of all areas to be newly disturbed (including solar facility areas, staging areas, access roads, and sites for temporary placement of construction materials and spoils) shall be delineated with stakes and flagging prior to disturbance. All disturbances, vehicles, and equipment shall be confined to the flagged areas. • No potential wildlife entrapments (e.g., trenches, bores) shall be left uncovered overnight. Any uncovered pitfalls will be excavated to 3:1 slopes at the ends to provide wildlife escape ramps. Alternatively, man-made ramps may be installed. Covered pitfalls will be covered completely to prevent access by small mammals or reptiles. • To avoid wildlife entrapment (including birds), all pipes or other construction materials or supplies shall be covered or capped in storage or laydown areas, and at the end of each work day in construction, quarrying and							

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	processing/handling areas. No pipes or tubing of sizes or inside diameters ranging from 1 to 10 inches shall be left open either temporarily or permanently. • No anticoagulant rodenticides, such as Warfarin and related compounds (indandiones and hydroxycoumarins), shall be used within the project sites, on off-site project facilities and activities, or in support of any other project activities. • Avoid wildlife attractants. All trash and food-related waste shall be placed in self-closing containers and removed regularly from the sites to prevent overflow. Workers shall not feed wildlife. Water applied to dirt roads and construction areas for dust abatement shall use the minimal amount needed to meet safety and air quality standards to prevent the formation of puddles, which could attract wildlife. Pooled rainwater or floodwater within retention basins shall be removed to avoid attracting wildlife to the active work areas. • To minimize the likelihood for vehicle strikes on wildlife, speed limits shall not exceed 15 miles per hour when driving on access roads. All vehicles required for O&M must remain on designated access/maintenance roads. • Avoid nighttime construction lighting or if nighttime construction cannot be avoided, use shielded directional lighting pointed downward and towards the interior of the project sites, thereby avoiding illumination of adjacent natural areas and the night sky. • All construction equipment used for the projects shall be equipped with properly operating and maintained mufflers. • Hazardous materials and equipment stored overnight, including small amounts of fuel to refuel hand-held equipment, shall be stored within secondary containment when within 50 feet of open water to the fullest extent practicable. Secondary containment shall consist of a ring of sand bags around each piece of stored equipment/structure. A plastic							

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	tarp/visqueen lining with no seams shall be placed under the equipment and over the edges of the sandbags, or a plastic hazardous materials secondary containment unit shall be utilized by the Contractor. • The Contractor will be required to conduct vehicle refueling in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species. Any fuel containers, repair materials, including creosote-treated wood, and/or stockpiled material that is left on site overnight, shall be secured in secondary containment within the work area and staging/assembly area and covered with plastic at the end of each work day. • In the event that no activity is to occur in the work area for the weekend and/or a period of time greater than 48 hours, the Contractor shall ensure that all portable fuel containers are removed from the project sites. • All equipment shall be maintained in accordance with manufacturer's recommendations and requirements. • Equipment and containers shall be inspected daily for leaks. Should a leak occur, contaminated soils and surfaces will be cleaned up and disposed of following the guidelines identified in the Stormwater Pollution Prevention Plan or equivalent, Materials Safety Data Sheets, and any specifications required by other permits issued for the projects. • The Contractor shall utilize off-site maintenance and repair shops as much as possible for maintenance and repair of equipment. • If maintenance of equipment must occur onsite, fuel/oil pans, absorbent pads, or appropriate containment will be used to capture spills/leaks within all areas. Where feasible, maintenance of equipment shall occur in upland areas where fuel cannot enter waters of the U.S. and in areas that do not							

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	have potential to support federally threatened or endangered species. • Appropriate BMPs shall be used by the Contractor to control erosion and sedimentation and to capture debris and contaminants from construction to prevent their deposition in waterways. • Erosion and sediment control devices used for the proposed projects, including fiber rolls and bonded fiber matrix, shall be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard. • Firearms, open fires, and pets shall be prohibited at all work locations and access roads. Smoking shall be prohibited along the project alignment. • Cross-country vehicle and equipment use outside of approved designated work areas and access roads shall be prohibited to prevent unnecessary ground and vegetation disturbance. • Any injured or dead wildlife encountered during project-related activities shall be reported to the project biologist, biological monitor, CDFW, or a CDFW-approved veterinary facility as soon as possible to report the observation and determine the best course of action. For special-status species, the Project Biologist shall notify the County, USFWS, and/or CDFW, as appropriate, within 24 hours of the discovery. • Stockpiling of material shall only be allowed within established work areas. • The Contractor shall actively manage the spread of noxious weeds by implementing weed control activities. The introduction of exotic, nonnative, weed, and/or invasive plant species will be avoided and controlled wherever possible, and may be achieved through physical or chemical removal and prevention, limiting the size of any vegetation and/or ground disturbance to the absolute minimum, and limiting ingress and egress to							

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	defined routes. Preventing exotic plants from entering the sites via vehicular sources will include measures such as cleaning vehicles coming into and going from the sites. All equipment will be cleaned and inspected prior to transport to the sites. • The ground beneath all parked equipment and vehicles shall be inspected for wildlife before moving.							
BIO-3	**Worker Environmental Awareness Program.** Prior to project construction, a Worker Environmental Awareness Program shall be developed and implemented by a qualified biologist and shall be available in both English and Spanish. Handouts summarizing potential impacts on special-status biological resources and the potential penalties for impacts on these resources shall be provided to all construction personnel. At a minimum, the education program shall including the following: • the purpose for resource protection; • a description of special-status species including representative photographs and general ecology; • occurrences of USACE, RWQCB, and CDFW regulated features in the project study area; • regulatory framework for biological resource protection and consequences if violated • sensitivity of the species to human activities; • avoidance and minimization measures designed to reduce the impacts on special-status biological resources • environmentally responsible construction practices; • reporting requirements; • the protocol to resolve conflicts that may arise at any time during the construction process; and • workers sign acknowledgement form indicating that the Environmental Awareness Training and Education	Prior to construction, the Department of Planning and Development Services shall verify that a Worker Environmental Awareness Program has been implemented by a qualified biologist. The Department of Planning and Development Services shall verify the completion of the Worker Environmental Awareness Program by obtaining signed acknowledgements forms from workers.	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	Program that has been completed, which shall be kept on record.							
BIO-4	**Burrowing Owl Avoidance and Minimization.** Take avoidance (pre-construction) surveys for burrowing owl shall be completed prior to project construction. Surveys shall be conducted as detailed within Appendix D of the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game [CDFG] 2012). If burrowing owl is not detected, construction may proceed. • If burrowing owl is identified during the non-breeding season (September 1 through January 31), then a 50-meter buffer will be established by the biological monitor. Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until a CDFW-approved exclusion plan has been implemented. The buffer distance may be reduced if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities. • If burrowing owl is identified during the breeding season (February 1 through August 31), then an appropriate buffer will be established by the biological monitor in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012). Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until young have fledged. The buffer distance may be reduced in consultation with CDFW if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities.	Prior to construction, the Department of Planning and Development Services shall verify that pre-construction surveys for burrowing owl were conducted. If burrowing owl are present, the measures as listed in Mitigation Measure BIO-4 shall be implemented.	Department of Planning and Development Services	During construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
BIO-5	**Pre-Construction Nesting Bird Survey.** If construction or other project activities are scheduled to occur during the bird breeding season (typically February 1 through August 31 for raptors and February 15 through August 31 for the majority of migratory bird species), a pre-construction nesting-bird survey shall be conducted by a qualified avian biologist to ensure that active bird nests, including those for loggerhead shrike, black-tailed gnatcatcher, and burrowing owl, will not be disturbed or destroyed. The survey shall be completed no more than three days prior to initial ground disturbance. The nesting-bird survey shall include the project site and adjacent areas where project activities have the potential to affect active nests, either directly or indirectly, due to construction activity or noise. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist. If construction activities cease for a period of greater than three days during the bird breeding season, a pre-construction nesting bird survey shall be conducted prior to the commencement of activities. Final construction buffers or setback distances shall be determined by the qualified biologist in coordination with USFWS and CDFW on a case-by-case basis, depending on the species, season in which disturbance shall occur, the type of disturbance, and other factors that could influence susceptibility to disturbance (e.g., topography, vegetation, existing disturbance levels, etc.).	Prior to construction, the Department of Planning and Development Services shall verify that a pre-construction nesting bird survey was conducted. If nesting birds are present, the measures as listed in Mitigation Measure BIO-5 shall be implemented.	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
BIO-6a	**Pre-Construction Survey for Special-Status Species.** A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 2 and 3 project sites or that were identified as having a high potential to occur on the sites. These species include, but are not limited to, burrowing owl, loggerhead shrike, California black rail, and black-tailed gnatcatcher. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.	Prior to construction, the Department of Planning and Development Services shall verify that a pre-construction survey for special-status species was conducted. If special status species are present, the measures as listed in Mitigation Measure BIO-6a shall be implemented.	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			
BIO-6b	**Pre-Construction Survey for Special-Status Species.** A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 5 project site or that were identified as having a high potential to occur on the site. These species include, but are not limited to, mountain plover, California black rail, merlin, Yuma hispid cotton rat, burrowing owl, black-tailed gnatcatcher, and loggerhead strike. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.	Prior to construction, the Department of Planning and Development Services shall verify that a pre-construction survey for special-status species was conducted. If special status species are present, the measures as listed in Mitigation Measure BIO-6b shall be implemented.	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
BIO-7a	**Sensitive Habitat Avoidance.** To the greatest extent possible, plans should avoid impacts on blue palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets habitats within the VEGA SES 2 and 3 project sites to minimize potential impacts on special-status species. Excluding these habitats from the projects should also minimize mitigation and permitting requirements to meet the less-than-significance threshold.	Prior to construction as part of final engineering plans	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			
BIO-7b	**Sensitive Habitat Avoidance.** To the greatest extent possible, plans should avoid impacts on bush seepweed scrub and tamarisk thicket habitats within the VEGA SES 5 project site to minimize potential impacts to special-status species. Excluding these habitats from the project should also minimize mitigation and permitting requirements to meet the less-than-significance threshold.	Prior to construction as part of final engineering plans	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
BIO-8	**Aquatic Resources Regulatory Permitting.** If project-related impacts occur to the riparian areas that may also fall under the jurisdiction of the USACE, CDFW, or RWQCB a regulatory permit with those agencies will be needed prior to the impact occurring. Refer to the ECORP Jurisdiction Delineation Report (2022) for preliminary determination of regulatory limits of areas that may be regulated by the USACE, CDFW, or RWRCB. Permitting includes preparation and submittal of a Pre-Construction Notification under Section 404 of the federal CWA, an Application for Water Quality Certification under Section 401 of the federal CWA, and a Notification of Lake or Streambed Alteration under Section 1600 of the California Fish and Game Code. A completed CEQA document, and Notice of Determination, will be necessary to submit along with the applications. Other items such as finalized project plans, quantities of fill material, supporting technical studies, etc., are also submitted along with the applications. As a part of this process, the projects must also identify and approve mitigation through the respective agencies. Mitigation can include onsite or offsite options or could include purchase of credits from an existing mitigation or conservation bank or payment of an in-lieu fee to a conservation organization. Types of mitigation can include restoration, creation, rehabilitation, enhancement, or other types of habitat improvement. Typically, the type of mitigation and acreage of mitigation is negotiated with the regulatory agencies during the permitting process.	Prior to construction	Department of Planning and Development Services, USACE, CDFW, RWQCB (as applicable)	Prior to construction	Department of Planning and Development Services, USACE, CDFW, RWQCB (as applicable)			
BIO-9	**Minimization of Impacts to Wetland/Riparian Habitat.** Solar panels, structures, and new access roads should not be placed within 50 feet of wetland and riparian habitat boundaries. A construction buffer of 300 feet shall be established around the wetlands and riparian habitat during the bird breading season (February 1 – August 31). Prior to construction, fencing should be installed approximately 10 feet from the wetland and riparian habitat boundaries within 50 feet of the projects. Fencing should be easily visible to construction. The extensive alluvial fan systems should not be used as access roads between the projects.	Prior to construction as part of final engineering plans	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
Cultural Resources								
CR-1	**Cultural Resources Management Plan.** Project proponent will develop a cultural resources management plan (CRMP) to outline the process for compliance with applicable cultural resources laws, management of resources during operation, and consideration of the effect of decommissioning. The CRMP shall include the following: identification of California Native American tribes, identification of long and short term management goals for cultural resources within the project area, evaluation of eligibility for the CRHR and NRHP for all resources within the project area as identified on EIR Tables 3.6-3, 3.6-4 and 3.6-5, recommendations for eligibility for the CRHR and NRHP, description of measures to avoid, minimize, and reduce significant impacts to cultural resources (including both historical and archaeological resources), unanticipated discovery procedures, monitoring needs, data recovery of significant cultural resources where avoidance is not possible, curation procedures for recovered artifacts, anticipated personnel requirements and qualifications. The CRMP shall specifically address pre-contact fishing village site Resource P-13-147 and all resources identified in EIR Tables 3.6-3, 3.6-4 and 3.6-5. The draft CRMP shall be prepared by a registered professional archaeologist and reviewed and approved by the County of Imperial Planning and Development Services Department.	Prior to construction, approval of the CRMP by the Department of Planning and Development Services.	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			
CR-2	**Cultural Resources Training.** Project proponent will provide cultural resources training for all project personnel regarding the laws protecting cultural resources, appropriate conduct in the field, and other project-specific issues identified in the CRMP prepared for each site as required by Mitigation Measure CR-1.	Prior to grading and during any ground-disturbing phases of the project	Department of Planning and Development Services	Prior to grading and during ground-disturbing phases of the project	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
CR-3	**Construction Monitoring.** A qualified Archaeologist shall be present on site for ground disturbing activities within 100-feet of all unevaluated or sites eligible for inclusion to the NRHP or CRHR. Ground disturbing activities include grubbing, trenching, and grading. Monitoring will be limited to natural surfaces and undisturbed sediments. Monitoring is not required for previously disturbed areas or fill. Monitors will complete daily monitoring reports documenting activites and results of the day. After construction activities have finished a comprehensive monitoring report shall be prepared.	During ground disturbing activities including grubbing, trenching, and grading	Ground disturbing activities include grubbing, trenching, and grading	During ground disturbing activities including grubbing, trenching, and grading.	Department of Planning and Development Services			
CR-4	**Unanticipated Discovery Procedures.** In the event of the discovery of previously unidentified archaeological materials, the contractor shall immediately cease all work activities within approximately 100 feet of the discovery. After cessation of excavation, the contractor shall immediately contact the Imperial County Department of Planning and Development Services. Except in the case of cultural items that fall within the scope of the Native American Grave Protection and Repatriation Act, the discovery of any cultural resource within the project area shall not be grounds for a "stop work" notice or otherwise interfere with the project's continuation except as set forth in this paragraph. In the event of an unanticipated discovery of archaeological materials during construction, the applicant shall retain the services of a qualified professional archaeologist, meeting the Secretary of the Interior's Standards for a Qualified Archaeologist, to evaluate the significance of the materials prior to resuming any construction related activities in the vicinity of the find. If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA and it cannot be avoided, the applicant shall implement an archaeological data recovery program.	During grading and construction, discovery of human remains shall result in work stoppage in that area until the coroner and the Native American Heritage Commission are contacted.	Department of Planning and Development Services	During grading and construction	Department of Planning and Development Services			

CR-5	**Discovery of Human Remains.** If subsurface deposits believed to be human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist who meets the Secretary of the Interior's Standards for prehistoric and historic archaeology and is familiar with the resources of the region, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find: • If the find includes human remains, or remains that are potentially human, the professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Imperial County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. • If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC may mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinterment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the Imperial County Planning and Development Services Department, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.	During ground disturbing activities	Department of Planning and Development Services, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.	During ground disturbing activities	Department of Planning and Development Services, County Coroner
Geology and Soils					

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
GEO-1	**Prepare Geotechnical Report(s) as Part of Final Engineering for the Project and Implement Required Measures.** Facility design for all project components shall comply with the site-specific design recommendations as provided by a licensed geotechnical or civil engineer to be retained by the project applicant. The final geotechnical and/or civil engineering report shall address and make recommendations on the following: • Site preparation • Soil bearing capacity • Appropriate sources and types of fill • Potential need for soil amendments • Structural foundations • Grading practices • Soil corrosion of concrete and steel • Erosion/winterization • Seismic ground shaking • Liquefaction • Expansive/unstable soils In addition to the recommendations for the conditions listed above, the geotechnical investigation shall include subsurface testing of soil and groundwater conditions, and shall determine appropriate foundation designs that are consistent with the version of the CBC that is applicable at the time building and grading permits are applied for. All recommendations contained in the final geotechnical engineering report shall be implemented by the project applicant. The final geotechnical and/or civil engineering report shall be submitted to Imperial County Public Works Department, Engineering Division for review and approval prior to issuance of building permits.	Prior to the issuance of a grading permit, the Imperial County Public Works Department, Engineering Division shall review and approve a Final Geotechnical Report and/or Civil Engineering Report.	Department of Planning and Development Services and Imperial County Public Works Department, Engineering Division	Prior to issuance of a grading permit	Department of Planning and Development Services and Imperial County Public Works Department, Engineering Division			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
GEO-2	**Paleontological Resources.** In the event that unanticipated paleontological resources or unique geologic resources are encountered during ground-disturbing activities, work must cease within 50 feet of the discovery and a paleontologist shall be hired to assess the scientific significance of the find. The consulting paleontologist shall have knowledge of local paleontology and the minimum levels of experience and expertise as defined by the Society of Vertebrate Paleontology's Standard Procedures (2010) for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. If any paleontological resources or unique geologic features are found within the project sites, the consulting paleontologist shall prepare a paleontological Treatment and Monitoring Plan to include the methods that will be used to protect paleontological resources that may exist within the project sites, as well as procedures for monitoring, fossil preparation and identification, curation of specimens into an accredited repository, and preparation of a report at the conclusion of the monitoring program.	If paleontological monitoring is warranted, a mitigation and monitoring report shall be prepared and submitted to the Department of Planning and Development Services for review and approval.	Department of Planning and Development Services	Prior to grading	Department of Planning and Development Services			
Hydrology/Water Quality								
HYD-1	**Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration.** The project applicant or its contractor shall prepare a SWPPP specific to the project and be responsible for securing coverage under SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the appropriate agency, including the County of Imperial Department of Public Works and the Coachella Valley Water District, prior to commencement of work and shall be made conditions of the contract with the contractor selected to build and decommission the project. The SWPPP shall incorporate control measures in the following categories:	Prior to construction and site restoration, the project applicant or its contractor shall prepare a SWPPP with incorporated control measures outlined in Mitigation Measure HYD-1; and implement BMPs. Department of Planning and Development Services to verify.	Department of Planning and Development Services	Prior to issuance of a grading permit and site restoration	Department of Planning and Development Services, Coachella Valley Water District			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching) • Sediment control practices (e.g., temporary sediment basins, fiber rolls) • Temporary and post-construction on- and off-site runoff controls • Special considerations and BMPs for water crossings and drainages • Monitoring protocols for discharge(s) and receiving waters, with emphasis place on the following water quality objectives: dissolved oxygen, floating material, oil and grease, potential of hydrogen (pH), and turbidity • Waste management, handling, and disposal control practices • Corrective action and spill contingency measures • Agency and responsible party contact information • Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP The SWPPP shall be prepared by a Qualified SWPPP Practitioner and/or Qualified SWPPP Developer with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. BMPs for soil stabilization and erosion control practices and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure.							
HYD-2	**Incorporate Post-Construction Runoff BMPs Into Project Drainage Plan.** The project Drainage Plan	Post construction for the project site, the applicant	Department of Planning and Development Services	Post construction	Department of Planning and Development			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	shall adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of stormwater to existing drainage systems. Infiltration basins will be integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary. The Drainage Plan shall be submitted to the County of Imperial Department of Public Works and Coachella Valley Water District for review and approval.	shall implement a Drainage Plan in accordance with the County and Imperial Irrigation District guidelines. Department of Planning and Development Services and IID to confirm.			Services, IID, Coachella Valley Water District			

ATTACHMENT "E" – CONDITIONAL USE PERMIT #20-0021 WITH RESOLUTION

RESOLUTION NO. __

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF IMPERIAL, CALIFORNIA, FOR APPROVAL ON THE "VEGA SES 2 SOLAR ENERGY STORAGE PROJECT" FOR CONDITIONAL USE PERMIT #20-0021"

WHEREAS, APEX ENERGY SOLUTIONS, LLC has submitted an application for Conditional Use Permit (CUP) #20-0021 to develop a nominal 240-megawatt (MW) solar photovoltaic (PV) energy generation project with an integrated battery storage system not to exceed 480 MW. The project includes solar energy generation facility, battery storage system, switching station and gen-tie line. The project is to be located on approximately 1,483 acres; and,

WHEREAS, an Environmental Impact Report and CEQA Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State Guidelines, and the County's "Rules and Regulations to Implement CEQA," as Amended; and,

WHEREAS, the Board of Supervisors of the County of Imperial has been delegated with the responsibility of approvals, and certifications for approvals of conditional use permits; and,

WHEREAS, public notice of said application has been given, and the Board of Supervisors has heard, received and considered all oral and written protests, objections and evidence presented by interested parties at a public hearing held with respect to this item on October 24, 2023; and,

WHEREAS, the Draft EIR was received by the State Clearinghouse on December 14, 2022 and circulated for a period of 50 days (**SCH #2021050013**) with the commenting period ending February 2, 2023; and,

NOW, THEREFORE, the Board of Supervisors of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Board of Supervisors has considered the proposed Conditional Use Permit #20-0021 prior to recommending approval and the County's consideration of the Project has been noticed in compliance with law.

SECTION 2. That the Project complies with the requirements of the Imperial County Code and is in accordance with State Planning and Zoning law therefore, the following findings are made pursuant to Imperial County Code § 90203.09 as follows:

A. The proposed use is consistent with goals and policies of the adopted County General Plan. (Imperial County Code § 90203.09.A)

The current General Plan land use designations of the project site and proposed parcels are "Recreation/Open Space" and proposed project parcels are within the Renewable Energy Overlay (RE). Therefore, the proposed uses could be found consistent with the General Plan.

B. The proposed use is consistent with the purpose of the zone or sub-zone within which the use will be used. (Imperial County Code § 90203.09.B)

The proposed project parcels are zoned S-2-RE. (Open Space Preservation) with Renewable Energy Overlay). The proposed uses are consistent with the zone since they are listed as allowed uses under the S-2-RE zone with requirements for an approved Conditional Use Permit.

C. The proposed use is listed as a use within the zone or sub-zone or is found to be similar to a listed conditional use according to the procedures of Section 90203.00. (Imperial County Code § 90203.09.C)

The proposed use is consistent with the zone: S-2-RE (General Agriculture with Renewable Energy Overlay).

D. The proposed use meets the minimum requirements of this Title applicable to the use and complies with all applicable laws, ordinances and regulation of the County of Imperial and the State of California. (Imperial County Code § 90203.09.D)

The Project complies with the minimum requirements of this Title by, among other things, obtaining a CUP, complying with the California Environmental Quality Act, and participating in the public review and hearing process. Development standards have been established for the Project pursuant to these processes, and will be enforced via imposition and enforcement of the Mitigation Monitoring and Reporting Program recommended for approval by separate Resolution, as well as the conditions of approval imposed on this CUP. The Conditions of Approval will further insure that the project complies with all applicable regulations of the County

of Imperial and the State of California. Therefore, the proposed project meets the minimum requirements of the Land Use Ordinance, Section 90203.00.

E. The proposed use will not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity. (Imperial County Code § 90203.09.E)

The Environmental Impact Report (EIR) prepared for the Project analyzed the Project's potential effects on the health, safety, and welfare of the public and property and found that, with mitigation, the Project would have less than significant effects and impacts in all resources areas.

In addition, the project site is not near a residential community and is mostly surrounded by farmland and or open space/recreational land.

F. The proposed use does not violate any other law or ordinance. (Imperial County Code § 90203.09.F)

The proposed project will be subject to the Conditional Use Permit and current Federal, State and Local regulations. State Planning and Zoning Law (Cal. Govt. Code §§ 65000-66035) establishes minimum statewide standards for the regulation of local land use through planning and zoning. The County regulates local land use via Title 9 of the Imperial County Code. As found above, the proposed project is conditioned to be consistent with Imperial County, Title 9, Land Use Ordinance and CEQA mitigation measures and therefore complies with both State and local laws and ordinance.

Pursuant to CEQA, the County has prepared an EIR for the Project, which analyzes the proposed Project's compliance and consistency with other federal, state, and local laws and ordinances regulating the environment. Substantial evidence supports the conclusions in the EIR that the Project complies with said environmental laws, and thus the finds that the proposed use does not violate any other law or ordinance.

G. The proposed use is not granting a special privilege. (Imperial County Code § 90203.09.G)

The proposed solar generating and storage facility is a permitted use subject to approval of the proposed Conditional Use Permit. No special privileges are being offered or will be granted.

SECTION 3. Approval of the Project is conditioned upon the terms and conditions set forth in the Agreement for Conditional Use Permit #20-0021 attached hereto and incorporated herein by this reference.

NOW, THEREFORE, based on the above findings, the Imperial County Board of Supervisors **DOES HEREBY APPROVE** Conditional Use Permit #20-0021, subject to the attached Conditions of Approval.

Ryan E. Kelley, Chairman
Imperial County Board of Supervisors

I hereby certify that the preceding resolution was taken by the Board of Supervisors at a meeting conducted on October 24, 2023, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

Blanca Acosta
Clerk of the Board of Supervisors

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When Recorded Return To:

Imperial County
Planning & Development Services
801 Main Street
El Centro, California 92243

AGREEMENT FOR CONDITIONAL USE PERMIT #20-0021
VEGA SES 2 SOLAR ENERGY STORAGE PROJECT
APN's 025-010-006-000, 025-260-011, 025-270-023-000

This Agreement is made and entered into on this ___day of _____, 2023, by and between APEX ENERGY SOLUTIONS, LLC hereinafter referred to as the Permittee (Permittee), and the COUNTY OF IMPERIAL, a political subdivision of the State of California (County or Imperial County), related to the VEGA SES 2 SOLAR ENERGY STORAGE PROJECT (CUP #20-0021) project area.

RECITALS

WHEREAS, Permittee is the lessee or successor-in-interest of certain land in Imperial County to be improved with the proposed utility-scale solar and battery storage facility. The project, Conditional Use Permit (CUP or Permit) #20-0021, consists of a proposed 240-megawatt (MW) photovoltaic solar energy facility, energy (battery) storage facility (up to 480 MW and not to exceed a 2 to 1 solar/battery ratio) and associated infrastructure, including but not limited to, electrical switch station, substation, on-site operations and maintenance (O&M), a gen-tie line and internal solar development transmission lines, on approximately 1,472 acres within Imperial County (the "Project"). The proposed facility is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The Coachella and East Highline Canals and the Union Pacific Railway transect the project area. The project area is located entirely within the County's Renewable Energy Overlay Zone. .

WHEREAS, Permittee has applied to the County of Imperial for CUP #20-0021 for constructing and operating a new 240 MW solar energy facility, energy (battery) storage facility (up to 480 MW and not to exceed a 2 to 1 solar/battery ratio) with ancillary support facilities, including electrical interconnections. The Project will connect to the existing IID "P" line located immediately north of the project site north of the All American Canal.

WHEREAS, the Project is located on portion of APN 025-010-006, 025-260-011, 025-270-023. Additionally, the legal description includes SEC 9, 15, and 17, Township 11 South, Range 15 East on a portion of 1,472 acres. The project site is located entirely within the Imperial County Renewable Energy Overlay zone.

WHERAS, The Permittee for the VEGA SES 2 Solar Energy Project (CUP #20-0021) shall fully comply with all of the terms and conditions of the Project as specified hereinafter within this CUP.

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GENERAL CONDITIONS:

The "GENERAL CONDITIONS" are shown by the letter "G". These conditions are conditions that are either routinely and commonly included in all Conditional Use Permits as "standardized conditions" and/or are conditions that the Imperial County Planning Commission has established as a requirement on all CUP's for consistent application and enforcement. The Permittee is hereby advised that the General Conditions are as applicable as the SITE SPECIFIC conditions. The General Conditions are in addition to the MMRP and any and all other requirements for the project.

G-1 GENERAL LAWS:

The Permittee shall obtain, comply with and maintain all applicable County, State, and federal laws, rules, regulations, ordinances, and/or standards as they may pertain to this project whether specified herein or not.

G-2 EFFECTIVE DATE:

The approved Conditional Use Permit shall not become effective until ten (10) calendar days after the decision of the Planning Director or Commission. Further the Conditional Use Permit shall not be effective until applicable conditions have been met, and the Conditional Use Permit is recorded with the County Recorder, with payment of recording fees being paid by applicant. In the case of a decision by the Board of Supervisors there is no 10-day appeal.

G-3 RECORDATION:

CUP #20-0021 shall **not be effective** until it is recorded at the Imperial County Recorder's Office and if no appeal has been made after approval from the hearing body. Payment of the recordation fee shall be the responsibility of the Permittee. If this CUP is not recorded within one hundred eighty (180) days from the date of approval the CUP shall be deemed null and void, without notice having to be provided to Permittee. Permittee may submit a written request for a recordation extension for this CUP by filing such a request with the Planning Director at least sixty (60) days prior to the one hundred eighty 180-day expiration. The Director may approve one (1) extension for a period not to exceed one hundred eighty (180) days. An extension may not be granted if the request for an extension is filed after the expiration date. Failure to record this CUP within one (1) year including the granted extension period shall deem this CUP null and void.

G-4 COMMENCEMENT OF WORK:

If the project for which a CUP has been approved has not commenced, or permits for said project have not been issued, within one (1) year from effective date, the CUP shall be null and void. If an applicant cannot initiate or obtain permits for the approved use during the one (1) year, applicant may request a one (1) year extension from the Department. The request for an extension shall be in writing and be submitted with explanation to the Planning & Development Services Department at least sixty days prior to the end of the extended one (1) year period. The Director shall have the authority to extend the initial start-up period, or commencement of work, of a CUP up to two (2) times for a maximum of two (2) years. Should the

Permittee desire to continue with the project, a new application shall be submitted and the entire process would have to begin anew.

G-5 TIME LIMIT:

Unless otherwise specified within the Site Specific Conditions, this Permit shall be limited to a maximum of thirty (30) years from the recordation of the CUP. The CUP may be extended for an additional ten (10) year period by the appropriate County entity (either the Planning Director, the Planning Commission or the Board of Supervisors as set forth in the applicable Imperial County Ordinances) upon a finding that the Project is in compliance with all conditions of the CUP as stated herein and any applicable Land Use regulation of the County of Imperial. In order to obtain an extension, the Permittee shall file a written extension request with the Planning Director at least sixty (60) days prior to the expiration date of the permit. Such an extension request shall include the appropriate extension fee. Nothing stated or implied within this Permit shall constitute a guarantee that an extension will be granted. An extension may or may not be granted if the Project is in violation of any one or all of the conditions or if there is a history of non-compliance with the Permit conditions.

G-6 ABANDONMENT:

If a CUP has been unused, abandoned, discontinued, or ceased for one (1) year, the CUP shall be null and void, and be of no effect. Notice to applicant/permittee under this division will not be required or provided by Department.

G-7 PERMIT/LICENSE:

Permittee shall obtain and comply with any and all required permits, licenses, and/or approvals, for the construction and/or operation of this project. This shall include, but shall NOT be limited to, permits from the County Division of Environmental Health Services (EHS), Planning & Development Services Department, Office of Emergency Services (OES), Imperial County Air Pollution Control District (ICAPCD) and Public Works Department. Permittee shall likewise comply with all such permit requirements for the life of the project. **Additionally, Permittee shall submit a copy of such additional permit(s) and/or license(s) to the Planning & Development Services Department within 60-days of receipt, including amendments or alternatives thereto.**

G-8 APPROVALS AND CONDITIONS SUBSEQUENT TO GRANTING PERMIT:

Permittee acceptance of this CUP shall be deemed to constitute agreement with the terms and conditions contained herein. Where a requirement is imposed in this CUP that Permittee conduct a monitoring program, and where the County has reserved the right to impose or modify conditions with which the Permittee must comply based on data obtained therefrom, or where the Permittee is required to prepare specific plans for County approval and disagreement arises, the Permittee, operator and/or agent, the Planning and Development Services Director or other affected party, to be determined by the Planning and Development Services Director, may

request that a hearing be conducted before the Imperial County Planning Commission whereby they may state the requirements which will implement the applicable conditions as intended herein. Upon receipt of a request, the Planning Commission shall conduct a hearing and make a written determination. The Planning Commission may request support and advice from a technical advisory committee. Failure to take any action shall constitute endorsement of staff's determination with respect to implementation.

G-9 CONDITION PRIORITY:

This project shall be constructed/operated as described in the CUP application, the environmental documents, the project description, and as specified in these conditions. Where a conflict occurs, the CUP conditions shall govern.

G-10 INDEMNIFICATION:

As part of this application, applicant and real party in interest, if different, agree to defend, indemnify, hold harmless, and release the County of Imperial ("County"), its agents, officers, attorneys, and employees (including consultants) from any claim, action, or proceeding brought against any of them, the purpose of which is to attack, set aside, void, or annul the approval of this application or adoption of the environmental document which accompanies it. This indemnification obligation shall include, but not be limited to, damages, costs, expenses, attorney fees, or expert witness fees that may be asserted by any person or entity, including the applicant, arising out of or in connection with the approval of this application, whether or not there is concurrent negligence on the part of the County, its agents, officers, attorneys, or employees (including consultants).

If any claim, action, or proceeding is brought against the County, its agents, officers, attorneys, or employees (including consultants), to attack, set aside, void, or annul the approval of the application or adoption of the environmental document which accompanies it, then the following procedures shall apply: The Planning Director shall promptly notify the County Board of Supervisors of any claim, action or proceeding brought by an applicant challenging the County's action. The County, its agents, attorneys and employees (including consultants) shall fully cooperate in the defense of that action. The County shall have the final determination on how to best defend the case and will consult with applicant regularly regarding status and the plan for defense. The County will also consult and discuss with applicant the counsel to be used by County to defend it, either with in-house counsel, or by retaining outside counsel provided that the County shall have the final decision on the counsel retained to defend it. Applicant shall be fully responsible for all costs incurred. Applicant shell be entitled to provide his or her own counsel to defend the case, and said independent counsel shall work with County Counsel to provide a joint defense.

G-11 INSURANCE:

The Permittee shall take out and maintain workers compensation insurance as required by the State of California. The Permittee shall also secure liability

insurance and such other insurance as required by state and/or federal law. A Certificate of Insurance is to be provided to the Planning and Development Services Department by the insurance carrier, and said insurance and certificate shall be kept current for the life of the project. Certificates of Insurance shall be sent directly to the Planning and Development Services Department by the insurance carrier and shall name the Department as a recipient of both renewal and cancellation notices.

G-12 RIGHT OF ENTRY:

The County reserves the right to enter the premises at any time, announced or unannounced, in order to make the appropriate inspection(s) and to determine if the condition(s) of this CUP are complied with. Access by authorized enforcement agency personnel shall not be denied.

G-13 SEVERABILITY:

Should any condition(s) of this CUP be determined by a Court or other agency with proper jurisdiction to be invalid for any reason, such determination shall not invalidate the remaining provision(s) of this CUP.

G-14 PROVISION TO RUN WITH LAND:

The provisions of this CUP are to run with the land/project and shall bind the current and future owner(s) successor(s) of interest; assignee(s) and/or transferee(s) of said CUP. **Permittee shall not without prior notification to the Planning & Development Services Department assign, sell, or transfer, or grant control of CUP or any right or privilege therein.** The Permittee shall provide a minimum of 60 days written notice prior to such proposed transfer becoming effective. The permitted use identified herein is limited for use upon this parcel described herein and may not be transferred to another parcel.

G-15 COMPLIANCE/REVOCATION:

Upon the determination by the Planning & Development Services Department that the project is or may not be in full compliance with any one or all of the conditions of this CUP, or upon the finding that the project is creating a nuisance as defined by law, the issue shall be brought immediately to the appropriate enforcement agency or to the Planning Commission for hearing to consider appropriate response including but not limited to the revocation of the CUP or to consider possible amendments to the CUP. The hearing shall be held upon due notice having been provided to the Permittee and to the public in accordance with established ordinance/policy.

G-16 NON-COMPLIANCE (ENFORCEMENT & TERMINATION):

Should the Permittee violate any condition herein, the County shall give written notice of such violation and actions required of Permittee to correct such violation. If Permittee does not act to correct the identified violation within forty-five (45) days after written notice, County may revoke the CUP. If Permittee pursues correction of

such violation with reasonable diligence, the County may extend the cure period. Upon such revocation, County may, at its sole discretion, cease processing, defending any lawsuit or paying for costs associated with the Project.

G-17 COSTS:

Permittee shall pay any and all amounts determined by the County to defray any and all cost(s) for the review of reports, field investigations, monitoring, and other activities directly related to the enforcement/monitoring for compliance of this CUP, County Ordinance or any other applicable law. Any billing against this project, now or in the future, by the Planning & Development Services Department or any County Department for costs incurred as a result of this CUP, shall be billed through the Planning & Development Services Department.

G-18 REPORT(S)

Permittee shall file an annual report with the Planning and Development Services Department to show that Permittee is in full compliance with this CUP. The report shall be filed at least fifteen (15) days prior to the anniversary (recordation date) of this CUP. It shall be the responsibility of the Permittee to provide all reports and to include the information about other users. The County may request information at any time from the Permittee or other users if applicable; however, it shall be the responsibility of the Permittee to assure that the County receives such information in a timely manner.

G-19 RESPONSIBLE AGENT

Permittee shall maintain on file with the Planning and Development Services Department the name and phone number of the responsible agent for the site. A back-up name shall also be provided, and a phone number for twenty-four (24) hour emergency contact shall also be on file. If there are other users, the same information (as applicable) required from the Permittee shall also be made available to the County from such other users.

G-20 WATER AND SEWER:

Permittee shall provide water and sewer to Federal, State and County standards. Water and sewer systems shall be approved by the Environmental Health Services and the Planning & Development Services Department. Permittee shall hook up to a public water system or supplier if and when available.

G-21 DEFINITIONS:

In the event of a dispute, the meaning(s) or the intent of any word(s) phrase(s) and/or conditions or sections herein shall be determined by the Planning Commission of the County of Imperial. Their determination shall be final unless an appeal is made to the Board of Supervisors ten (10) days from the date of their decision.

G-22 SPECIFICITY:

The issuance of this CUP does not authorize the Permittee to construct or operate this project in violation of any state, federal, local law nor beyond the specified boundaries of the project as shown in the application/project description/ CUP, nor shall this CUP allow any accessory or ancillary use not specified herein. This CUP does not provide any prescriptive right or use to the Permittee for future addition and/or modification to this project.

G-23 HEALTH HAZARD:

If the County Health Officer determines that a significant health hazard exists to the public, the County Health Officer may require appropriate measures and the Permittee shall implement such measures to mitigate the health hazard. If the hazard to the public is determined to be imminent, such measures may be imposed immediately and may include temporary suspension of the subject operations. However, within forty five (45) days of any such suspension of operations, the measures imposed by the County Health Officer must be submitted to the Planning Commission for review and approval. Nothing shall prohibit Permittee from requesting a special Planning Commission meeting provided Permittee bears all costs.

G-24 CHANGE OF OWNER/OPERATOR:

In the event the ownership of the site or the operation of the site transfers from the current Permittee to a new successor Permittee, the successor Permittee shall be bound by all terms and conditions of this CUP as if said successor was the original Permittee. Current Permittee shall inform the County Planning & Development Services Department in writing at least sixty (60) days prior to any such transfer. Failure of a notice of change of ownership or change of operator shall be grounds for the immediate revocation of the CUP. In the event of a change, the new Owner/Operator shall file with the Department, via certified mail, a letter stating that they are fully aware of all conditions and acknowledge that they will adhere to all.

G-25 PERMITS OF OTHER AGENCIES INCORPORATED:

Permits granted by other governmental agencies in connection with the Project are incorporated herein by reference. The County reserves the right to apply conditions of those permits, as the County deems appropriate; provided, however, that enforcement of a permit granted by another governmental agency shall require concurrence by the respective agency. Permittee shall provide to the County, upon request, copies and amendments of all such permits.

G-26 MINOR AMENDMENTS:

The Planning Director may approve minor changes or administrative extensions, as requested in writing by the Permittee, provided it does not result in additional environmental impacts and/or are generally procedural or technical and/or which

may be necessary to comply with other government permit compliance requirements.

(TOTAL "G" CONDITIONS are 26)

SITE SPECIFIC CONDITIONS:

S-1 AUTHORIZED SCOPE OF ACTIVITIES:

(A) Permittee shall be responsible as for all improvements, septic, sewer, approved potable water system(s), pipelines, roads and other improvements discussed in the CUP Application and Conditions of Approval, FEIR, and MMRP. If Permittee sells all or part of this Project, an approved agreement shall be in place for new Project owner to build and maintain as agreed to by the conditions set forth in this CUP. Additionally, the County Assessor's Office shall be notified of any ownership change.

(B) Permittee shall develop this Project per approved CUP as a separate solar energy and energy (battery) storage facility. Any development with a combination of parcels will require the owner(s) to have a recorded deed restriction to "hold the parcel as one parcel" that runs with the land, or at Permittee's option merge the parcels. This deed restriction shall be for a minimum of thirty (30) years and shall only be released upon the expiration of the thirty (30) years, the expiration or termination of the CUP, or upon approval of the Imperial County Planning and Development Director that the restriction is no longer needed based on a change in the development or regulation.

(C) The Permittee shall construct and operate the solar energy and energy (battery) storage facility in compliance with the CUP, the County's General Plan's Land Use Element, Land Use Ordinance and all other applicable local, state, and federal LORS, to include any other permits which are incorporated herein by reference.

(D) Construction, operation, maintenance, replacement and removal of a solar energy facility & energy (battery) storage system shall be as described in Permittee's CUP Application and previously approved FEIR for the Vega SES 2 Solar Energy project (CUP #20-0021), to include photovoltaic (PV) modules, mounting structures, electrical wiring, inverters, transformers and alternating current (AC) electric collector system, project electric substation and ancillary facilities. Ancillary facilities include safety and security equipment, retention basins, perimeter fencing, access gates, lighting systems, access roads, and may include temporary construction trailers, equipment enclosures, water treatment system and building, septic system,

parking, and fire protection. The Project's PV arrays shall be comprised of solar PV panels organized into electrical groups referred to as "blocks." The panels shall be oriented from east to west for maximum sun exposure and the foundation shall be designed based on soil conditions. The PV panels are made of a poly-crystalline silicon semiconductor material encapsulated in glass. Installation of the PV arrays includes installation of mounting posts, module rail assemblies, PV modules, inverters, transformers and buried electrical conductors. Concrete is required for the footings, foundations and pads for the transformers and substation work. Tracker foundations shall be comprised of either driven or vibrated steel posts/pipes, and/or concrete in some places (depending on soil and underground conditions).

(E) The Project's energy (battery) storage (BESS) component will be located on a concrete pad at the northeastern edge of the project site, unless final engineering design and/or IID requirements require a different location.

The BESS will consist of banks of batteries and will be supported by a DC Combiner, control panel, and inverter/transformer skid. Each enclosure will include built-in fire suppression systems. The batteries will be lithium-ion based and capable of storing up to 480 MW in total (not to exceed 480 MW. These racks would be integrated into containers or be self-contained in engineered systems such as for example the Tesla Mega Pack. The Project design would meet minimum spacing required by code and manufacturers specifications.

S-2 AESTHETICS:

(A) The Permittee shall design and maintain all buildings and equipment enclosures to have exterior surfaces with neutral, non-reflective colors.

(B) The Permittee shall design and install lighting at construction storage yards and staging areas, such that light bulbs and reflectors are not visible from public viewing areas; lighting does not create reflected glare; and illumination of the Project facilities, vicinity, and nighttime sky is minimized.

(C) Lighting shall be designed so exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light source is shielded to minimize light trespass outside the Project boundary.

(D) All lighting shall be of minimum necessary brightness consistent with worker safety and OSHA requirements.

(E) High illumination areas not occupied on a continuous basis shall have switches or motion detectors to light the area only when occupied.

S-3 AIR QUALITY:

(A) The Permittee shall comply at all times with the ICAPCD Regulation VIII, Fugitive Dust Control. Please use MMRP for guidance.

(B) Prior to commencing construction, the Permittee shall submit a Dust Control Plan to the ICAPCD for approval identifying all sources of PM_{10} emissions and associated mitigation measures during the construction and operational phases of the Project. The Project Proponent shall submit a "Construction Notification Form" to the ICAPCD ten (10) days prior to the commencement of any earthmoving activity. The Dust Control Plan submitted to the ICAPCD shall meet all applicable requirements for control of fugitive dust emissions, including the following measures designed to achieve the no greater than 20% opacity performance standard for dust control:

(1) All on-site and off-site unpaved roads shall be effectively stabilized, and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.

(2) All unpaved traffic areas one acre or more in size with seventy-five (75) or more average vehicle trips per day, shall be effectively stabilized, and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.

(3) The transport of bulk materials shall be completely covered, unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks shall be cleaned and/or washed at the delivery site after removal of bulk material.

(4) All track-out or carry-out, which includes bulk materials that adhere to the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto the pavement, shall be cleaned at the end of each workday, or immediately when mud or dirt extends a cumulative distance of fifty (50) linear feet or more onto a paved road within an urban area.

(5) Movement of bulk material handling or transfer shall be stabilized prior to handling, or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.

(6) The construction of new unpaved roads is prohibited within any area with a population of five hundred (500) or more, unless the road meets ICAPCD's definition of a "temporary unpaved road." Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

(7) Shall comply with the MMRP's and its applicable mitigations.

(C) The Permittee shall implement all applicable standard mitigation measures for construction combustion equipment for the reduction of excess NOx emissions as contained in the Imperial County CEQA Air Quality Handbook and associated regulations. These measures include:

(1) Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment.

(2) Minimize idling time, either by shutting equipment off when not in use or reducing the time of idling to five minutes at a maximum.

(3) Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.

(4) Replace fossil-fueled equipment with electrically driven equivalents (assuming powered by a portable generator set and are available, cost effective, and capable of performing the task in an effective, timely manner).

(5) Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing construction activity during the peak hour of vehicular traffic on adjacent roadways.

(6) Implement activity management (e.g. rescheduling activities to avoid overlap of construction phases, which would reduce short-term impacts).

S-4 GEOLOGY/SOILS and MINERAL RESOURCES:

(A) Prior to approval of final engineering and grading plans for the Project, the County shall verify that all recommendations contained in the Geotechnical Report for this Solar Facility and have been incorporated into all final engineering and grading plans. The County's soil engineer and engineering geologist shall review grading plans prior to finalization to verify compliance with the recommendations of the report.

S-7 CULTURAL RESOURCES:

(A) Compliance and Monitors shall insure all mitigations set forth in the MMRP are followed.

S-8 HEALTH, SAFETY AND HAZARDOUS MATERIAL/FIRE AND FUELS MANAGEMENT:

(A) All trash and debris within the Project site shall be disposed of off-site, in accordance with current, local, state, and federal disposal regulations. Compliance with this measure shall be verified by the Planning and Development Services Department.

(B) If it is determined that hazardous wastes are, or will be generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5).

(C) If it is determined that hazardous wastes will be generated, the Permittee should also obtain a United States Environmental Protection Agency, Identification Number by contacting (800) 618-6942. Certain hazardous waste treatment processes or hazardous material, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting the local CUPA.

(D) Firearms shall be prohibited in all Project areas except for those used by licensed security personnel.

(E) The recognized environmental concerns shall be cleaned up and properly disposed of in accordance with all federal, state and local regulations.

(F) Any hazardous materials storage areas shall be designed with curbs or other containment measures, e.g., double-walled storage tanks, to contain spills and leaks. If on-site hazardous materials exceed fifty-five (55) gallons, a "Hazardous Material Management Plan" shall be prepared and approved by the County Local Enforcement Agency (LEA) and the Imperial County CUPA. A copy of the approved plan shall be submitted to ICPDSD prior to the issuance of the grading/building permit (Source: Imperial County Renewable Energy Ordinance, Title 9, Division 17, § 91702.00).

(G) The Permittee shall present to the Department an Emergency Response/Action Plan that has been approved by the ICFD/OES Department, and the LEA and any other agencies with jurisdiction (Source: Imperial County Renewable Energy Ordinance, Title 9, Division 17, § 91702.00).

The Emergency Response/Action Plan shall cover all possible foreseeable emergencies, e.g., major fluid spills, earthquakes, fires, floods or other emergencies. At all times, there shall be at least one employee either on the facility premises or on-call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility to coordinate all emergency response measures. This Emergency Coordinator shall be thoroughly familiar with all aspects of the Project's Emergency Response/Action Plan, all operations and activities at the facility, location of all records within the facility and the facility's layout. This Emergency Coordinator shall have the authority to commit the resources needed to carry out the contingency plan. Adequate personnel and equipment shall be available to respond to emergencies and to ensure compliance with the conditions of the Permit.

The Emergency Response/Action Plan shall be prepared in consultation with, but not be limited to, the ICFD/OES, County EHS/Health Department, County Sheriff/Coroner's office, County Department of Public Works, ICPDSD, and other appropriate state and county agencies. The plan shall include a notification list of response agencies which shall be notified immediately upon the discovery of a reportable unauthorized discharge and the list shall include:

- ICFD/OES;
- ICPDSD;
- County EHS/Health Department;
- County Department of Public Works; and
- California Highway Patrol, as applicable.

All employees shall be trained by classroom and hands-on training on safety procedures, maintenance programs and emergency response protocols to ensure safety and reliability in the event of an unforeseen emergency situation.

The Permittee shall provide adequate safety devices to protect against the hazard of fire and explosion for activities that involve the use and storage of flammable, explosive or highly corrosive or reactive materials as well as provide adequate firefighting and fire suppression equipment and using devices standard within the industry in compliance with all applicable state and local laws as determined by the ICFD/OES.
The Permittee shall implement all State and County-approved worker safety and fire protection plans and programs.

Any gates on-site shall have a "Knox" lock rapidly accessible by the ICFD/OES.

Appropriate first aid provisions for facility operations shall be made for emergency response during Project construction, operation, and

maintenance activities with appropriate first aid training for Project employees.

During construction, a member of each working crew shall be trained in basic first aid and supplied with necessary medical equipment to respond to emergencies as provided for in the Emergency Response/Action Plan required above.

Permittee shall identify a responsible agent for emergency purposes, whose name, title, e-mail address and telephone number shall be provided to the County Department of Public Works, ICFD/OES, County Environmental Health Services/Health Department, County Sheriff/Coroner's office, IID, and ICPDSD.

S-9 HYDROLOGY AND WATER QUALITY:

Adhere to measures set forth in the MMRP.

S-10 BIOLOGICAL RESOURCES:

Adhere to all Biological measures in the MMRP

S-11 PUBLIC SERVICES:

(A) The Permittee shall widely publicize to County residents the availability of job opportunities associated with the Project (whether or not those job opportunities are within Imperial County or are regional). Postings at City Halls, newspaper and television advertisements, local job centers, and dedicated website shall offer sufficient avenues of communication. The Imperial County Office of Employment and Training in addition to the Imperial Valley College presents viable sources for community awareness. The information shall provide available positions, details of positions including qualifications, number of openings, indicated the anticipated start date for each, and application process. In order to maintain oversight of the process, the application process can be completed both on a dedicated website and at dedicated computers at the County which would afford those without Internet connection the ability to apply. The Permittee's information shall be forwarded to the Permittee or their contractor and copies of applications files are maintained at the County.

(B) During the development phase of the Project, the Permittee shall provide a roster of employees to include their position and place of residence.

(C) Unless prohibited by local, state or federal law or regulation, Permittee shall make good faith efforts to hire qualified residents of the Imperial County with the objective that a majority of the total work force is comprised of the Imperial County residents.

(D) The Permittee shall install and implement security measures which may include, but not limited to, secured perimeter fencing with barbed wire, sensors, controlled access points, security alarms, security camera systems, and security guard vehicle

patrols to deter trespass or unauthorized activities that would interfere with operation of the Project.

(E) Permittee shall compensate the County pursuant to the Department of Environmental Health Fee Schedule for any costs of calls related to bees and mosquitoes.

(F) The Permittee shall reimburse the Sheriff's Department for any investigations regarding theft on the Project site and related law enforcement.

(G) All construction supervisors and foremen shall be provided with communication devices, cell phones or walkie-talkies, in the event of an emergency situation on-site.

(H) All construction-related activities shall take place within the development footprint of the Project as defined by the final engineering plans. The anticipated impact areas, including staging areas, equipment access, and disposal or temporary placement of spoils, shall be delineated with staking and/or orange construction fencing prior to construction to avoid natural resources where possible. No construction-related activities shall occur outside of the designated impact area. All construction materials, staging, storage, dispensing, fueling, and maintenance activities shall be designated on construction maps and shall be situated a minimum of fifty (50) feet from all drainages. Staging and temporary access shall occur on existing roadways whenever possible.

(I) **Emergency Operations Plan -** The Applicant shall develop an Emergency Operation Plan in conjunction with local fire service personnel and the AHJ and hold a comprehensive understanding of the hazards associated with lithium-ion battery technology. Lithium-ion battery energy storage systems must incorporate adequate explosion prevention protection as required in NFPA 855 or International Fire Code Chapter 12, where applicable.

(J) **Signage -** The Applicant shall provide signage that identifies the contents of an energy storage system on all energy storage system installations to alert first responders to the potential hazards associated with the installation.

S-12 TRANSPORATION AND TRAFFIC:

A. Permittee shall prepare and submit a Construction Traffic Control Plan to Imperial County Department of Public Works-Development Review and Caltrans District 11, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues:

1. Timing of deliveries of heavy equipment and building materials;

2. Directing construction traffic with a flag person;
3. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;
4. Ensuring access for emergency vehicles to the Project site;
5. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
6. Maintaining access to adjacent property;
7. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hours, distributing construction traffic flow across alternative routes to access the Project site, and avoiding residential neighborhoods to the maximum extent feasible.

B. Permittee shall Institute construction work hours as necessary, such that the arrival and/or departure times of workers would be staggered as necessary.

C. Permittee shall identify vehicle safety procedure for entering and exiting site access roads.

D. Permittee shall submit documentation that identifies the roads to be used during construction.

E. The Permittee shall be responsible for repairing any damage to non-County maintained roads that may result from construction activities. The Permittee shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Imperial County Department of Public Works Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to the County. This information shall be submitted in electronic format. The County, in consultation with the Permittee's engineer, shall determine the extent of remediation required, if any.

S-13 COMMENCEMENT OF WORK:

(A) If the Project has not commenced, or permits for the Project have not been issued, within one (1) year from approval date this CUP shall be null and void. If this CUP has been unused, abandoned, discontinued, or ceased for one (1) year, it shall be null and void and of no effect.

(B) If Permittee cannot initiate or obtain permits for the approved use during the one (1) year period following approve of this CUP, Permittee may request a one (1) year extension from the ICPDSD. The request for an extension shall be in writing and be submitted with explanation to the ICPDSD at least sixty (60) days prior to the end of the one (1) year

period. The Director shall have the authority to extend the initial startup period of a CUP two times for a maximum of one (1) year each. No extension under this section shall be extended for more than two (2) years.

S-14 CONSTRUCTION STANDARDS:

(A) The solar energy and energy (battery) storage facility structures shall be built in accordance with the California Building Code requirements applicable to "Seismic Category D". All structures and facilities shall be designed in accordance with the publication entitled "Recommended Lateral Force Requirements and Commentary by the Structural Engineers Association of California". The structural components of the permitted facilities shall be reviewed by the Building Official/Planning and Development Services Director. Applicable building permits shall be procured from the County for facilities prior to commencement of construction of such facilities.

S-15 LAND USE IMPROVEMENTS:

(A) The Permittee shall prepare an appropriate parking plan for review and approval by the ICPDSD and County Public Works Department for any and/or all proposed Operation & Maintenance buildings.

(B) The Permittee shall surface with a material of higher quality all access drives, parking areas, and vehicular maneuvering areas from primary access to any constructed operation and maintenance buildings.

S-16 NOISE STANDARDS:

(A) During the construction period, heavy truck traffic shall be limited to the hours between 6:00 AM and 7:00 PM.

(B) During construction, in accordance with Imperial County Noise Element of the General Plan, the noise level shall not exceed 75 dBA_{Leq} at the property boundary when averaged over an 8-hour period.

(C) During operation of the facility, the maximum permitted continuous sound level shall be not more than 45 dBA_{Leq}, as measured at the nearest residence using the "A" scale and measured with a sound level meter and associated octave band analyzer. The level may be exceeded by ten percent (10%) if the noise is intermittent and during daylight hours.

(D) Haul trucks and other engine-powered equipment shall be muffled and operated with engine exhaust brake use limited to emergencies.

S-17 ODOR CONTROL:

The Permittee shall control all odor-causing, harmful, noxious emissions to ensure that quantities or air contaminants released as a result of the permitted facilities do not exceed County, State or Federal standards, nor constitute a public nuisance, per the Imperial County Land Use Ordinance, Division 13, Enforcement, Chapter 2, Abatement of Nuisances, Sections 91302.00 through 91301.02.

S-18 PLAN APPROVALS:

Permittee shall submit to the ICPDSD, architectural, landscaping and lighting plans prior to construction of those facilities, to include painting of structures, planting of trees and/or vegetation, and shall receive all approvals prior to commencing construction of the applicable permitted facilities. Approval shall not be unreasonably withheld so long as the plans are consistent with applicable Imperial County Land Use Ordinance requirements.

S-19 PROJECT DESIGN:

(A) All facility access and parking areas shall be constructed to the standards of the Imperial County Land Use Ordinance.

(B) All permitted activities shall provide for the minimum feasible surface land disturbance for compatibility with the existing uses wherever possible.

(C) All equipment and electrical interconnection facilities used at the solar plant facilities shall be maintained in a manner that prevents breaking, cracking, and leaking, e.g. operator staffing and training, including appropriate quality assurance procedures, with the operation of back-up or auxiliary facilities when necessary.

(D) All on-site basins shall be designed and constructed under the supervision of a California-licensed Civil Engineer meeting sound engineering standards, with all applicable regulations and all requirements of the County EHS/Health Department and Public Works Departments are complied with.

(E) Permittee shall obtain encroachment permits for any construction or operation on IID existing rights of way or easements.

S-20 REPORTING AND MONITORING:

(A) The Permittee shall furnish to the County, at its sole cost within a reasonable time, any relevant reports/information which the County requires for monitoring purposes to determine whether cause exists for revoking this Permit, or to determine compliance with this Permit. The Permittee shall submit all required reports to the Planning Director,

County Planning and Development Services Department, 801 Main Street, El Centro, CA 92243.

(B) Permittee and ICPDSD Director shall agree upon an environmental consultant for overseeing all the required mitigation, conditional use Permit conditions and public benefit agreement (if any) requirements during the construction of the Project.

(C) Permittee shall pay for third-party environmental consultant monitoring and compliance.

(D) The ICPDSD, in consultation with the third-party Environmental Consultant and the County Executive Office, will require that all mitigation measures be satisfied, all MMRP requirements have been satisfied, all Conditions of Approval in the CUP are in full compliance and all conditions of the Development Agreement (if any) have been satisfied before the Final Certificate of Occupancy Certificate is issued.

(E) During the operation of solar facility, an Annual Compliance Report shall be submitted to the ICPDS, documenting the implementation of the conditions and general measures as well as any resource-specific measures.

(F) The Permittee shall reimburse the ICPDS for County as well as monitoring and investigations related to the construction and operation of the Project. Permittee shall compensate the County pursuant to the ICPDSD Fee Schedule for any costs incurred.

(G) Permittee shall pay for all costs as required to comply with the Conditions of Approval and MMRP.

(H) All County staff time will be billed on a time and materials basis. Failure by Permittee to provide any payment required of Permittee to the County in the CUP shall cause Permittee to be in non-compliance of the CUP. Upon notice of such noncompliance, County may, at its sole discretion, cease processing, defending any lawsuit or paying for costs associated with the Project.

S-21 SPILLS AND RUNOFF:

The Permittee shall design and construct the permitted facilities to prevent spills from endangering adjacent properties and to prevent runoff from any source being channeled or directed in an unnatural way so as to cause erosion, siltation, or other detriments pursuant to the construction Storm Water Pollution Prevention Plan approved by the Regional Water Quality Control Board.

S-22 FACILITIES CLOSURE AND SITE RESTORATION:

(A) Permittee shall implement the site restoration plan at the earlier of when the operation of the permitted facilities herein authorized has ceased or the term of the CUP has expired. At such time, all facilities shall be dismantled, and the lands involved restored to their pre-construction condition and available for agricultural production uses as agreed to by the Imperial County Planning and Development Services Director.

(B) Prior to the issuance of a grading Permit, a decommissioning and restoration plan (the Reclamation Plan) shall be submitted and approved by the Imperial County Planning and Development Services Director. The Reclamation Plan shall documents the procedures by which the Project site will be returned to its current conditions.

(C) Within thirty (30) days prior to ground disturbance, a Bond, or other acceptable surety, in the amount of the estimated site restoration financial calculations/bond, for the developed project area, or other forms of security acceptable to County Counsel's office, shall be filed with the County that guarantees restoration of the land to its condition prior to the permitted solar plant development.

(D) Upon completion of such site restoration, and demonstration that the land has been restored to the agriculturally productive/farmable condition prior to the permitted solar plant development the Bond or other surety shall be released by the County.

(E) The above financial calculations/bond shall be reviewed every five (5) years in December and adjusted on January 1st to add a Consumer Price Index (CPI) (Los Angeles) increase by the Planning and Development Services Director. This readjustment can be made in the County's sole discretion and must be funded by the Permittee within ninety (90) calendars after notice of the additional amount of such adjustment.

S-23 PUBLIC WORKS:

1. The Applicant shall acquire proper easements from adjacent property owners for the installation of any proposed transmission lines.

2. All survey monuments, including those within the interior of the project, shall be protected, and their locations shall remain accessible to any surveyor throughout the duration of the project. Section 8774 of the Business and Professions Code, and Section 846.5 of the Civil Code, each provide the right of entry to utilize boundary evidence and perform surveys, without undue delay, to any person authorized to practice land surveying. The right of entry is not contingent upon prior notice.

3. The Applicant shall furnish a Drainage and Grading Plan/Study to provide for property grading and drainage control, which shall also include prevention of sedimentation of damage to off-site properties. The Study/Plan shall be

submitted to the Department of Public Works for review and approval. The applicant shall implement the approved plan. Employment of the appropriate Best Management Practices (BMP's) shall be included (Per Imperial County Code of Ordinances, Chapter 12.10.020 B).

4. Based from the information provided on the project documents, it is assumed that County roads will not be used for site access during or after construction activities have been completed. In the event that County roads are required for site access, the Applicant shall consult with this Department in advance for review and approval.

   Access to sites shall be completed from public roads.

5. Any unimproved access roads/routes between public roads and access gates shall be improved for all-weather access. Such all-weather improvements shall be completed as recommended by a Geotechnical Engineer licensed to practice in the State of California.

6. Each site shall have, as a minimum, one (1) primary Class 2 Base aggregate material driveway and one (1) emergency access Class 2 Base aggregate material driveway, if they are tied to a County Road only.

7. Access to project sites during and after construction is expected to be completed through private unpaved roads or private property.

The Applicant shall mitigate generation of dust caused by construction traffic as per Rule 805 – Paved and Unpaved Roads of the Imperial County Air Pollution Control District.

- All solid and hazardous waste shall be disposed of in approved solid waste disposal sites in accordance with existing County, State and Federal regulations (Per Imperial County Code of Ordinances, Chapter 8.72).

- All on-site traffic areas shall be hard surfaced to provide all weather access for emergency vehicles. The surfacing shall meet the Department of Public Works and Fire/Office of Emergency Services (EOS) Standards as well as those of the Air Pollution Control District (APCD).

- The project may require a National Pollutant Discharge Elimination System (NPDES) permit and Notice of Intent (NOI) from the Regional Water Quality Control Board (RWQCB) prior to County approval of onsite grading plan (40 CFR 122.28).

- A Transportation Permit may be required from road agency(s) having jurisdiction over the haul route(s) for any hauls of heavy equipment and/or large vehicles which impose greater than legal loads on riding surfaces, including bridges. (Per Imperial County Code of Ordinances, Chapter 10.12 - OVERWEIGHT VEHICLES AND LOADS).

- Effective September 15, 2020, the State's Mandatory Organic Waste Recycling Law (AB 1826 or Chapter 727, Statutes of 2014) decreased the threshold requiring all businesses and multi-dwelling facilitates of 5 units or more generating two (2) cubic yards or more of solid waste per week to recycle their organic waste including landscape waste, wood waste, and food waste. Information about possible organics waste recycling services can be found at the CalRecycle site at: https://www.calrecycle.ca.gov/Recycle/Commercial/Organics/

S-24 WASTE DISPOSAL

(A) The Permittee shall insure that all solar plant facilities waste, liquid, gas or solid, which are generated on-site shall be disposed of in compliance with appropriate local, state, and federal regulations, in effect or as subsequently duly-enacted. All solid waste debris and/or any hazardous wastes located on the Project site must be satisfactorily removed to a permitted facility prior to the commencement of grading earthen material at the site.

(B) Littering shall not be allowed. Project personnel shall not deposit or leave any food or waste in the Project area, and no biodegradable or non-biodegradable debris shall remain in the right-of-way or on the Project site following completion of construction.

S-25 IID Condition requirements

(A) The Project may impact IID drains with project site runoff flows draining into IID drains. To mitigate impacts, IID may require a comprehensive IID hydraulic drainage system analysis. IID's hydraulic drainage system analysis includes an associated drain impact fee.

(B) An IID encroachment permit is necessary to utilize existing surface-water drainpipe connections to drains and receive drainage service from IID. Surface-water drainpipe connections are to be modified in accordance with IID standards. A construction storm-water permit from the California Regional Water Quality Control Board is required before commencing construction and an industrial storm water permit from CRWQCB is needed for the operation of the proposed facility. Copies of these permits as well as the project's Storm Water Pollution Prevention Plan are to be submitted to IID.

S-26 COUNTY EXECUTIVE OFFICE:

1. Fiscal and Economic Impact Analysis. The Permittee will be invoiced by the Executive Office for expenses related to the procurement of a consultant to

produce a Fiscal and Economic Impact Analysis (FEIA) and will be responsible for the cost of any subsequent updates as a result of modifications to the data and project by the developer.

2. Public Service Agreement ("Agreement" or "PSA"). Pursuant to the Guidelines for the Public Service Program for Solar Power Plants in Imperial County amended and adopted by the Board of Supervisors on May 9, 2023, PSA will be entered into by and between the County of Imperial and Developer to provide for a concerted and coordinated effort to maximize the benefits of the Project to the County of Imperial community.
Sales Tax Benefit Solar Farm:

(a) Developer will require that all qualifying contractors and subcontractors exercise their option to obtain a California Department of Tax and Fee Administration (CDTFA) sub-permit for the jobsite and allocate all eligible use tax payments to Imperial County and LTA. Prior to commencement of any construction activity on-site the developer will require that the contractor or subcontractor provide County of Imperial with either a copy of their CDTFA account number and sub-permit.

(b) To accomplish this, Permittee shall either cause its construction contractor to treat the project in accordance with California Regulation 1521(b)(2)(B), California Regulation 1521(c)(13)(B), and California Regulation 1826(b) for sales and use tax purposes or form a "Buying Company" as defined in the CDTFA 1699(h). Permittee can adopt an alternate methodology to accomplish this goal if such methodology is approved by the County Executive Officer prior to issuance of building permits. Not later than forty five (45) days after the due date for filing sales and use tax returns for each calendar quarter, occurring after the commencement of any construction activity on-site through and including the first anniversary of COD (as defined below),

(c) Developer shall report, or cause its general contractor to report to County, the total amount of sales and use taxes related to the Project that are allocated to the County, and reported on Developer's, general contractor's, and subcontractors' applicable California sales and use tax returns. The obligations of Developer under this Section III.A are hereinafter referred to as the "Developer Sales and Use Tax Responsibilities."

(d) Guarantee Amounts. In the event that Developer shall fail to perform the Developer Sales and Use Tax Responsibilities and as a result of such failure, with respect to the Project, (i) County receives less than the amount of such sales and use taxes it would have received under existing applicable sales and use tax laws had such responsibilities been fully performed subject to adjustment as set forth in Section IV.C below) or (ii) Local Transportation Authority (LTA) receives less than the amount of such sales and use taxes it would have received under existing applicable sales and use tax laws had such responsibilities been fully-performed, then Developer shall pay, as and when provided below, to County or LTA as applicable, the amount of the applicable shortfall.

(e) Adjustments to Guarantee Amounts.

(f) Developer's sales tax guarantee set out in Section III.B above shall be adjusted to be eighty-five percent (85%) of the projected sales and use taxes for the Project. At least ten (10) days prior to the issuance of the first (1st) grading permit, Developer shall provide County with evidence of such projected sales and use taxes, including but not limited to sales taxes receipts, engineering contracts, procurement contracts, construction contracts. County shall meet with Developer to confirm that amount.

(g) The amount of sales and use tax anticipated to be generated is based on the projected construction of a two hundred-forty (240) megawatt alternating current solar generation facility. Construction of any additional output capacity beyond the 240 MW output now projected will require the sales tax guarantee be adjusted based on the actual output from solar generation facilities of the Project as evidenced by any Power Purchase Agreement subsequently entered into by Developer related to this Project.

(h) To the extent of any reduction in the size of the Project as the result of any final ruling, stipulated judgment, or settlement, in accordance with Section V.C below, the not-to-exceed amounts set forth in Section III.B shall be reduced pro rata based on the size of such reduction.

(i) The complete amount due to County for the Project must be received within one (1) year after Commercial Operation Date ("COD") for this Project. If, within one (1) year after issuance of the final Certificate of Occupancy, the sales and use taxes received by the County are less than the amount guaranteed for that portion of the project, Developer shall pay the difference to the County.

(j) Payments to County and LTA as a result of a shortfall shall be due within thirty days of Developer's receipt of written notice of shortfall from the County. Payments received by County after the ninetieth (90th) day following Developer's receipt of notice shall be deemed late. Developer hereby agrees to pay interest at the rate of six percent (6%) per annum of the payment due for any payment received by County beyond the due date. Said interest shall be included with the late payment. The obligation to pay interest shall be stayed when such amounts are disputed in good faith, so long as Developer submits the payments "under written protest." Upon determination of dispute, such interest may be assessed if it is determined that the dispute was not made in good faith.

(k) In the event that Developer repowers or replaces the equipment onsite, each Site shall be designated as the "Point of Sale" so as to create an additional local tax-funding source for the County of Imperial.

I. Battery Storage Sales Tax Benefit

1.1.1. To the extent permitted by applicable local, state, and Federal law, Developer will require that all qualifying contractors and subcontractors exercise their option to obtain a California Department of Tax and Fee Administration ("CDTFA") sub-permit for the jobsite and allocate all eligible sales and use tax payments to County and the Local Transit Authority ("LTA").

1.1.2. Prior to commencement of any construction activity onsite exclusive of grading, Developer shall require that the contractor or subcontractor provide County with a copy of their CDTFA account number and sub-permit. Developer shall either cause its construction contractor to treat the Project in accordance with California Sales and Use Tax Regulation 1521(b)(2)(B), California Sales and Use Tax Regulation 1521(c)(13)(B), and California Sales and Use Tax Regulation 1826(b) for sales and use tax purposes, or form a "Buying Company," as defined in the California Sales and Use Tax Regulation 1699(h). Developer may adopt an alternate methodology to accomplish this goal if such methodology is approved by the County's Executive Officer prior to issuance of any building permit.

1.1.3. No later than forty-five (45) days after the due date for filing sales and use tax returns for each calendar quarter, occurring after the commencement of any construction activity on-site through and including the first anniversary of commercial operating date ("COD"), Developer shall report, or cause its general contractor to report to County, the total amount of sales and use taxes related to the Project that are allocated to the County, and reported on Developer's, general contractor's and subcontractors' applicable California sales and use tax returns.

1.1.4. *Guarantee Amounts*. Prior to the issuance of any building permit for the Project, Developer shall provide County with a guarantee of the minimum sales and use that will be received by County and LTA under existing applicable sales and use tax laws. The guarantee amount shall be based on the total storage capacity of the Project in megawatts, which is projected to be four hundred-eighty megawatts (480 MW) Should Developer choose to develop the Project in phases, and receives the required approvals from County to do so, then Developer shall provide a separate guarantee amount for each phase of the project based on the total storage capacity in megawatts for the applicable phase.

(a) Developer warrants that the sales/use tax guarantee amounts to be provided to County as mandated in this Subparagraph 9.2.4 shall be true and accurate estimates of the projected sales and use taxes that will be generated for this Project. Developer shall provide County with evidence of the projected sales/use taxes for the Project, including but not limited to sales tax receipts, and executed or anticipated engineering contracts, procurement contracts, and construction contracts. If the Parties are unable to agree upon a guarantee amount, then the dispute shall be referred to an independent accountant mutually acceptable to both Parties. The costs for such nonbinding mediation shall be borne by Developer.

(b) Developer warrants that the sales/use tax guarantee amounts to be provided to County as mandated in this Subparagraph 9.2.4 will incorporate any and all sales/use tax exemptions that Developer and/or its contractors and subcontractors intend to utilize, and that such exemptions will be disclosed

to County fully and in good faith prior to the issuance of any building permit for this Project.

(c) Developer understands and acknowledges that the sales/use tax guarantee amounts to be provided to County as mandated by this Subparagraph 9.2.4 are a part of the consideration to be received by County in return for entering into this Agreement, and further understands and acknowledges that County would not enter into this Agreement but for said guarantee from Developer.

1.1.5. In the event that County and / or LTA receives less than the amount of sales/use taxes guaranteed pursuant to Subparagraph 9.2.4, then Developer shall pay, as and when provided below, to County or LTA as applicable, the amount of the applicable shortfall.

1.1.6. *Adjustments to Guarantee Amounts.*

(a) The amount of sales and use tax anticipated to be generated is based on the projected construction of a 480 MW utility-scale energy storage complex incorporating lithium ion batteries and/or flow battery technologies throughout the Project site. Construction of any additional storage capacity beyond the 480 MW storage capacity now projected will require the sales/use tax guarantee amounts to be adjusted based on the actual storage facilities of the Project as evidenced by any power purchase agreement or power storage agreement subsequently entered into by Developer related to this Project.

(b) To the extent of any reduction in the size of the Project as the result of any final ruling, stipulated judgment, or settlement, the sales/use tax guarantee amounts mandated under Subparagraph 9.2.4 shall be reduced pro rata based on the size of such reduction.

(c) Should Developer become of aware of a change in circumstances that would materially affect the sales/use tax guarantee amount, then Developer shall, within thirty (30) days of learning of such change in circumstances, inform the County in writing of the change in circumstances. If the County determines that such change in circumstances warrants an adjustment to the sales/use tax guarantee amount, then County shall negotiate in good faith with Developer in revising the sales/use tax guarantee amount. If the Parties are unable to agree upon a revised guarantee amount, then the dispute shall be referred to an independent accountant mutually acceptable to both Parties. The costs for such nonbinding mediation shall be borne by Developer. Failure of the Developer to inform the County of the change in circumstances shall constitute a waiver of Developer's ability to seek any adjustment to the sales/use tax guarantee based on such change in circumstances.

1.1.7. The complete sales/use tax guarantee amount due to County and LTA for the Project must be received within one (1) year after COD for this Project, or such later date as any applicable sales/use tax is due or is transmitted from the CDTFA, unless it is delayed due to causes beyond Developer's control or for which Developer is not responsible. If, within one (1) year after issuance of the final certificate of occupancy, or such later date as any applicable sales/use tax is due or is transmitted from the CDTFA, the sales/use taxes received by the County are less than the sales use tax

guarantee amounts mandated under Subparagraph 9.2.4, then Developer shall pay the difference to the County.

1.1.8. Payments to County and LTA as a result of a shortfall shall be due within thirty days of Developer's receipt of written notice of shortfall from the County. Payments received by County after the ninetieth (90th) day following Developer's receipt of notice shall be deemed late. Developer hereby agrees to pay interest at the rate of six percent (6%) per annum of the payment due for any payment received by County beyond the due date. Said interest shall be included with the late payment. The obligation to pay interest shall be stayed when such amounts are disputed in good faith, so long as Developer submits the payments "under written protest." Upon determination of dispute, such interest may be assessed if it is determined that the dispute was not made in good faith.

In the event that Developer repowers or replaces the equipment onsite, each Site shall be designated as the "Point of Sale" so as to create an additional local tax-funding source for the County of Imperial

S-27 Additional Conditions

1. Because oversize vehicles may utilize this facility (i.e., SR 111), as a condition of the Conditional Use Permit, the project applicant will be required to obtain all applicable Caltrans permits required for construction of the project, including special transportation permits (if applicable) for oversize construction vehicles.
2. As a condition of the Conditional Use Permit, the applicant will be required to prepare and submit for approval a traffic management plan to Caltrans as specified in this comment.
3. As currently proposed, the project would not require an encroachment permit as no work or improvements are proposed within Caltrans right-of-way. However, as a condition of the Conditional Use Permit, the applicant will be required to obtain necessary permits from Caltrans. This includes encroachment permits if applicable.
4. **Coachella Valley Water District** – Review for requirements on elevated concrete foundations and appropriate spacing shall be evaluated, including with respect to existing training dikes and addressed as part of the final site plan engineering design.
5. **Bureau of Reclamation.** modifications to training dikes will require appropriate authorization from Bureau of Reclamation.
6. Condition of approval that the County and Developer will coordinate with the U.S. Marine Corps to notify them of the project development and to determine any potential impacts to their operations, if any.

S-28 ACCEPTANCE:

Acceptance of this permit shall be deemed to constitute agreement by Permittee with all terms and conditions herein contained.

The rest of this page is intentionally left blank.

NOW THEREFORE, County hereby issues the Conditional Use Permit #20-0021, and Permittee hereby accepts such permit upon the terms and conditions set forth herein.

IN WITNESS THEREOF, the parties hereto have executed this Agreement the day and year first written.

PERMITTEE:

_____ _____

Date

COUNTY OF IMPERIAL, a political subdivision of the STATE OF CALIFORNIA

_____ _____

Jim Minnick, Director, Planning & Development Services Department

Date

PERMITTEE NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA

COUNTY OF _____} S.S.

On_____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document._____

Title or Type of Document_____

Number of Pages_____ Date of Document_____

Signer(s) Other Than Named Above_____

Dated_____

COUNTY NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF IMPERIAL} S.S.

On_____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document.

Title or Type of Document_____

Number of Pages_____ Date of Document_____

Signer(s) Other Than Named Above_____

ATTACHMENT "F" – CONDITIONAL USE PERMIT #20-0022 WITH RESOLUTION

RESOLUTION NO. __

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF IMPERIAL, CALIFORNIA, FOR APPROVAL ON THE "VEGA SES 3 SOLAR ENERGY STORAGE PROJECT" FOR CONDITIONAL USE PERMIT #20-0022"

WHEREAS, APEX ENERGY SOLUTIONS, LLC has submitted an application for Conditional Use Permit (CUP) #20-0022 to develop a nominal 60-megawatt (MW) solar photovoltaic (PV) energy generation project with an integrated battery storage system not to exceed 120 MW. The project includes solar energy generation facility, battery storage system, switching station and gen-tie line. The project is to be located on approximately 230 acres; and,

WHEREAS, an Environmental Impact Report and CEQA Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State Guidelines, and the County's "Rules and Regulations to Implement CEQA," as Amended; and,

WHEREAS, the Board of Supervisors of the County of Imperial has been delegated with the responsibility of approvals, and certifications for approvals of conditional use permits; and,

WHEREAS, public notice of said application has been given, and the Board of Supervisors has heard, received and considered all oral and written protests, objections and evidence presented by interested parties at a public hearing held with respect to this item on October 24, 2023; and,

WHEREAS, the Draft EIR was received by the State Clearinghouse on December 14, 2022 and circulated for a period of 50 days (**SCH #2021050013**) with the commenting period ending February 2, 2023; and,

NOW, THEREFORE, the Board of Supervisors of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Board of Supervisors has considered the proposed Conditional Use Permit #20-0022 prior to recommending approval and the County's consideration of the Project has been noticed in compliance with law.

SECTION 2. That the Project complies with the requirements of the Imperial County Code and is in accordance with State Planning and Zoning law therefore, the following findings are made pursuant to Imperial County Code § 90203.09 as follows:

A. The proposed use is consistent with goals and policies of the adopted County General Plan. (Imperial County Code § 90203.09.A)

The current General Plan land use designations of the project site and proposed parcels are "Recreation/Open Space" and proposed project parcels are within the Renewable Energy Overlay (RE). Therefore, the proposed uses could be found consistent with the General Plan.

B. The proposed use is consistent with the purpose of the zone or sub-zone within which the use will be used. (Imperial County Code § 90203.09.B)

The proposed project parcels are zoned S-2-RE. (Open Space Preservation) with Renewable Energy Overlay). The proposed uses are consistent with the zone since they are listed as allowed uses under the S-2-RE zone with requirements for an approved Conditional Use Permit.

C. The proposed use is listed as a use within the zone or sub-zone or is found to be similar to a listed conditional use according to the procedures of Section 90203.00. (Imperial County Code § 90203.09.C)

The proposed use is consistent with the zone: S-2-RE (General Agriculture with Renewable Energy Overlay).

D. The proposed use meets the minimum requirements of this Title applicable to the use and complies with all applicable laws, ordinances and regulation of the County of Imperial and the State of California. (Imperial County Code § 90203.09.D)

The Project complies with the minimum requirements of this Title by, among other things, obtaining a CUP, complying with the California Environmental Quality Act, and participating in the public review and hearing process. Development standards have been established for the Project pursuant to these processes, and will be enforced via imposition and enforcement of the Mitigation Monitoring and Reporting Program recommended for approval by separate Resolution, as well as the conditions of approval imposed on this CUP. The Conditions of Approval will further insure that the project complies with all applicable regulations of the County

of Imperial and the State of California. Therefore, the proposed project meets the minimum requirements of the Land Use Ordinance, Section 90203.00.

E. The proposed use will not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity. (Imperial County Code § 90203.09.E)

The Environmental Impact Report (EIR) prepared for the Project analyzed the Project's potential effects on the health, safety, and welfare of the public and property and found that, with mitigation, the Project would have less than significant effects and impacts in all resources areas.

In addition, the project site is not near a residential community and is mostly surrounded by farmland and or open space/recreational land.

F. The proposed use does not violate any other law or ordinance. (Imperial County Code § 90203.09.F)

The proposed project will be subject to the Conditional Use Permit and current Federal, State and Local regulations. State Planning and Zoning Law (Cal. Govt. Code §§ 65000-66035) establishes minimum statewide standards for the regulation of local land use through planning and zoning. The County regulates local land use via Title 9 of the Imperial County Code. As found above, the proposed project is conditioned to be consistent with Imperial County, Title 9, Land Use Ordinance and CEQA mitigation measures and therefore complies with both State and local laws and ordinance.

Pursuant to CEQA, the County has prepared an EIR for the Project, which analyzes the proposed Project's compliance and consistency with other federal, state, and local laws and ordinances regulating the environment. Substantial evidence supports the conclusions in the EIR that the Project complies with said environmental laws, and thus the finds that the proposed use does not violate any other law or ordinance.

G. The proposed use is not granting a special privilege. (Imperial County Code § 90203.09.G)

The proposed solar generating and storage facility is a permitted use subject to approval of the proposed Conditional Use Permit. No special privileges are being offered or will be granted.

SECTION 3. Approval of the Project is conditioned upon the terms and conditions set forth in the Agreement for Conditional Use Permit #20-0022 attached hereto and incorporated herein by this reference.

NOW, THEREFORE, based on the above findings, the Imperial County Board of Supervisors **DOES HEREBY APPROVE** Conditional Use Permit #20-0022, subject to the attached Conditions of Approval.

Ryan E. Kelley, Chairman
Imperial County Board of Supervisors

I hereby certify that the preceding resolution was taken by the Board of Supervisors at a meeting conducted on October 24, 2023, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

Blanca Acosta
Clerk of the Board of Supervisors

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When Recorded Return To:

Imperial County
Planning & Development Services
801 Main Street
El Centro, California 92243

AGREEMENT FOR CONDITIONAL USE PERMIT #20-0022
VEGA SES 3 SOLAR ENERGY STORAGE PROJECT
APN's 025-010-006-000-000

This Agreement is made and entered into on this ___day of _____, 2023, by and between APEX ENERGY SOLUTIONS, LLC hereinafter referred to as the Permittee (Permittee), and the COUNTY OF IMPERIAL, a political subdivision of the State of California (County or Imperial County), related to the VEGA SES 3 SOLAR ENERGY STORAGE PROJECT (CUP #20-0022) project area.

RECITALS

WHEREAS, Permittee is the lessee or successor-in-interest of certain land in Imperial County to be improved with the proposed utility-scale solar and battery storage facility. The project, Conditional Use Permit (CUP or Permit) #20-0022, consists of a proposed 60-megawatt (MW) photovoltaic solar energy facility, energy (battery) storage facility **(up to 120 MW and not to exceed a 2 to 1 solar/battery ratio)** and associated infrastructure, including but not limited to, electrical switch station, substation, on-site operations and maintenance (O&M), a gen-tie line and internal solar development transmission lines, on approximately 240 acres within Imperial County (the "Project"). The proposed facility is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The Coachella and East Highline Canals and the Union Pacific Railway transect the project area. The project area is located entirely within the County's Renewable Energy Overlay Zone. .

WHEREAS, Permittee has applied to the County of Imperial for CUP #20-0022 for constructing and operating a new 60 MW solar energy facility, energy (battery) storage facility (up to 120 MW and not to exceed a 2 to 1 solar/battery ratio) with ancillary support facilities, including electrical interconnections. The Project will connect to the existing IID "P" line located immediately north of the project site north of the All American Canal.

WHEREAS, the Project is located on portion of APN 025-010-006. Additionally, the legal description includes SEC 9 Township 11 South, Range 15 East on a portion of 640 acre parcel. The project site is located entirely within the Imperial County Renewable Energy Overlay zone.

WHERAS, The Permittee for the VEGA SES 3 Solar Energy Project (CUP #20-0022) shall fully comply with all of the terms and conditions of the Project as specified hereinafter within this CUP.

The rest of this page is intentionally left blank.

GENERAL CONDITIONS:

The "GENERAL CONDITIONS" are shown by the letter "G". These conditions are conditions that are either routinely and commonly included in all Conditional Use Permits as "standardized conditions" and/or are conditions that the Imperial County Planning Commission has established as a requirement on all CUP's for consistent application and enforcement. The Permittee is hereby advised that the General Conditions are as applicable as the SITE SPECIFIC conditions. The General Conditions are in addition to the MMRP and any and all other requirements for the project.

G-1 GENERAL LAWS:

The Permittee shall obtain, comply with and maintain all applicable County, State, and federal laws, rules, regulations, ordinances, and/or standards as they may pertain to this project whether specified herein or not.

G-2 EFFECTIVE DATE:

The approved Conditional Use Permit shall not become effective until ten (10) calendar days after the decision of the Planning Director or Commission. Further the Conditional Use Permit shall not be effective until applicable conditions have been met, and the Conditional Use Permit is recorded with the County Recorder, with payment of recording fees being paid by applicant. In the case of a decision by the Board of Supervisors there is no 10-day appeal.

G-3 RECORDATION:

CUP #20-0022 shall **not be effective** until it is recorded at the Imperial County Recorder's Office and if no appeal has been made after approval from the hearing body. Payment of the recordation fee shall be the responsibility of the Permittee. If this CUP is not recorded within one hundred eighty (180) days from the date of approval the CUP shall be deemed null and void, without notice having to be provided to Permittee. Permittee may submit a written request for a recordation extension for this CUP by filing such a request with the Planning Director at least sixty (60) days prior to the one hundred eighty 180-day expiration. The Director may approve one (1) extension for a period not to exceed one hundred eighty (180) days. An extension may not be granted if the request for an extension is filed after the expiration date. Failure to record this CUP within one (1) year including the granted extension period shall deem this CUP null and void.

G-4 COMMENCEMENT OF WORK:

If the project for which a CUP has been approved has not commenced, or permits for said project have not been issued, within one (1) year from effective date, the CUP shall be null and void. If an applicant cannot initiate or obtain permits for the approved use during the one (1) year, applicant may request a one (1) year extension from the Department. The request for an extension shall be in writing and be submitted with explanation to the Planning & Development Services Department at least sixty days prior to the end of the extended one (1) year period. The Director shall have the authority to extend the initial start-up period, or commencement of work, of a CUP up to two (2) times for a maximum of two (2) years. Should the

Permittee desire to continue with the project, a new application shall be submitted and the entire process would have to begin anew.

G-5 TIME LIMIT:

Unless otherwise specified within the Site Specific Conditions, this Permit shall be limited to a maximum of thirty (30) years from the recordation of the CUP. The CUP may be extended for an additional ten (10) year period by the appropriate County entity (either the Planning Director, the Planning Commission or the Board of Supervisors as set forth in the applicable Imperial County Ordinances) upon a finding that the Project is in compliance with all conditions of the CUP as stated herein and any applicable Land Use regulation of the County of Imperial. In order to obtain an extension, the Permittee shall file a written extension request with the Planning Director at least sixty (60) days prior to the expiration date of the permit. Such an extension request shall include the appropriate extension fee. Nothing stated or implied within this Permit shall constitute a guarantee that an extension will be granted. An extension may or may not be granted if the Project is in violation of any one or all of the conditions or if there is a history of non-compliance with the Permit conditions.

G-6 ABANDONMENT:

If a CUP has been unused, abandoned, discontinued, or ceased for one (1) year, the CUP shall be null and void, and be of no effect. Notice to applicant/permittee under this division will not be required or provided by Department.

G-7 PERMIT/LICENSE:

Permittee shall obtain and comply with any and all required permits, licenses, and/or approvals, for the construction and/or operation of this project. This shall include, but shall NOT be limited to, permits from the County Division of Environmental Health Services (EHS), Planning & Development Services Department, Office of Emergency Services (OES), Imperial County Air Pollution Control District (ICAPCD) and Public Works Department. Permittee shall likewise comply with all such permit requirements for the life of the project. **Additionally, Permittee shall submit a copy of such additional permit(s) and/or license(s) to the Planning & Development Services Department within 60-days of receipt, including amendments or alternatives thereto.**

G-8 APPROVALS AND CONDITIONS SUBSEQUENT TO GRANTING PERMIT:

Permittee acceptance of this CUP shall be deemed to constitute agreement with the terms and conditions contained herein. Where a requirement is imposed in this CUP that Permittee conduct a monitoring program, and where the County has reserved the right to impose or modify conditions with which the Permittee must comply based on data obtained therefrom, or where the Permittee is required to prepare specific plans for County approval and disagreement arises, the Permittee, operator and/or agent, the Planning and Development Services Director or other affected party, to be determined by the Planning and Development Services Director, may

request that a hearing be conducted before the Imperial County Planning Commission whereby they may state the requirements which will implement the applicable conditions as intended herein. Upon receipt of a request, the Planning Commission shall conduct a hearing and make a written determination. The Planning Commission may request support and advice from a technical advisory committee. Failure to take any action shall constitute endorsement of staff's determination with respect to implementation.

G-9 CONDITION PRIORITY:

This project shall be constructed/operated as described in the CUP application, the environmental documents, the project description, and as specified in these conditions. Where a conflict occurs, the CUP conditions shall govern.

G-10 INDEMNIFICATION:

As part of this application, applicant and real party in interest, if different, agree to defend, indemnify, hold harmless, and release the County of Imperial ("County"), its agents, officers, attorneys, and employees (including consultants) from any claim, action, or proceeding brought against any of them, the purpose of which is to attack, set aside, void, or annul the approval of this application or adoption of the environmental document which accompanies it. This indemnification obligation shall include, but not be limited to, damages, costs, expenses, attorney fees, or expert witness fees that may be asserted by any person or entity, including the applicant, arising out of or in connection with the approval of this application, whether or not there is concurrent negligence on the part of the County, its agents, officers, attorneys, or employees (including consultants).

If any claim, action, or proceeding is brought against the County, its agents, officers, attorneys, or employees (including consultants), to attack, set aside, void, or annul the approval of the application or adoption of the environmental document which accompanies it, then the following procedures shall apply: The Planning Director shall promptly notify the County Board of Supervisors of any claim, action or proceeding brought by an applicant challenging the County's action. The County, its agents, attorneys and employees (including consultants) shall fully cooperate in the defense of that action. The County shall have the final determination on how to best defend the case and will consult with applicant regularly regarding status and the plan for defense. The County will also consult and discuss with applicant the counsel to be used by County to defend it, either with in-house counsel, or by retaining outside counsel provided that the County shall have the final decision on the counsel retained to defend it. Applicant shall be fully responsible for all costs incurred. Applicant shell be entitled to provide his or her own counsel to defend the case, and said independent counsel shall work with County Counsel to provide a joint defense.

G-11 INSURANCE:

The Permittee shall take out and maintain workers compensation insurance as required by the State of California. The Permittee shall also secure liability

insurance and such other insurance as required by state and/or federal law. A Certificate of Insurance is to be provided to the Planning and Development Services Department by the insurance carrier, and said insurance and certificate shall be kept current for the life of the project. Certificates of Insurance shall be sent directly to the Planning and Development Services Department by the insurance carrier and shall name the Department as a recipient of both renewal and cancellation notices.

G-12 RIGHT OF ENTRY:

The County reserves the right to enter the premises at any time, announced or unannounced, in order to make the appropriate inspection(s) and to determine if the condition(s) of this CUP are complied with. Access by authorized enforcement agency personnel shall not be denied.

G-13 SEVERABILITY:

Should any condition(s) of this CUP be determined by a Court or other agency with proper jurisdiction to be invalid for any reason, such determination shall not invalidate the remaining provision(s) of this CUP.

G-14 PROVISION TO RUN WITH LAND:

The provisions of this CUP are to run with the land/project and shall bind the current and future owner(s) successor(s) of interest; assignee(s) and/or transferee(s) of said CUP. **Permittee shall not without prior notification to the Planning & Development Services Department assign, sell, or transfer, or grant control of CUP or any right or privilege therein.** The Permittee shall provide a minimum of 60 days written notice prior to such proposed transfer becoming effective. The permitted use identified herein is limited for use upon this parcel described herein and may not be transferred to another parcel.

G-15 COMPLIANCE/REVOCATION:

Upon the determination by the Planning & Development Services Department that the project is or may not be in full compliance with any one or all of the conditions of this CUP, or upon the finding that the project is creating a nuisance as defined by law, the issue shall be brought immediately to the appropriate enforcement agency or to the Planning Commission for hearing to consider appropriate response including but not limited to the revocation of the CUP or to consider possible amendments to the CUP. The hearing shall be held upon due notice having been provided to the Permittee and to the public in accordance with established ordinance/policy.

G-16 NON-COMPLIANCE (ENFORCEMENT & TERMINATION):

Should the Permittee violate any condition herein, the County shall give written notice of such violation and actions required of Permittee to correct such violation. If Permittee does not act to correct the identified violation within forty-five (45) days after written notice, County may revoke the CUP. If Permittee pursues correction of

such violation with reasonable diligence, the County may extend the cure period. Upon such revocation, County may, at its sole discretion, cease processing, defending any lawsuit or paying for costs associated with the Project.

G-17 COSTS:

Permittee shall pay any and all amounts determined by the County to defray any and all cost(s) for the review of reports, field investigations, monitoring, and other activities directly related to the enforcement/monitoring for compliance of this CUP, County Ordinance or any other applicable law. Any billing against this project, now or in the future, by the Planning & Development Services Department or any County Department for costs incurred as a result of this CUP, shall be billed through the Planning & Development Services Department.

G-18 REPORT(S)

Permittee shall file an annual report with the Planning and Development Services Department to show that Permittee is in full compliance with this CUP. The report shall be filed at least fifteen (15) days prior to the anniversary (recordation date) of this CUP. It shall be the responsibility of the Permittee to provide all reports and to include the information about other users. The County may request information at any time from the Permittee or other users if applicable; however, it shall be the responsibility of the Permittee to assure that the County receives such information in a timely manner.

G-19 RESPONSIBLE AGENT

Permittee shall maintain on file with the Planning and Development Services Department the name and phone number of the responsible agent for the site. A back-up name shall also be provided, and a phone number for twenty-four (24) hour emergency contact shall also be on file. If there are other users, the same information (as applicable) required from the Permittee shall also be made available to the County from such other users.

G-20 WATER AND SEWER:

Permittee shall provide water and sewer to Federal, State and County standards. Water and sewer systems shall be approved by the Environmental Health Services and the Planning & Development Services Department. Permittee shall hook up to a public water system or supplier if and when available.

G-21 DEFINITIONS:

In the event of a dispute, the meaning(s) or the intent of any word(s) phrase(s) and/or conditions or sections herein shall be determined by the Planning Commission of the County of Imperial. Their determination shall be final unless an appeal is made to the Board of Supervisors ten (10) days from the date of their decision.

G-22 SPECIFICITY:

The issuance of this CUP does not authorize the Permittee to construct or operate this project in violation of any state, federal, local law nor beyond the specified boundaries of the project as shown in the application/project description/ CUP, nor shall this CUP allow any accessory or ancillary use not specified herein. This CUP does not provide any prescriptive right or use to the Permittee for future addition and/or modification to this project.

G-23 HEALTH HAZARD:

If the County Health Officer determines that a significant health hazard exists to the public, the County Health Officer may require appropriate measures and the Permittee shall implement such measures to mitigate the health hazard. If the hazard to the public is determined to be imminent, such measures may be imposed immediately and may include temporary suspension of the subject operations. However, within forty five (45) days of any such suspension of operations, the measures imposed by the County Health Officer must be submitted to the Planning Commission for review and approval. Nothing shall prohibit Permittee from requesting a special Planning Commission meeting provided Permittee bears all costs.

G-24 CHANGE OF OWNER/OPERATOR:

In the event the ownership of the site or the operation of the site transfers from the current Permittee to a new successor Permittee, the successor Permittee shall be bound by all terms and conditions of this CUP as if said successor was the original Permittee. Current Permittee shall inform the County Planning & Development Services Department in writing at least sixty (60) days prior to any such transfer. Failure of a notice of change of ownership or change of operator shall be grounds for the immediate revocation of the CUP. In the event of a change, the new Owner/Operator shall file with the Department, via certified mail, a letter stating that they are fully aware of all conditions and acknowledge that they will adhere to all.

G-25 PERMITS OF OTHER AGENCIES INCORPORATED:

Permits granted by other governmental agencies in connection with the Project are incorporated herein by reference. The County reserves the right to apply conditions of those permits, as the County deems appropriate; provided, however, that enforcement of a permit granted by another governmental agency shall require concurrence by the respective agency. Permittee shall provide to the County, upon request, copies and amendments of all such permits.

G-26 MINOR AMENDMENTS:

The Planning Director may approve minor changes or administrative extensions, as requested in writing by the Permittee, provided it does not result in additional environmental impacts and/or are generally procedural or technical and/or which

may be necessary to comply with other government permit compliance requirements.

(TOTAL "G" CONDITIONS are 26)

SITE SPECIFIC CONDITIONS:

S-1 AUTHORIZED SCOPE OF ACTIVITIES:

(A) Permittee shall be responsible as for all improvements, septic, sewer, approved potable water system(s), pipelines, roads and other improvements discussed in the CUP Application and Conditions of Approval, FEIR, and MMRP. If Permittee sells all or part of this Project, an approved agreement shall be in place for new Project owner to build and maintain as agreed to by the conditions set forth in this CUP. Additionally, the County Assessor's Office shall be notified of any ownership change.

(B) Permittee shall develop this Project per approved CUP as a separate solar energy and energy (battery) storage facility. Any development with a combination of parcels will require the owner(s) to have a recorded deed restriction to "hold the parcel as one parcel" that runs with the land, or at Permmittee's option merge the parcels. This deed restriction shall be for a minimum of thirty (30) years and shall only be released upon the expiration of the thirty (30) years, the expiration or termination of the CUP, or upon approval of the Imperial County Planning and Development Director that the restriction is no longer needed based on a change in the development or regulation.

(C) The Permittee shall construct and operate the solar energy and energy (battery) storage facility in compliance with the CUP, the County's General Plan's Land Use Element, Land Use Ordinance and all other applicable local, state, and federal LORS, to include any other permits which are incorporated herein by reference.

(D) Construction, operation, maintenance, replacement and removal of a solar energy facility & energy (battery) storage system shall be as described in Permittee's CUP Application and previously approved FEIR for the Vega SES 3 Solar Energy project (CUP #20-0022), to include photovoltaic (PV) modules, mounting structures, electrical wiring, inverters, transformers and alternating current (AC) electric collector system, project electric substation and ancillary facilities. Ancillary facilities include safety and security equipment, retention basins, perimeter fencing, access gates, lighting systems, access roads, and may include temporary construction trailers, equipment enclosures, water treatment system and building, septic system,

parking, and fire protection. The Project's PV arrays shall be comprised of solar PV panels organized into electrical groups referred to as "blocks." The panels shall be oriented from east to west for maximum sun exposure and the foundation shall be designed based on soil conditions. The PV panels are made of a poly-crystalline silicon semiconductor material encapsulated in glass. Installation of the PV arrays includes installation of mounting posts, module rail assemblies, PV modules, inverters, transformers and buried electrical conductors. Concrete is required for the footings, foundations and pads for the transformers and substation work. Tracker foundations shall be comprised of either driven or vibrated steel posts/pipes, and/or concrete in some places (depending on soil and underground conditions).

(E) The Project's energy (battery) storage (BESS) component will be located on a concrete pad at the northeastern edge of the project site, unless final engineering design and/or IID requirements require a different location.

The BESS will consist banks of batteries and will be supported by a DC Combiner, control panel, and inverter/transformer skid. Each enclosure will include built-in fire suppression systems. The batteries will be lithium-ion based and capable of storing up to 120 MW in total (not to exceed 120 MW. These racks would be integrated into containers or be self-contained in engineered systems such as for example the Tesla Mega Pack. The Project design would meet minimum spacing required by code and manufacturers specifications.

S-2 AESTHETICS:

(A) The Permittee shall design and maintain all buildings and equipment enclosures to have exterior surfaces with neutral, non-reflective colors.

(B) The Permittee shall design and install lighting at construction storage yards and staging areas, such that light bulbs and reflectors are not visible from public viewing areas; lighting does not create reflected glare; and illumination of the Project facilities, vicinity, and nighttime sky is minimized.

(C) Lighting shall be designed so exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light source is shielded to minimize light trespass outside the Project boundary.

(D) All lighting shall be of minimum necessary brightness consistent with worker safety and OSHA requirements.

(E) High illumination areas not occupied on a continuous basis shall have switches or motion detectors to light the area only when occupied.

S-3 AIR QUALITY:

(A) The Permittee shall comply at all times with the ICAPCD Regulation VIII, Fugitive Dust Control. Please use MMRP for guidance.

(B) Prior to commencing construction, the Permittee shall submit a Dust Control Plan to the ICAPCD for approval identifying all sources of PM_{10} emissions and associated mitigation measures during the construction and operational phases of the Project. The Project Proponent shall submit a "Construction Notification Form" to the ICAPCD ten (10) days prior to the commencement of any earthmoving activity. The Dust Control Plan submitted to the ICAPCD shall meet all applicable requirements for control of fugitive dust emissions, including the following measures designed to achieve the no greater than 20% opacity performance standard for dust control:

(1) All on-site and off-site unpaved roads shall be effectively stabilized, and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.

(2) All unpaved traffic areas one acre or more in size with seventy-five (75) or more average vehicle trips per day, shall be effectively stabilized, and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.

(3) The transport of bulk materials shall be completely covered, unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks shall be cleaned and/or washed at the delivery site after removal of bulk material.

(4) All track-out or carry-out, which includes bulk materials that adhere to the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto the pavement, shall be cleaned at the end of each workday, or immediately when mud or dirt extends a cumulative distance of fifty (50) linear feet or more onto a paved road within an urban area.

(5) Movement of bulk material handling or transfer shall be stabilized prior to handling, or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.

(6) The construction of new unpaved roads is prohibited within any area with a population of five hundred (500) or more, unless the road meets ICAPCD's definition of a "temporary unpaved road." Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

(7) Shall comply with the MMRP's and its applicable mitigations.

(C) The Permittee shall implement all applicable standard mitigation measures for construction combustion equipment for the reduction of excess NOx emissions as contained in the Imperial County CEQA Air Quality Handbook and associated regulations. These measures include:

(1) Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment.

(2) Minimize idling time, either by shutting equipment off when not in use or reducing the time of idling to five minutes at a maximum.

(3) Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.

(4) Replace fossil-fueled equipment with electrically driven equivalents (assuming powered by a portable generator set and are available, cost effective, and capable of performing the task in an effective, timely manner).

(5) Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing construction activity during the peak hour of vehicular traffic on adjacent roadways.

(6) Implement activity management (e.g. rescheduling activities to avoid overlap of construction phases, which would reduce short-term impacts).

S-4 GEOLOGY/SOILS and MINERAL RESOURCES:

(A) Prior to approval of final engineering and grading plans for the Project, the County shall verify that all recommendations contained in the Geotechnical Report for this Solar Facility and have been incorporated into all final engineering and grading plans. The County's soil engineer and engineering geologist shall review grading plans prior to finalization to verify compliance with the recommendations of the report.

S-5 CULTURAL RESOURCES:

(A) Compliance and Monitors shall insure all mitigations set forth in the MMRP are followed.

S-6 HEALTH, SAFETY AND HAZARDOUS MATERIAL/FIRE AND FUELS MANAGEMENT:

(A) All trash and debris within the Project site shall be disposed of off-site, in accordance with current, local, state, and federal disposal regulations. Compliance with this measure shall be verified by the Planning and Development Services Department.

(B) If it is determined that hazardous wastes are, or will be generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5).

(C) If it is determined that hazardous wastes will be generated, the Permittee should also obtain a United States Environmental Protection Agency, Identification Number by contacting (800) 618-6942. Certain hazardous waste treatment processes or hazardous material, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting the local CUPA.

(D) Firearms shall be prohibited in all Project areas except for those used by licensed security personnel.

(E) The recognized environmental concerns shall be cleaned up and properly disposed of in accordance with all federal, state and local regulations.

(F) Any hazardous materials storage areas shall be designed with curbs or other containment measures, e.g., double-walled storage tanks, to contain spills and leaks. If on-site hazardous materials exceed fifty-five (55) gallons, a "Hazardous Material Management Plan" shall be prepared and approved by the County Local Enforcement Agency (LEA) and the Imperial County CUPA. A copy of the approved plan shall be submitted to ICPDSD prior to the issuance of the grading/building permit (Source: Imperial County Renewable Energy Ordinance, Title 9, Division 17, § 91702.00).

(G) The Permittee shall present to the Department an Emergency Response/Action Plan that has been approved by the ICFD/OES Department, and the LEA and any other agencies with jurisdiction (Source: Imperial County Renewable Energy Ordinance, Title 9, Division 17, § 91702.00).

The Emergency Response/Action Plan shall cover all possible foreseeable emergencies, e.g., major fluid spills, earthquakes, fires, floods or other emergencies. At all times, there shall be at least one employee either on the facility premises or on-call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility to coordinate all emergency response measures. This Emergency Coordinator shall be thoroughly familiar with all aspects of the Project's Emergency Response/Action Plan, all operations and activities at the facility, location of all records within the facility and the facility's layout. This Emergency Coordinator shall have the authority to commit the resources needed to carry out the contingency plan. Adequate personnel and equipment shall be available to respond to emergencies and to ensure compliance with the conditions of the Permit.

The Emergency Response/Action Plan shall be prepared in consultation with, but not be limited to, the ICFD/OES, County EHS/Health Department, County Sheriff/Coroner's office, County Department of Public Works, ICPDSD, and other appropriate state and county agencies. The plan shall include a notification list of response agencies which shall be notified immediately upon the discovery of a reportable unauthorized discharge and the list shall include:

- ICFD/OES;
- ICPDSD;
- County EHS/Health Department;
- County Department of Public Works; and
- California Highway Patrol, as applicable.

All employees shall be trained by classroom and hands-on training on safety procedures, maintenance programs and emergency response protocols to ensure safety and reliability in the event of an unforeseen emergency situation.

The Permittee shall provide adequate safety devices to protect against the hazard of fire and explosion for activities that involve the use and storage of flammable, explosive or highly corrosive or reactive materials as well as provide adequate firefighting and fire suppression equipment and using devices standard within the industry in compliance with all applicable state and local laws as determined by the ICFD/OES.
The Permittee shall implement all State and County-approved worker safety and fire protection plans and programs.

Any gates on-site shall have a "Knox" lock rapidly accessible by the ICFD/OES.

Appropriate first aid provisions for facility operations shall be made for emergency response during Project construction, operation, and

maintenance activities with appropriate first aid training for Project employees.

During construction, a member of each working crew shall be trained in basic first aid and supplied with necessary medical equipment to respond to emergencies as provided for in the Emergency Response/Action Plan required above.

Permittee shall identify a responsible agent for emergency purposes, whose name, title, e-mail address and telephone number shall be provided to the County Department of Public Works, ICFD/OES, County Environmental Health Services/Health Department, County Sheriff/Coroner's office, IID, and ICPDSD.

S-7 HYDROLOGY AND WATER QUALITY:

Adhere to measures set forth in the MMRP.

S-8 BIOLOGICAL RESOURCES:

Adhere to all Biological measures in the MMRP

S-9 PUBLIC SERVICES:

(A) The Permittee shall widely publicize to County residents the availability of job opportunities associated with the Project (whether or not those job opportunities are within Imperial County or are regional). Postings at City Halls, newspaper and television advertisements, local job centers, and dedicated website shall offer sufficient avenues of communication. The Imperial County Office of Employment and Training in addition to the Imperial Valley College presents viable sources for community awareness. The information shall provide available positions, details of positions including qualifications, number of openings, indicated the anticipated start date for each, and application process. In order to maintain oversight of the process, the application process can be completed both on a dedicated website and at dedicated computers at the County which would afford those without Internet connection the ability to apply. The Permittee's information shall be forwarded to the Permittee or their contractor and copies of applications files are maintained at the County.

(B) During the development phase of the Project, the Permittee shall provide a roster of employees to include their position and place of residence.

(C) Unless prohibited by local, state or federal law or regulation, Permittee shall make good faith efforts to hire qualified residents of the Imperial County with the objective that a majority of the total work force is comprised of the Imperial County residents.

(D) The Permittee shall install and implement security measures which may include, but not limited to, secured perimeter fencing with barbed wire, sensors, controlled access points, security alarms, security camera systems, and security guard vehicle

patrols to deter trespass or unauthorized activities that would interfere with operation of the Project.

(E) Permittee shall compensate the County pursuant to the Department of Environmental Health Fee Schedule for any costs of calls related to bees and mosquitoes.

(F) The Permittee shall reimburse the Sheriff's Department for any investigations regarding theft on the Project site and related law enforcement.

(G) All construction supervisors and foremen shall be provided with communication devices, cell phones or walkie-talkies, in the event of an emergency situation on-site.

(H) All construction-related activities shall take place within the development footprint of the Project as defined by the final engineering plans. The anticipated impact areas, including staging areas, equipment access, and disposal or temporary placement of spoils, shall be delineated with staking and/or orange construction fencing prior to construction to avoid natural resources where possible. No construction-related activities shall occur outside of the designated impact area. All construction materials, staging, storage, dispensing, fueling, and maintenance activities shall be designated on construction maps and shall be situated a minimum of fifty (50) feet from all drainages. Staging and temporary access shall occur on existing roadways whenever possible.

(I) **Emergency Operations Plan -** The Applicant shall develop an Emergency Operation Plan in conjunction with local fire service personnel and the AHJ and hold a comprehensive understanding of the hazards associated with lithium-ion battery technology. Lithium-ion battery energy storage systems must incorporate adequate explosion prevention protection as required in NFPA 855 or International Fire Code Chapter 12, where applicable.

(J) **Signage -** The Applicant shall provide signage that identifies the contents of an energy storage system on all energy storage system installations to alert first responders to the potential hazards associated with the installation.

S-10 TRANSPORATION AND TRAFFIC:

A. Permittee shall prepare and submit a Construction Traffic Control Plan to Imperial County Department of Public Works-Development Review and Caltrans District 11, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues:

1. Timing of deliveries of heavy equipment and building materials;

2. Directing construction traffic with a flag person;
3. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;
4. Ensuring access for emergency vehicles to the Project site;
5. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
6. Maintaining access to adjacent property;
7. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hours, distributing construction traffic flow across alternative routes to access the Project site, and avoiding residential neighborhoods to the maximum extent feasible.

B. Permittee shall Institute construction work hours as necessary, such that the arrival and/or departure times of workers would be staggered as necessary.

C. Permittee shall identify vehicle safety procedure for entering and exiting site access roads.

D. Permittee shall submit documentation that identifies the roads to be used during construction.

E. The Permittee shall be responsible for repairing any damage to non-County maintained roads that may result from construction activities. The Permittee shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Imperial County Department of Public Works Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to the County. This information shall be submitted in electronic format. The County, in consultation with the Permittee's engineer, shall determine the extent of remediation required, if any.

S-11 COMMENCEMENT OF WORK:

(A) If the Project has not commenced, or permits for the Project have not been issued, within one (1) year from approval date this CUP shall be null and void. If this CUP has been unused, abandoned, discontinued, or ceased for one (1) year, it shall be null and void and of no effect.

(B) If Permittee cannot initiate or obtain permits for the approved use during the one (1) year period following approve of this CUP, Permittee may request a one (1) year extension from the ICPDSD. The request for an extension shall be in writing and be submitted with explanation to the ICPDSD at least sixty (60) days prior to the end of the one (1) year

period. The Director shall have the authority to extend the initial startup period of a CUP two times for a maximum of one (1) year each. No extension under this section shall be extended for more than two (2) years.

S-12 CONSTRUCTION STANDARDS:

(A) The solar energy and energy (battery) storage facility structures shall be built in accordance with the California Building Code requirements applicable to "Seismic Category D". All structures and facilities shall be designed in accordance with the publication entitled "Recommended Lateral Force Requirements and Commentary by the Structural Engineers Association of California". The structural components of the permitted facilities shall be reviewed by the Building Official/Planning and Development Services Director. Applicable building permits shall be procured from the County for facilities prior to commencement of construction of such facilities.

S-13 LAND USE IMPROVEMENTS:

(A) The Permittee shall prepare an appropriate parking plan for review and approval by the ICPDSD and County Public Works Department for any and/or all proposed Operation & Maintenance buildings.

(B) The Permittee shall surface with a material of higher quality all access drives, parking areas, and vehicular maneuvering areas from primary access to any constructed operation and maintenance buildings.

S-14 NOISE STANDARDS:

(A) During the construction period, heavy truck traffic shall be limited to the hours between 6:00 AM and 7:00 PM.

(B) During construction, in accordance with Imperial County Noise Element of the General Plan, the noise level shall not exceed 75 dBA_{Leq} at the property boundary when averaged over an 8-hour period.

(C) During operation of the facility, the maximum permitted continuous sound level shall be not more than 45 dBA_{Leq}, as measured at the nearest residence using the "A" scale and measured with a sound level meter and associated octave band analyzer. The level may be exceeded by ten percent (10%) if the noise is intermittent and during daylight hours.

(D) Haul trucks and other engine-powered equipment shall be muffled and operated with engine exhaust brake use limited to emergencies.

S-15 ODOR CONTROL:

The Permittee shall control all odor-causing, harmful, noxious emissions to ensure that quantities or air contaminants released as a result of the permitted facilities do not exceed County, State or Federal standards, nor constitute a public nuisance, per the Imperial County Land Use Ordinance, Division 13, Enforcement, Chapter 2, Abatement of Nuisances, Sections 91302.00 through 91301.02.

S-16 PLAN APPROVALS:

Permittee shall submit to the ICPDSD, architectural, landscaping and lighting plans prior to construction of those facilities, to include painting of structures, planting of trees and/or vegetation, and shall receive all approvals prior to commencing construction of the applicable permitted facilities. Approval shall not be unreasonably withheld so long as the plans are consistent with applicable Imperial County Land Use Ordinance requirements.

S-17 PROJECT DESIGN:

(A) All facility access and parking areas shall be constructed to the standards of the Imperial County Land Use Ordinance.

(B) All permitted activities shall provide for the minimum feasible surface land disturbance for compatibility with the existing uses wherever possible.

(C) All equipment and electrical interconnection facilities used at the solar plant facilities shall be maintained in a manner that prevents breaking, cracking, and leaking, e.g. operator staffing and training, including appropriate quality assurance procedures, with the operation of back-up or auxiliary facilities when necessary.

(D) All on-site basins shall be designed and constructed under the supervision of a California-licensed Civil Engineer meeting sound engineering standards, with all applicable regulations and all requirements of the County EHS/Health Department and Public Works Departments are complied with.

(E) Permittee shall obtain encroachment permits for any construction or operation on IID existing rights of way or easements.

S-18 REPORTING AND MONITORING:

(A) The Permittee shall furnish to the County, at its sole cost within a reasonable time, any relevant reports/information which the County requires for monitoring purposes to determine whether cause exists for revoking this Permit, or to determine compliance with this Permit. The Permittee shall submit all required reports to the Planning Director,

County Planning and Development Services Department, 801 Main Street, El Centro, CA 92243.

(B) Permittee and ICPDSD Director shall agree upon an environmental consultant for overseeing all the required mitigation, conditional use Permit conditions and public benefit agreement (if any) requirements during the construction of the Project.

(C) Permittee shall pay for third-party environmental consultant monitoring and compliance.

(D) The ICPDSD, in consultation with the third-party Environmental Consultant and the County Executive Office, will require that all mitigation measures be satisfied, all MMRP requirements have been satisfied, all Conditions of Approval in the CUP are in full compliance and all conditions of the Development Agreement (if any) have been satisfied before the Final Certificate of Occupancy Certificate is issued.

(E) During the operation of solar facility, an Annual Compliance Report shall be submitted to the ICPDS, documenting the implementation of the conditions and general measures as well as any resource-specific measures.

(F) The Permittee shall reimburse the ICPDS for County as well as monitoring and investigations related to the construction and operation of the Project. Permittee shall compensate the County pursuant to the ICPDSD Fee Schedule for any costs incurred.

(G) Permittee shall pay for all costs as required to comply with the Conditions of Approval and MMRP.

(H) All County staff time will be billed on a time and materials basis. Failure by Permittee to provide any payment required of Permittee to the County in the CUP shall cause Permittee to be in non-compliance of the CUP. Upon notice of such noncompliance, County may, at its sole discretion, cease processing, defending any lawsuit or paying for costs associated with the Project.

S-19 SPILLS AND RUNOFF:

The Permittee shall design and construct the permitted facilities to prevent spills from endangering adjacent properties and to prevent runoff from any source being channeled or directed in an unnatural way so as to cause erosion, siltation, or other detriments pursuant to the construction Storm Water Pollution Prevention Plan approved by the Regional Water Quality Control Board.

S-20 FACILITIES CLOSURE AND SITE RESTORATION:

(A) Permittee shall implement the site restoration plan at the earlier of when the operation of the permitted facilities herein authorized has ceased or the term of the CUP has expired. At such time, all facilities shall be dismantled, and the lands involved restored to their pre-construction condition and available for agricultural production uses as agreed to by the Imperial County Planning and Development Services Director.

(B) Prior to the issuance of a grading Permit, a decommissioning and restoration plan (the Reclamation Plan) shall be submitted and approved by the Imperial County Planning and Development Services Director. The Reclamation Plan shall documents the procedures by which the Project site will be returned to its current conditions.

(C) Within thirty (30) days prior to ground disturbance, a Bond, or other acceptable surety, in the amount of the estimated site restoration financial calculations/bond, for the developed project area, or other forms of security acceptable to County Counsel's office, shall be filed with the County that guarantees restoration of the land to its condition prior to the permitted solar plant development.

(D) Upon completion of such site restoration, and demonstration that the land has been restored to the agriculturally productive/farmable condition prior to the permitted solar plant development the Bond or other surety shall be released by the County.

(E) The above financial calculations/bond shall be reviewed every five (5) years in December and adjusted on January 1st to add a Consumer Price Index (CPI) (Los Angeles) increase by the Planning and Development Services Director. This readjustment can be made in the County's sole discretion and must be funded by the Permittee within ninety (90) calendars after notice of the additional amount of such adjustment.

S-21 PUBLIC WORKS:

1. The Applicant shall acquire proper easements from adjacent property owners for the installation of any proposed transmission lines.

2. All survey monuments, including those within the interior of the project, shall be protected, and their locations shall remain accessible to any surveyor throughout the duration of the project. Section 8774 of the Business and Professions Code, and Section 846.5 of the Civil Code, each provide the right of entry to utilize boundary evidence and perform surveys, without undue delay, to any person authorized to practice land surveying. The right of entry is not contingent upon prior notice.

3. The Applicant shall furnish a Drainage and Grading Plan/Study to provide for property grading and drainage control, which shall also include prevention of sedimentation of damage to off-site properties. The Study/Plan shall be

submitted to the Department of Public Works for review and approval. The applicant shall implement the approved plan. Employment of the appropriate Best Management Practices (BMP's) shall be included (Per Imperial County Code of Ordinances, Chapter 12.10.020 B).

4. Based from the information provided on the project documents, it is assumed that County roads will not be used for site access during or after construction activities have been completed. In the event that County roads are required for site access, the Applicant shall consult with this Department in advance for review and approval.

   Access to sites shall be completed from public roads.

5. Any unimproved access roads/routes between public roads and access gates shall be improved for all-weather access. Such all-weather improvements shall be completed as recommended by a Geotechnical Engineer licensed to practice in the State of California.

6. Each site shall have, as a minimum, one (1) primary Class 2 Base aggregate material driveway and one (1) emergency access Class 2 Base aggregate material driveway, if they are tied to a County Road only.

7. Access to project sites during and after construction is expected to be completed through private unpaved roads or private property.

   The Applicant shall mitigate generation of dust caused by construction traffic as per Rule 805 – Paved and Unpaved Roads of the Imperial County Air Pollution Control District.

   - All solid and hazardous waste shall be disposed of in approved solid waste disposal sites in accordance with existing County, State and Federal regulations (Per Imperial County Code of Ordinances, Chapter 8.72).

   - All on-site traffic areas shall be hard surfaced to provide all weather access for emergency vehicles. The surfacing shall meet the Department of Public Works and Fire/Office of Emergency Services (EOS) Standards as well as those of the Air Pollution Control District (APCD).

   - The project may require a National Pollutant Discharge Elimination System (NPDES) permit and Notice of Intent (NOI) from the Regional Water Quality Control Board (RWQCB) prior to County approval of onsite grading plan (40 CFR 122.28).

   - A Transportation Permit may be required from road agency(s) having jurisdiction over the haul route(s) for any hauls of heavy equipment and/or large vehicles which impose greater than legal loads on riding surfaces, including bridges. (Per Imperial County Code of Ordinances, Chapter 10.12 - OVERWEIGHT VEHICLES AND LOADS).

- Effective September 15, 2020, the State's Mandatory Organic Waste Recycling Law (AB 1826 or Chapter 727, Statutes of 2014) decreased the threshold requiring all businesses and multi-dwelling facilitates of 5 units or more generating two (2) cubic yards or more of solid waste per week to recycle their organic waste including landscape waste, wood waste, and food waste. Information about possible organics waste recycling services can be found at the CalRecycle site at: https://www.calrecycle.ca.gov/Recycle/Commercial/Organics/

S-22 WASTE DISPOSAL

(A) The Permittee shall insure that all solar plant facilities waste, liquid, gas or solid, which are generated on-site shall be disposed of in compliance with appropriate local, state, and federal regulations, in effect or as subsequently duly-enacted. All solid waste debris and/or any hazardous wastes located on the Project site must be satisfactorily removed to a permitted facility prior to the commencement of grading earthen material at the site.

(B) Littering shall not be allowed. Project personnel shall not deposit or leave any food or waste in the Project area, and no biodegradable or non-biodegradable debris shall remain in the right-of-way or on the Project site following completion of construction.

S-23 IID Condition requirements

(A) The Project may impact IID drains with project site runoff flows draining into IID drains. To mitigate impacts, IID may require a comprehensive IID hydraulic drainage system analysis. IID's hydraulic drainage system analysis includes an associated drain impact fee.

(B) An IID encroachment permit is necessary to utilize existing surface-water drainpipe connections to drains and receive drainage service from IID. Surface-water drainpipe connections are to be modified in accordance with IID standards. A construction storm-water permit from the California Regional Water Quality Control Board is required before commencing construction and an industrial storm water permit from CRWQCB is needed for the operation of the proposed facility. Copies of these permits as well as the project's Storm Water Pollution Prevention Plan are to be submitted to IID.

S-24 COUNTY EXECUTIVE OFFICE:

1. Fiscal and Economic Impact Analysis. The Permittee will be invoiced by the Executive Office for expenses related to the procurement of a consultant to

produce a Fiscal and Economic Impact Analysis (FEIA) and will be responsible for the cost of any subsequent updates as a result of modifications to the data and project by the developer.

2. Public Service Agreement ("Agreement" or "PSA"). Pursuant to the Guidelines for the Public Service Program for Solar Power Plants in Imperial County amended and adopted by the Board of Supervisors on May 9, 2023, PSA will be entered into by and between the County of Imperial and Developer to provide for a concerted and coordinated effort to maximize the benefits of the Project to the County of Imperial community.

Sales Tax Benefit Solar Farm:

(a) Developer will require that all qualifying contractors and subcontractors exercise their option to obtain a California Department of Tax and Fee Administration (CDTFA) sub-permit for the jobsite and allocate all eligible use tax payments to Imperial County and LTA. Prior to commencement of any construction activity on-site the developer will require that the contractor or subcontractor provide County of Imperial with either a copy of their CDTFA account number and sub-permit.

(b) To accomplish this, Permittee shall either cause its construction contractor to treat the project in accordance with California Regulation 1521(b)(2)(B), California Regulation 1521(c)(13)(B), and California Regulation 1826(b) for sales and use tax purposes or form a "Buying Company" as defined in the CDTFA 1699(h). Permittee can adopt an alternate methodology to accomplish this goal if such methodology is approved by the County Executive Officer prior to issuance of building permits. Not later than forty five (45) days after the due date for filing sales and use tax returns for each calendar quarter, occurring after the commencement of any construction activity on-site through and including the first anniversary of COD (as defined below),

(c) Developer shall report, or cause its general contractor to report to County, the total amount of sales and use taxes related to the Project that are allocated to the County, and reported on Developer's, general contractor's, and subcontractors' applicable California sales and use tax returns. The obligations of Developer under this Section III.A are hereinafter referred to as the "Developer Sales and Use Tax Responsibilities."

(d) Guarantee Amounts. In the event that Developer shall fail to perform the Developer Sales and Use Tax Responsibilities and as a result of such failure, with respect to the Project, (i) County receives less than the amount of such sales and use taxes it would have received under existing applicable sales and use tax laws had such responsibilities been fully performed subject to adjustment as set forth in Section IV.C below) or (ii) Local Transportation Authority (LTA) receives less than the amount of such sales and use taxes it would have received under existing applicable sales and use tax laws had such responsibilities been fully-performed, then Developer shall pay, as and when provided below, to County or LTA as applicable, the amount of the applicable shortfall.

(e) Adjustments to Guarantee Amounts.

(f) Developer's sales tax guarantee set out in Section III.B above shall be adjusted to be eighty-five percent (85%) of the projected sales and use taxes for the Project. At least ten (10) days prior to the issuance of the first (1st) grading permit, Developer shall provide County with evidence of such projected sales and use taxes, including but not limited to sales taxes receipts, engineering contracts, procurement contracts, construction contracts. County shall meet with Developer to confirm that amount.

(g) The amount of sales and use tax anticipated to be generated is based on the projected construction of a sixty megawatt alternating current 60 MW AC solar generation facility. Construction of any additional output capacity beyond the 60 MW output now projected will require the sales tax guarantee be adjusted based on the actual output from solar generation facilities of the Project as evidenced by any Power Purchase Agreement subsequently entered into by Developer related to this Project.

(h) To the extent of any reduction in the size of the Project as the result of any final ruling, stipulated judgment, or settlement, in accordance with Section V.C below, the not-to-exceed amounts set forth in Section III.B shall be reduced pro rata based on the size of such reduction.

(i) The complete amount due to County for the Project must be received within one (1) year after Commercial Operation Date ("COD") for this Project. If, within one (1) year after issuance of the final Certificate of Occupancy, the sales and use taxes received by the County are less than the amount guaranteed for that portion of the project, Developer shall pay the difference to the County.

(j) Payments to County and LTA as a result of a shortfall shall be due within thirty days of Developer's receipt of written notice of shortfall from the County. Payments received by County after the ninetieth (90th) day following Developer's receipt of notice shall be deemed late. Developer hereby agrees to pay interest at the rate of six percent (6%) per annum of the payment due for any payment received by County beyond the due date. Said interest shall be included with the late payment. The obligation to pay interest shall be stayed when such amounts are disputed in good faith, so long as Developer submits the payments "under written protest." Upon determination of dispute, such interest may be assessed if it is determined that the dispute was not made in good faith.

(k) In the event that Developer repowers or replaces the equipment onsite, each Site shall be designated as the "Point of Sale" so as to create an additional local tax-funding source for the County of Imperial.

Battery Storage Sales Tax Benefit

1.1.1. To the extent permitted by applicable local, state, and Federal law, Developer will require that all qualifying contractors and subcontractors exercise their option to obtain a California Department of Tax and Fee Administration ("CDTFA") sub-permit for the jobsite and allocate all eligible sales and use tax payments to County and the Local Transit Authority ("LTA").

1.1.2. Prior to commencement of any construction activity onsite exclusive of grading, , Developer shall require that the contractor or subcontractor provide County with a copy of their CDTFA account number and sub-permit. Developer shall either cause its construction contractor to treat the Project in accordance with California Sales and Use Tax Regulation 1521(b)(2)(B), California Sales and Use Tax Regulation 1521(c)(13)(B), and California Sales and Use Tax Regulation 1826(b) for sales and use tax purposes, or form a "Buying Company," as defined in the California Sales and Use Tax Regulation 1699(h). Developer may adopt an alternate methodology to accomplish this goal if such methodology is approved by the County's Executive Officer prior to issuance of any building permit.

1.1.3. No later than forty-five (45) days after the due date for filing sales and use tax returns for each calendar quarter, occurring after the commencement of any construction activity on-site through and including the first anniversary of commercial operating date ("COD"), Developer shall report, or cause its general contractor to report to County, the total amount of sales and use taxes related to the Project that are allocated to the County, and reported on Developer's, general contractor's and subcontractors' applicable California sales and use tax returns.

1.1.4. *Guarantee Amounts.* Prior to the issuance of any building permit for the Project, Developer shall provide County with a guarantee of the minimum sales and use that will be received by County and LTA under existing applicable sales and use tax laws. The guarantee amount shall be based on the total storage capacity of the Project in megawatts, which is projected to be one hundred twenty megawatts (120 MW) Should Developer choose to develop the Project in phases, and receives the required approvals from County to do so, then Developer shall provide a separate guarantee amount for each phase of the project based on the total storage capacity in megawatts for the applicable phase.

(a) Developer warrants that the sales/use tax guarantee amounts to be provided to County as mandated in this Subparagraph 9.2.4 shall be true and accurate estimates of the projected sales and use taxes that will be generated for this Project. Developer shall provide County with evidence of the projected sales/use taxes for the Project, including but not limited to sales tax receipts, and executed or anticipated engineering contracts, procurement contracts, and construction contracts. If the Parties are unable to agree upon a guarantee amount, then the dispute shall be referred to an independent accountant mutually acceptable to both Parties. The costs for such nonbinding mediation shall be borne by Developer.

(b) Developer warrants that the sales/use tax guarantee amounts to be provided to County as mandated in this Subparagraph 9.2.4 will incorporate any and all sales/use tax exemptions that Developer and/or its contractors and subcontractors intend to utilize, and that such exemptions will be disclosed

to County fully and in good faith prior to the issuance of any building permit for this Project.

(c) Developer understands and acknowledges that the sales/use tax guarantee amounts to be provided to County as mandated by this Subparagraph 9.2.4 are a part of the consideration to be received by County in return for entering into this Agreement, and further understands and acknowledges that County would not enter into this Agreement but for said guarantee from Developer.

1.1.5. In the event that County and / or LTA receives less than the amount of sales/use taxes guaranteed pursuant to Subparagraph 9.2.4, then Developer shall pay, as and when provided below, to County or LTA as applicable, the amount of the applicable shortfall.

1.1.6. *Adjustments to Guarantee Amounts.*

(a) The amount of sales and use tax anticipated to be generated is based on the projected construction of a 120 MW utility-scale energy storage complex incorporating lithium ion batteries and/or flow battery technologies throughout the Project site. Construction of any additional storage capacity beyond the 120 MW storage capacity now projected will require the sales/use tax guarantee amounts to be adjusted based on the actual storage facilities of the Project as evidenced by any power purchase agreement or power storage agreement subsequently entered into by Developer related to this Project.

(b) To the extent of any reduction in the size of the Project as the result of any final ruling, stipulated judgment, or settlement, the sales/use tax guarantee amounts mandated under Subparagraph 9.2.4 shall be reduced pro rata based on the size of such reduction.

(c) Should Developer become of aware of a change in circumstances that would materially affect the sales/use tax guarantee amount, then Developer shall, within thirty (30) days of learning of such change in circumstances, inform the County in writing of the change in circumstances. If the County determines that such change in circumstances warrants an adjustment to the sales/use tax guarantee amount, then County shall negotiate in good faith with Developer in revising the sales/use tax guarantee amount. If the Parties are unable to agree upon a revised guarantee amount, then the dispute shall be referred to an independent accountant mutually acceptable to both Parties. The costs for such nonbinding mediation shall be borne by Developer. Failure of the Developer to inform the County of the change in circumstances shall constitute a waiver of Developer's ability to seek any adjustment to the sales/use tax guarantee based on such change in circumstances.

1.1.7. The complete sales/use tax guarantee amount due to County and LTA for the Project must be received within one (1) year after COD for this Project, or such later date as any applicable sales/use tax is due or is transmitted from the CDTFA, unless it is delayed due to causes beyond Developer's control or for which Developer is not responsible. If, within one (1) year after issuance of the final certificate of occupancy, or such later date as any applicable sales/use tax is due or is transmitted from the CDTFA, the sales/use taxes received by the County are less than the sales use tax

guarantee amounts mandated under Subparagraph 9.2.4, then Developer shall pay the difference to the County.

1.1.8. Payments to County and LTA as a result of a shortfall shall be due within thirty days of Developer's receipt of written notice of shortfall from the County. Payments received by County after the ninetieth (90th) day following Developer's receipt of notice shall be deemed late. Developer hereby agrees to pay interest at the rate of six percent (6%) per annum of the payment due for any payment received by County beyond the due date. Said interest shall be included with the late payment. The obligation to pay interest shall be stayed when such amounts are disputed in good faith, so long as Developer submits the payments "under written protest." Upon determination of dispute, such interest may be assessed if it is determined that the dispute was not made in good faith.

In the event that Developer repowers or replaces the equipment onsite, each Site shall be designated as the "Point of Sale" so as to create an additional local tax-funding source for the County of Imperial.

S-25 Additional Conditions

1. Because oversize vehicles may utilize this facility (i.e., SR 111), as a condition of the Conditional Use Permit, the project applicant will be required to obtain all applicable Caltrans permits required for construction of the project, including special transportation permits (if applicable) for oversize construction vehicles.
2. As a condition of the Conditional Use Permit, the applicant will be required to prepare and submit for approval a traffic management plan to Caltrans as specified in this comment.
3. As currently proposed, the project would not require an encroachment permit as no work or improvements are proposed within Caltrans right-of-way. However, as a condition of the Conditional Use Permit, the applicant will be required to obtain necessary permits from Caltrans. This includes encroachment permits if applicable.
4. **Coachella Valley Water District** – Review for requirements on elevated concrete foundations and appropriate spacing shall be evaluated, including with respect to existing training dikes and addressed as part of the final site plan engineering design.
5. **Bureau of Reclamation.** modifications to training dikes will require appropriate authorization from Bureau of Reclamation.
6. Condition of approval that the County and Developer will coordinate with the U.S. Marine Corps to notify them of the project development and to determine any potential impacts to their operations, if any.

S-26 ACCEPTANCE:

Acceptance of this permit shall be deemed to constitute agreement by Permittee with all terms and conditions herein contained.

The rest of this page is intentionally left blank.

NOW THEREFORE, County hereby issues the Conditional Use Permit #20-0022, and Permittee hereby accepts such permit upon the terms and conditions set forth herein.

IN WITNESS THEREOF, the parties hereto have executed this Agreement the day and year first written.

PERMITTEE:

_____ _____

Date

COUNTY OF IMPERIAL, a political subdivision of the STATE OF CALIFORNIA

_____ _____

Jim Minnick, Director, Planning & Development Services Department

Date

PERMITTEE NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA

COUNTY OF _____} S.S.

On_____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document._____

Title or Type of Document_____
Number of Pages_____ Date of Document_____
Signer(s) Other Than Named Above_____

Dated_____

COUNTY NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF IMPERIAL} S.S.

On_____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document.

Title or Type of Document_____

Number of Pages_____ Date of Document_____

Signer(s) Other Than Named Above_____

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ATTACHMENT "G" – CONDITIONAL USE PERMIT #20-0023 WITH RESOLUTION

RESOLUTION NO. __

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF IMPERIAL, CALIFORNIA, FOR APPROVAL ON THE "VEGA SES 5 SOLAR ENERGY STORAGE PROJECT" FOR CONDITIONAL USE PERMIT #20-0023"

WHEREAS, APEX ENERGY SOLUTIONS, LLC has submitted an application for Conditional Use Permit (CUP) #20-0023 to develop a nominal 50-megawatt (MW) solar photovoltaic (PV) energy generation project with an integrated battery storage system not to exceed 100 MW. The project includes solar energy generation facility, battery storage system, switching station and gen-tie line. The project is to be located on approximately 250 acres; and,

WHEREAS, an Environmental Impact Report and CEQA Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State Guidelines, and the County's "Rules and Regulations to Implement CEQA," as Amended; and,

WHEREAS, the Board of Supervisors of the County of Imperial has been delegated with the responsibility of approvals, and certifications for approvals of conditional use permits; and,

WHEREAS, public notice of said application has been given, and the Board of Supervisors has heard, received and considered all oral and written protests, objections and evidence presented by interested parties at a public hearing held with respect to this item on October 24, 2023; and,

WHEREAS, the Draft EIR was received by the State Clearinghouse on December 14, 2022 and circulated for a period of 50 days (**SCH #2021050013**) with the commenting period ending February 2, 2023; and,

NOW, THEREFORE, the Board of Supervisors of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Board of Supervisors has considered the proposed Conditional Use Permit #20-0023 prior to recommending approval and the County's consideration of the Project has been noticed in compliance with law.

SECTION 2. That the Project complies with the requirements of the Imperial County Code and is in accordance with State Planning and Zoning law therefore, the following findings are made pursuant to Imperial County Code § 90203.09 as follows:

A. The proposed use is consistent with goals and policies of the adopted County General Plan. (Imperial County Code § 90203.09.A)

The current General Plan land use designations of the project site and proposed parcels are "Recreation/Open Space" and proposed project parcels are within the Renewable Energy Overlay (RE). Therefore, the proposed uses could be found consistent with the General Plan.

B. The proposed use is consistent with the purpose of the zone or sub-zone within which the use will be used. (Imperial County Code § 90203.09.B)

The proposed project parcels are zoned S-2-RE, A-2 & A-3 RE. (Open Space Preservation & General and Heavy Agriculture) with Renewable Energy Overlay). The proposed uses are consistent with the zone since they are listed as allowed uses under the S-2, A-2 & A-3 RE zones with requirements for an approved Conditional Use Permit.

C. The proposed use is listed as a use within the zone or sub-zone or is found to be similar to a listed conditional use according to the procedures of Section 90203.00. (Imperial County Code § 90203.09.C)

The proposed use is consistent with the zone: S-2-RE Open Space Preservation with Renewable Energy Overlay).

D. The proposed use meets the minimum requirements of this Title applicable to the use and complies with all applicable laws, ordinances and regulation of the County of Imperial and the State of California. (Imperial County Code § 90203.09.D)

The Project complies with the minimum requirements of this Title by, among other things, obtaining a CUP, complying with the California Environmental Quality Act, and participating in the public review and hearing process. Development standards have been established for the Project pursuant to these processes, and will be enforced via imposition and enforcement of the Mitigation Monitoring and Reporting Program recommended for approval by separate Resolution, as well as the conditions of approval imposed on this CUP. The Conditions of Approval will

further insure that the project complies with all applicable regulations of the County of Imperial and the State of California. Therefore, the proposed project meets the minimum requirements of the Land Use Ordinance, Section 90203.00.

E. The proposed use will not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity. (Imperial County Code § 90203.09.E)

The Environmental Impact Report (EIR) prepared for the Project analyzed the Project's potential effects on the health, safety, and welfare of the public and property and found that, with mitigation, the Project would have less than significant effects and impacts in all resources areas.

In addition, the project site is not near a residential community and is mostly surrounded by farmland and or open space/recreational land.

F. The proposed use does not violate any other law or ordinance. (Imperial County Code § 90203.09.F)

The proposed project will be subject to the Conditional Use Permit and current Federal, State and Local regulations. State Planning and Zoning Law (Cal. Govt. Code §§ 65000-66035) establishes minimum statewide standards for the regulation of local land use through planning and zoning. The County regulates local land use via Title 9 of the Imperial County Code. As found above, the proposed project is conditioned to be consistent with Imperial County, Title 9, Land Use Ordinance and CEQA mitigation measures and therefore complies with both State and local laws and ordinance.

Pursuant to CEQA, the County has prepared an EIR for the Project, which analyzes the proposed Project's compliance and consistency with other federal, state, and local laws and ordinances regulating the environment. Substantial evidence supports the conclusions in the EIR that the Project complies with said environmental laws, and thus the finds that the proposed use does not violate any other law or ordinance.

G. The proposed use is not granting a special privilege. (Imperial County Code § 90203.09.G)

The proposed solar generating and storage facility is a permitted use subject to approval of the proposed Conditional Use Permit. No special privileges are being offered or will be granted.

SECTION 3. Approval of the Project is conditioned upon the terms and conditions set forth in the Agreement for Conditional Use Permit #20-0023 attached hereto and incorporated herein by this reference.

NOW, THEREFORE, based on the above findings, the Imperial County Board of Supervisors **DOES HEREBY APPROVE** Conditional Use Permit #20-0023, subject to the attached Conditions of Approval.

Ryan E. Kelley, Chairman
Imperial County Board of Supervisors

I hereby certify that the preceding resolution was taken by the Board of Supervisors at a meeting conducted on October 24, 2023, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

Blanca Acosta
Clerk of the Board of Supervisors

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When Recorded Return To:

Imperial County
Planning & Development Services
801 Main Street
El Centro, California 92243

AGREEMENT FOR CONDITIONAL USE PERMIT #20-0023
VEGA SES 5 SOLAR ENERGY STORAGE PROJECT
APN's 025-260-019 & 025-260-022-000 & partial APN 025-260-011-000

This Agreement is made and entered into on this ___day of _____, 2023, by and between APEX ENERGY SOLUTIONS, LLC hereinafter referred to as the Permittee (Permittee), and the COUNTY OF IMPERIAL, a political subdivision of the State of California (County or Imperial County), related to the VEGA SES 5 SOLAR ENERGY STORAGE PROJECT (CUP #20-0023) project area.

RECITALS

WHEREAS, Permittee is the lessee or successor-in-interest of certain land in Imperial County to be improved with the proposed utility-scale solar and battery storage facility. The project, Conditional Use Permit (CUP or Permit) #20-0023, consists of a proposed 50 megawatt (MW) photovoltaic solar energy facility, energy (battery) storage facility **(up to 100 MW and not to exceed a 2 to 1 solar/battery ratio)** and associated infrastructure, including but not limited to, electrical switch station, substation, on-site operations and maintenance (O&M), a gen-tie line and internal solar development transmission lines, on approximately 250 acres within Imperial County (the "Project"). The proposed facility is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The Coachella and East Highline Canals and the Union Pacific Railway transect the project area. The project area is located entirely within the County's Renewable Energy Overlay Zone. .

WHEREAS, Permittee has applied to the County of Imperial for CUP #20-0023 for constructing and operating a new 50 MW solar energy facility, energy (battery) storage facility (up to 100 MW and not to exceed a 2 to 1 solar/battery ratio) with ancillary support facilities, including electrical interconnections. The Project will connect to the existing IID "P" line located immediately north of the project site north of the All American Canal.

WHEREAS, the Project is located on portion of APN 025-260-011; 025-260-019 & 025-260-022-000. Additionally, the legal description includes SEC 9, 15, 17 Township 11 South, Range 15 East on approximately 250 aces. The project site is located entirely within the Imperial County Renewable Energy Overlay zone.

WHEREAS, the Permittee for the VEGA SES 5 Solar Energy Project (CUP #20-0023) shall fully comply with all of the terms and conditions of the Project as specified hereinafter within this CUP.

The rest of this page is intentionally left blank.

GENERAL CONDITIONS:

The "GENERAL CONDITIONS" are shown by the letter "G". These conditions are conditions that are either routinely and commonly included in all Conditional Use Permits as "standardized conditions" and/or are conditions that the Imperial County Planning Commission has established as a requirement on all CUP's for consistent application and enforcement. The Permittee is hereby advised that the General Conditions are as applicable as the SITE SPECIFIC conditions. The General Conditions are in addition to the MMRP and any and all other requirements for the project.

G-1 GENERAL LAWS:

The Permittee shall obtain, comply with and maintain all applicable County, State, and federal laws, rules, regulations, ordinances, and/or standards as they may pertain to this project whether specified herein or not.

G-2 EFFECTIVE DATE:

The approved Conditional Use Permit shall not become effective until ten (10) calendar days after the decision of the Planning Director or Commission. Further the Conditional Use Permit shall not be effective until applicable conditions have been met, and the Conditional Use Permit is recorded with the County Recorder, with payment of recording fees being paid by applicant. In the case of a decision by the Board of Supervisors there is no 10-day appeal.

G-3 RECORDATION:

CUP #20-0023 shall **not be effective** until it is recorded at the Imperial County Recorder's Office and if no appeal has been made after approval from the hearing body. Payment of the recordation fee shall be the responsibility of the Permittee. If this CUP is not recorded within one hundred eighty (180) days from the date of approval the CUP shall be deemed null and void, without notice having to be provided to Permittee. Permittee may submit a written request for a recordation extension for this CUP by filing such a request with the Planning Director at least sixty (60) days prior to the one hundred eighty 180-day expiration. The Director may approve one (1) extension for a period not to exceed one hundred eighty (180) days. An extension may not be granted if the request for an extension is filed after the expiration date. Failure to record this CUP within one (1) year including the granted extension period shall deem this CUP null and void.

G-4 COMMENCEMENT OF WORK:

If the project for which a CUP has been approved has not commenced, or permits for said project have not been issued, within one (1) year from effective date, the CUP shall be null and void. If an applicant cannot initiate or obtain permits for the approved use during the one (1) year, applicant may request a one (1) year extension from the Department. The request for an extension shall be in writing and be submitted with explanation to the Planning & Development Services Department at least sixty days prior to the end of the extended one (1) year period. The Director shall have the authority to extend the initial start-up period, or commencement of work, of a CUP up to two (2) times for a maximum of two (2) years. Should the

Permittee desire to continue with the project, a new application shall be submitted and the entire process would have to begin anew.

G-5 TIME LIMIT:

Unless otherwise specified within the Site Specific Conditions, this Permit shall be limited to a maximum of thirty (30) years from the recordation of the CUP. The CUP may be extended for an additional ten (10) year period by the appropriate County entity (either the Planning Director, the Planning Commission or the Board of Supervisors as set forth in the applicable Imperial County Ordinances) upon a finding that the Project is in compliance with all conditions of the CUP as stated herein and any applicable Land Use regulation of the County of Imperial. In order to obtain an extension, the Permittee shall file a written extension request with the Planning Director at least sixty (60) days prior to the expiration date of the permit. Such an extension request shall include the appropriate extension fee. Nothing stated or implied within this Permit shall constitute a guarantee that an extension will be granted. An extension may or may not be granted if the Project is in violation of any one or all of the conditions or if there is a history of non-compliance with the Permit conditions.

G-6 ABANDONMENT:

If a CUP has been unused, abandoned, discontinued, or ceased for one (1) year, the CUP shall be null and void, and be of no effect. Notice to applicant/permittee under this division will not be required or provided by Department.

G-7 PERMIT/LICENSE:

Permittee shall obtain and comply with any and all required permits, licenses, and/or approvals, for the construction and/or operation of this project. This shall include, but shall NOT be limited to, permits from the County Division of Environmental Health Services (EHS), Planning & Development Services Department, Office of Emergency Services (OES), Imperial County Air Pollution Control District (ICAPCD) and Public Works Department. Permittee shall likewise comply with all such permit requirements for the life of the project. **Additionally, Permittee shall submit a copy of such additional permit(s) and/or license(s) to the Planning & Development Services Department within 60-days of receipt, including amendments or alternatives thereto.**

G-8 APPROVALS AND CONDITIONS SUBSEQUENT TO GRANTING PERMIT:

Permittee acceptance of this CUP shall be deemed to constitute agreement with the terms and conditions contained herein. Where a requirement is imposed in this CUP that Permittee conduct a monitoring program, and where the County has reserved the right to impose or modify conditions with which the Permittee must comply based on data obtained therefrom, or where the Permittee is required to prepare specific plans for County approval and disagreement arises, the Permittee, operator and/or agent, the Planning and Development Services Director or other affected party, to be determined by the Planning and Development Services Director, may

request that a hearing be conducted before the Imperial County Planning Commission whereby they may state the requirements which will implement the applicable conditions as intended herein. Upon receipt of a request, the Planning Commission shall conduct a hearing and make a written determination. The Planning Commission may request support and advice from a technical advisory committee. Failure to take any action shall constitute endorsement of staff's determination with respect to implementation.

G-9 CONDITION PRIORITY:

This project shall be constructed/operated as described in the CUP application, the environmental documents, the project description, and as specified in these conditions. Where a conflict occurs, the CUP conditions shall govern.

G-10 INDEMNIFICATION:

As part of this application, applicant and real party in interest, if different, agree to defend, indemnify, hold harmless, and release the County of Imperial ("County"), its agents, officers, attorneys, and employees (including consultants) from any claim, action, or proceeding brought against any of them, the purpose of which is to attack, set aside, void, or annul the approval of this application or adoption of the environmental document which accompanies it. This indemnification obligation shall include, but not be limited to, damages, costs, expenses, attorney fees, or expert witness fees that may be asserted by any person or entity, including the applicant, arising out of or in connection with the approval of this application, whether or not there is concurrent negligence on the part of the County, its agents, officers, attorneys, or employees (including consultants).

If any claim, action, or proceeding is brought against the County, its agents, officers, attorneys, or employees (including consultants), to attack, set aside, void, or annul the approval of the application or adoption of the environmental document which accompanies it, then the following procedures shall apply: The Planning Director shall promptly notify the County Board of Supervisors of any claim, action or proceeding brought by an applicant challenging the County's action. The County, its agents, attorneys and employees (including consultants) shall fully cooperate in the defense of that action. The County shall have the final determination on how to best defend the case and will consult with applicant regularly regarding status and the plan for defense. The County will also consult and discuss with applicant the counsel to be used by County to defend it, either with in-house counsel, or by retaining outside counsel provided that the County shall have the final decision on the counsel retained to defend it. Applicant shall be fully responsible for all costs incurred. Applicant shell be entitled to provide his or her own counsel to defend the case, and said independent counsel shall work with County Counsel to provide a joint defense.

G-11 INSURANCE:

The Permittee shall take out and maintain workers compensation insurance as required by the State of California. The Permittee shall also secure liability

insurance and such other insurance as required by state and/or federal law. A Certificate of Insurance is to be provided to the Planning and Development Services Department by the insurance carrier, and said insurance and certificate shall be kept current for the life of the project. Certificates of Insurance shall be sent directly to the Planning and Development Services Department by the insurance carrier and shall name the Department as a recipient of both renewal and cancellation notices.

G-12 RIGHT OF ENTRY:

The County reserves the right to enter the premises at any time, announced or unannounced, in order to make the appropriate inspection(s) and to determine if the condition(s) of this CUP are complied with. Access by authorized enforcement agency personnel shall not be denied.

G-13 SEVERABILITY:

Should any condition(s) of this CUP be determined by a Court or other agency with proper jurisdiction to be invalid for any reason, such determination shall not invalidate the remaining provision(s) of this CUP.

G-14 PROVISION TO RUN WITH LAND:

The provisions of this CUP are to run with the land/project and shall bind the current and future owner(s) successor(s) of interest; assignee(s) and/or transferee(s) of said CUP. **Permittee shall not without prior notification to the Planning & Development Services Department assign, sell, or transfer, or grant control of CUP or any right or privilege therein.** The Permittee shall provide a minimum of 60 days written notice prior to such proposed transfer becoming effective. The permitted use identified herein is limited for use upon this parcel described herein and may not be transferred to another parcel.

G-15 COMPLIANCE/REVOCATION:

Upon the determination by the Planning & Development Services Department that the project is or may not be in full compliance with any one or all of the conditions of this CUP, or upon the finding that the project is creating a nuisance as defined by law, the issue shall be brought immediately to the appropriate enforcement agency or to the Planning Commission for hearing to consider appropriate response including but not limited to the revocation of the CUP or to consider possible amendments to the CUP. The hearing shall be held upon due notice having been provided to the Permittee and to the public in accordance with established ordinance/policy.

G-16 NON-COMPLIANCE (ENFORCEMENT & TERMINATION):

Should the Permittee violate any condition herein, the County shall give written notice of such violation and actions required of Permittee to correct such violation. If Permittee does not act to correct the identified violation within forty-five (45) days after written notice, County may revoke the CUP. If Permittee pursues correction of

such violation with reasonable diligence, the County may extend the cure period. Upon such revocation, County may, at its sole discretion, cease processing, defending any lawsuit or paying for costs associated with the Project.

G-17 COSTS:

Permittee shall pay any and all amounts determined by the County to defray any and all cost(s) for the review of reports, field investigations, monitoring, and other activities directly related to the enforcement/monitoring for compliance of this CUP, County Ordinance or any other applicable law. Any billing against this project, now or in the future, by the Planning & Development Services Department or any County Department for costs incurred as a result of this CUP, shall be billed through the Planning & Development Services Department.

G-18 REPORT(S)

Permittee shall file an annual report with the Planning and Development Services Department to show that Permittee is in full compliance with this CUP. The report shall be filed at least fifteen (15) days prior to the anniversary (recordation date) of this CUP. It shall be the responsibility of the Permittee to provide all reports and to include the information about other users. The County may request information at any time from the Permittee or other users if applicable; however, it shall be the responsibility of the Permittee to assure that the County receives such information in a timely manner.

G-19 RESPONSIBLE AGENT

Permittee shall maintain on file with the Planning and Development Services Department the name and phone number of the responsible agent for the site. A back-up name shall also be provided, and a phone number for twenty-four (24) hour emergency contact shall also be on file. If there are other users, the same information (as applicable) required from the Permittee shall also be made available to the County from such other users.

G-20 WATER AND SEWER:

Permittee shall provide water and sewer to Federal, State and County standards. Water and sewer systems shall be approved by the Environmental Health Services and the Planning & Development Services Department. Permittee shall hook up to a public water system or supplier if and when available.

G-21 DEFINITIONS:

In the event of a dispute, the meaning(s) or the intent of any word(s) phrase(s) and/or conditions or sections herein shall be determined by the Planning Commission of the County of Imperial. Their determination shall be final unless an appeal is made to the Board of Supervisors ten (10) days from the date of their decision.

G-22 SPECIFICITY:

The issuance of this CUP does not authorize the Permittee to construct or operate this project in violation of any state, federal, local law nor beyond the specified boundaries of the project as shown in the application/project description/ CUP, nor shall this CUP allow any accessory or ancillary use not specified herein. This CUP does not provide any prescriptive right or use to the Permittee for future addition and/or modification to this project.

G-23 HEALTH HAZARD:

If the County Health Officer determines that a significant health hazard exists to the public, the County Health Officer may require appropriate measures and the Permittee shall implement such measures to mitigate the health hazard. If the hazard to the public is determined to be imminent, such measures may be imposed immediately and may include temporary suspension of the subject operations. However, within forty five (45) days of any such suspension of operations, the measures imposed by the County Health Officer must be submitted to the Planning Commission for review and approval. Nothing shall prohibit Permittee from requesting a special Planning Commission meeting provided Permittee bears all costs.

G-24 CHANGE OF OWNER/OPERATOR:

In the event the ownership of the site or the operation of the site transfers from the current Permittee to a new successor Permittee, the successor Permittee shall be bound by all terms and conditions of this CUP as if said successor was the original Permittee. Current Permittee shall inform the County Planning & Development Services Department in writing at least sixty (60) days prior to any such transfer. Failure of a notice of change of ownership or change of operator shall be grounds for the immediate revocation of the CUP. In the event of a change, the new Owner/Operator shall file with the Department, via certified mail, a letter stating that they are fully aware of all conditions and acknowledge that they will adhere to all.

G-25 PERMITS OF OTHER AGENCIES INCORPORATED:

Permits granted by other governmental agencies in connection with the Project are incorporated herein by reference. The County reserves the right to apply conditions of those permits, as the County deems appropriate; provided, however, that enforcement of a permit granted by another governmental agency shall require concurrence by the respective agency. Permittee shall provide to the County, upon request, copies and amendments of all such permits.

G-26 MINOR AMENDMENTS:

The Planning Director may approve minor changes or administrative extensions, as requested in writing by the Permittee, provided it does not result in additional environmental impacts and/or are generally procedural or technical and/or which

may be necessary to comply with other government permit compliance requirements.

(TOTAL "G" CONDITIONS are 26)

SITE SPECIFIC CONDITIONS:

S-1 AUTHORIZED SCOPE OF ACTIVITIES:

(A) Permittee shall be responsible as for all improvements, septic, sewer, approved potable water system(s), pipelines, roads and other improvements discussed in the CUP Application and Conditions of Approval, FEIR, and MMRP. If Permittee sells all or part of this Project, an approved agreement shall be in place for new Project owner to build and maintain as agreed to by the conditions set forth in this CUP. Additionally, the County Assessor's Office shall be notified of any ownership change.

(B) Permittee shall develop this 50 MW solar energy Project per approved CUP #20-0023 as a separate solar energy and energy (battery) storage facility. Any development with a combination of parcels will require the owner(s) to have a recorded deed restriction to "hold the parcel as one parcel" that runs with the land, or at Permittee's option merge the parcels. This deed restriction shall be for a minimum of thirty (30) years and shall only be released upon the expiration of the thirty (30) years, the expiration or termination of the CUP, or upon approval of the Imperial County Planning and Development Director that the restriction is no longer needed based on a change in the development or regulation.

(C) The Permittee shall construct and operate the 50 Mw solar energy and 100 Mw energy (battery) storage facility in compliance with the CUP, the County's General Plan's Land Use Element, Land Use Ordinance and all other applicable local, state, and federal LORS, to include any other permits which are incorporated herein by reference.

(D) Construction, operation, maintenance, replacement and removal of a solar energy facility & energy (battery) storage system shall be as described in Permittee's CUP Application and previously approved FEIR for the Vega SES 5 Solar Energy project (CUP #20-0023), to include photovoltaic (PV) modules, mounting structures, electrical wiring, inverters, transformers and alternating current (AC) electric collector system, project electric substation and ancillary facilities. Ancillary facilities include safety and security equipment, retention basins, perimeter fencing, access gates, lighting systems, access roads, and may include temporary construction trailers, equipment enclosures, water treatment system and building, septic system, parking, and fire protection. The Project's PV arrays shall be comprised of solar PV panels organized into electrical groups referred to as "blocks." The panels shall be oriented from east

to west for maximum sun exposure and the foundation shall be designed based on soil conditions. The PV panels are made of a poly-crystalline silicon semiconductor material encapsulated in glass. Installation of the PV arrays includes installation of mounting posts, module rail assemblies, PV modules, inverters, transformers and buried electrical conductors. Concrete is required for the footings, foundations and pads for the transformers and substation work. Tracker foundations shall be comprised of either driven or vibrated steel posts/pipes, and/or concrete in some places (depending on soil and underground conditions).

(E) The Project's energy (battery) storage (BESS) component will be located on a concrete pad at the northeastern edge of the project site, unless final engineering design and/or IID requirements require a different location.

The BESS will consist banks of batteries and will be supported by a DC Combiner, control panel, and inverter/transformer skid. Each enclosure will include built-in fire suppression systems. The batteries will be lithium-ion based and capable of storing up to 100 MW in total (not to exceed 100 MW. These racks would be integrated into containers or be self-contained in engineered systems such as for example the Tesla Mega Pack. The Project design would meet minimum spacing required by code and manufacturers specifications.

S-2 AESTHETICS:

(A) The Permittee shall design and maintain all buildings and equipment enclosures to have exterior surfaces with neutral, non-reflective colors.

(B) The Permittee shall design and install lighting at construction storage yards and staging areas, such that light bulbs and reflectors are not visible from public viewing areas; lighting does not create reflected glare; and illumination of the Project facilities, vicinity, and nighttime sky is minimized.

(C) Lighting shall be designed so exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light source is shielded to minimize light trespass outside the Project boundary.

(D) All lighting shall be of minimum necessary brightness consistent with worker safety and OSHA requirements.

(E) High illumination areas not occupied on a continuous basis shall have switches or motion detectors to light the area only when occupied.

S-3 AIR QUALITY:

(A) The Permittee shall comply at all times with the ICAPCD Regulation VIII, Fugitive Dust Control. Please use MMRP for guidance.

(B) Prior to commencing construction, the Permittee shall submit a Dust Control Plan to the ICAPCD for approval identifying all sources of PM_{10} emissions and associated mitigation measures during the construction and operational phases of the Project. The Project Proponent shall submit a "Construction Notification Form" to the ICAPCD ten (10) days prior to the commencement of any earthmoving activity. The Dust Control Plan submitted to the ICAPCD shall meet all applicable requirements for control of fugitive dust emissions, including the following measures designed to achieve the no greater than 20% opacity performance standard for dust control:

(1) All on-site and off-site unpaved roads shall be effectively stabilized, and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.

(2) All unpaved traffic areas one acre or more in size with seventy-five (75) or more average vehicle trips per day, shall be effectively stabilized, and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.

(3) The transport of bulk materials shall be completely covered, unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks shall be cleaned and/or washed at the delivery site after removal of bulk material.

(4) All track-out or carry-out, which includes bulk materials that adhere to the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto the pavement, shall be cleaned at the end of each workday, or immediately when mud or dirt extends a cumulative distance of fifty (50) linear feet or more onto a paved road within an urban area.

(5) Movement of bulk material handling or transfer shall be stabilized prior to handling, or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.

(6) The construction of new unpaved roads is prohibited within any area with a population of five hundred (500) or more, unless the road meets ICAPCD's definition of a "temporary unpaved road." Any temporary unpaved road shall be effectively stabilized and

visible emissions shall be limited to no greater than 20% opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

(7) Shall comply with the MMRP's and its applicable mitigations.

(C) The Permittee shall implement all applicable standard mitigation measures for construction combustion equipment for the reduction of excess NOx emissions as contained in the Imperial County CEQA Air Quality Handbook and associated regulations. These measures include:

(1) Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment.

(2) Minimize idling time, either by shutting equipment off when not in use or reducing the time of idling to five minutes at a maximum.

(3) Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.

(4) Replace fossil-fueled equipment with electrically driven equivalents (assuming powered by a portable generator set and are available, cost effective, and capable of performing the task in an effective, timely manner).

(5) Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing construction activity during the peak hour of vehicular traffic on adjacent roadways.

(6) Implement activity management (e.g. rescheduling activities to avoid overlap of construction phases, which would reduce short-term impacts).

S-4 GEOLOGY/SOILS and MINERAL RESOURCES:

(A) Prior to approval of final engineering and grading plans for the Project, the County shall verify that all recommendations contained in the Geotechnical Report for this Solar Facility and have been incorporated into all final engineering and grading plans. The County's soil engineer and engineering geologist shall review grading plans prior to finalization to verify compliance with the recommendations of the report.

S-5 CULTURAL RESOURCES:

(A) Compliance and Monitors shall insure all mitigations set forth in the MMRP are followed.

S-6 HEALTH, SAFETY AND HAZARDOUS MATERIAL/FIRE AND FUELS MANAGEMENT:

(A) All trash and debris within the Project site shall be disposed of off-site, in accordance with current, local, state, and federal disposal regulations. Compliance with this measure shall be verified by the Planning and Development Services Department.

(B) If it is determined that hazardous wastes are, or will be generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5).

(C) If it is determined that hazardous wastes will be generated, the Permittee should also obtain a United States Environmental Protection Agency, Identification Number by contacting (800) 618-6942. Certain hazardous waste treatment processes or hazardous material, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting the local CUPA.

(D) Firearms shall be prohibited in all Project areas except for those used by licensed security personnel.

(E) The recognized environmental concerns shall be cleaned up and properly disposed of in accordance with all federal, state and local regulations.

(F) Any hazardous materials storage areas shall be designed with curbs or other containment measures, e.g., double-walled storage tanks, to contain spills and leaks. If on-site hazardous materials exceed fifty-five (55) gallons, a "Hazardous Material Management Plan" shall be prepared and approved by the County Local Enforcement Agency (LEA) and the Imperial County CUPA. A copy of the approved plan shall be submitted to ICPDSD prior to the issuance of the grading/building permit (Source: Imperial County Renewable Energy Ordinance, Title 9, Division 17, § 91702.00).

(G) The Permittee shall present to the Department an Emergency Response/Action Plan that has been approved by the ICFD/OES Department, and the LEA and any other agencies with jurisdiction (Source: Imperial County Renewable Energy Ordinance, Title 9, Division 17, § 91702.00).

The Emergency Response/Action Plan shall cover all possible foreseeable emergencies, e.g., major fluid spills, earthquakes, fires, floods or other emergencies. At all times, there shall be at least one

employee either on the facility premises or on-call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility to coordinate all emergency response measures. This Emergency Coordinator shall be thoroughly familiar with all aspects of the Project's Emergency Response/Action Plan, all operations and activities at the facility, location of all records within the facility and the facility's layout. This Emergency Coordinator shall have the authority to commit the resources needed to carry out the contingency plan. Adequate personnel and equipment shall be available to respond to emergencies and to ensure compliance with the conditions of the Permit.

The Emergency Response/Action Plan shall be prepared in consultation with, but not be limited to, the ICFD/OES, County EHS/Health Department, County Sheriff/Coroner's office, County Department of Public Works, ICPDSD, and other appropriate state and county agencies. The plan shall include a notification list of response agencies which shall be notified immediately upon the discovery of a reportable unauthorized discharge and the list shall include:

- ICFD/OES;
- ICPDSD;
- County EHS/Health Department;
- County Department of Public Works; and
- California Highway Patrol, as applicable.

All employees shall be trained by classroom and hands-on training on safety procedures, maintenance programs and emergency response protocols to ensure safety and reliability in the event of an unforeseen emergency situation.

The Permittee shall provide adequate safety devices to protect against the hazard of fire and explosion for activities that involve the use and storage of flammable, explosive or highly corrosive or reactive materials as well as provide adequate firefighting and fire suppression equipment and using devices standard within the industry in compliance with all applicable state and local laws as determined by the ICFD/OES.
The Permittee shall implement all State and County-approved worker safety and fire protection plans and programs.

Any gates on-site shall have a "Knox" lock rapidly accessible by the ICFD/OES.

Appropriate first aid provisions for facility operations shall be made for emergency response during Project construction, operation, and maintenance activities with appropriate first aid training for Project employees.

During construction, a member of each working crew shall be trained in basic first aid and supplied with necessary medical equipment to respond to emergencies as provided for in the Emergency Response/Action Plan required above.

Permittee shall identify a responsible agent for emergency purposes, whose name, title, e-mail address and telephone number shall be provided to the County Department of Public Works, ICFD/OES, County Environmental Health Services/Health Department, County Sheriff/Coroner's office, IID, and ICPDSD.

S-7 HYDROLOGY AND WATER QUALITY:

Adhere to measures set forth in the MMRP.

S-8 BIOLOGICAL RESOURCES:

Adhere to all Biological measures in the MMRP

S-9 PUBLIC SERVICES:

(A) The Permittee shall widely publicize to County residents the availability of job opportunities associated with the Project (whether or not those job opportunities are within Imperial County or are regional). Postings at City Halls, newspaper and television advertisements, local job centers, and dedicated website shall offer sufficient avenues of communication. The Imperial County Office of Employment and Training in addition to the Imperial Valley College presents viable sources for community awareness. The information shall provide available positions, details of positions including qualifications, number of openings, indicated the anticipated start date for each, and application process. In order to maintain oversight of the process, the application process can be completed both on a dedicated website and at dedicated computers at the County which would afford those without Internet connection the ability to apply. The Permittee's information shall be forwarded to the Permittee or their contractor and copies of applications files are maintained at the County.

(B) During the development phase of the Project, the Permittee shall provide a roster of employees to include their position and place of residence.

(C) Unless prohibited by local, state or federal law or regulation, Permittee shall make good faith efforts to hire qualified residents of the Imperial County with the objective that a majority of the total work force is comprised of the Imperial County residents.

(D) The Permittee shall install and implement security measures which may include, but not limited to, secured perimeter fencing with barbed wire, sensors, controlled access points, security alarms, security camera systems, and security guard vehicle patrols to deter trespass or unauthorized activities that would interfere with operation of the Project.

(E) Permittee shall compensate the County pursuant to the Department of Environmental Health Fee Schedule for any costs of calls related to bees and mosquitoes.

(F) The Permittee shall reimburse the Sheriff's Department for any investigations regarding theft on the Project site and related law enforcement.

(G) All construction supervisors and foremen shall be provided with communication devices, cell phones or walkie-talkies, in the event of an emergency situation on-site.

(H) All construction-related activities shall take place within the development footprint of the Project as defined by the final engineering plans. The anticipated impact areas, including staging areas, equipment access, and disposal or temporary placement of spoils, shall be delineated with staking and/or orange construction fencing prior to construction to avoid natural resources where possible. No construction-related activities shall occur outside of the designated impact area. All construction materials, staging, storage, dispensing, fueling, and maintenance activities shall be designated on construction maps and shall be situated a minimum of fifty (50) feet from all drainages. Staging and temporary access shall occur on existing roadways whenever possible.

(I) **Emergency Operations Plan -** The Applicant shall develop an Emergency Operation Plan in conjunction with local fire service personnel and the AHJ and hold a comprehensive understanding of the hazards associated with lithium-ion battery technology. Lithium-ion battery energy storage systems must incorporate adequate explosion prevention protection as required in NFPA 855 or International Fire Code Chapter 12, where applicable.

(J) **Signage -** The Applicant shall provide signage that identifies the contents of an energy storage system on all energy storage system installations to alert first responders to the potential hazards associated with the installation.

S-10 TRANSPORATION AND TRAFFIC:

A. Permittee shall prepare and submit a Construction Traffic Control Plan to Imperial County Department of Public Works-Development Review and Caltrans District 11, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues:

1. Timing of deliveries of heavy equipment and building materials;
2. Directing construction traffic with a flag person;
3. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;
4. Ensuring access for emergency vehicles to the Project site;

5. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
6. Maintaining access to adjacent property;
7. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hours, distributing construction traffic flow across alternative routes to access the Project site, and avoiding residential neighborhoods to the maximum extent feasible.

B. Permittee shall Institute construction work hours as necessary, such that the arrival and/or departure times of workers would be staggered as necessary.

C. Permittee shall identify vehicle safety procedure for entering and exiting site access roads.

D. Permittee shall submit documentation that identifies the roads to be used during construction.

E. The Permittee shall be responsible for repairing any damage to non-County maintained roads that may result from construction activities. The Permittee shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Imperial County Department of Public Works Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to the County. This information shall be submitted in electronic format. The County, in consultation with the Permittee's engineer, shall determine the extent of remediation required, if any.

S-11 COMMENCEMENT OF WORK:

(A) If the Project has not commenced, or permits for the Project have not been issued, within one (1) year from approval date this CUP shall be null and void. If this CUP has been unused, abandoned, discontinued, or ceased for one (1) year, it shall be null and void and of no effect.

(B) If Permittee cannot initiate or obtain permits for the approved use during the one (1) year period following approve of this CUP, Permittee may request a one (1) year extension from the ICPDSD. The request for an extension shall be in writing and be submitted with explanation to the ICPDSD at least sixty (60) days prior to the end of the one (1) year period. The Director shall have the authority to extend the initial startup period of a CUP two times for a maximum of one (1) year each. No extension under this section shall be extended for more than two (2) years.

S-12 CONSTRUCTION STANDARDS:

(A) The solar energy and energy (battery) storage facility structures shall be built in accordance with the California Building Code requirements applicable to "Seismic Category D". All structures and facilities shall be designed in accordance with the publication entitled "Recommended Lateral Force Requirements and Commentary by the Structural Engineers Association of California". The structural components of the permitted facilities shall be reviewed by the Building Official/Planning and Development Services Director. Applicable building permits shall be procured from the County for facilities prior to commencement of construction of such facilities.

S-13 LAND USE IMPROVEMENTS:

(A) The Permittee shall prepare an appropriate parking plan for review and approval by the ICPDSD and County Public Works Department for any and/or all proposed Operation & Maintenance buildings.

(B) The Permittee shall surface with a material of higher quality all access drives, parking areas, and vehicular maneuvering areas from primary access to any constructed operation and maintenance buildings.

S-14 NOISE STANDARDS:

(A) During the construction period, heavy truck traffic shall be limited to the hours between 6:00 AM and 7:00 PM.

(B) During construction, in accordance with Imperial County Noise Element of the General Plan, the noise level shall not exceed 75 dBA_{Leq} at the property boundary when averaged over an 8-hour period.

(C) During operation of the facility, the maximum permitted continuous sound level shall be not more than 45 dBA_{Leq}, as measured at the nearest residence using the "A" scale and measured with a sound level meter and associated octave band analyzer. The level may be exceeded by ten percent (10%) if the noise is intermittent and during daylight hours.

(D) Haul trucks and other engine-powered equipment shall be muffled and operated with engine exhaust brake use limited to emergencies.

S-15 ODOR CONTROL:

The Permittee shall control all odor-causing, harmful, noxious emissions to ensure that quantities or air contaminants released as a result of the permitted facilities do not exceed County, State or Federal standards, nor constitute a public nuisance, per the Imperial County Land Use Ordinance,

Division 13, Enforcement, Chapter 2, Abatement of Nuisances, Sections 91302.00 through 91301.02.

S-16 PLAN APPROVALS:

Permittee shall submit to the ICPDSD, architectural, landscaping and lighting plans prior to construction of those facilities, to include painting of structures, planting of trees and/or vegetation, and shall receive all approvals prior to commencing construction of the applicable permitted facilities. Approval shall not be unreasonably withheld so long as the plans are consistent with applicable Imperial County Land Use Ordinance requirements.

S-17 PROJECT DESIGN:

(A) All facility access and parking areas shall be constructed to the standards of the Imperial County Land Use Ordinance.

(B) All permitted activities shall provide for the minimum feasible surface land disturbance for compatibility with the existing uses wherever possible.

(C) All equipment and electrical interconnection facilities used at the solar plant facilities shall be maintained in a manner that prevents breaking, cracking, and leaking, e.g. operator staffing and training, including appropriate quality assurance procedures, with the operation of back-up or auxiliary facilities when necessary.

(D) All on-site basins shall be designed and constructed under the supervision of a California-licensed Civil Engineer meeting sound engineering standards, with all applicable regulations and all requirements of the County EHS/Health Department and Public Works Departments are complied with.

(E) Permittee shall obtain encroachment permits for any construction or operation on IID existing rights of way or easements.

S-18 REPORTING AND MONITORING:

(A) The Permittee shall furnish to the County, at its sole cost within a reasonable time, any relevant reports/information which the County requires for monitoring purposes to determine whether cause exists for revoking this Permit, or to determine compliance with this Permit. The Permittee shall submit all required reports to the Planning Director, County Planning and Development Services Department, 801 Main Street, El Centro, CA 92243.

(B) Permittee and ICPDSD Director shall agree upon an environmental consultant for overseeing all the required mitigation, conditional use

Permit conditions and public benefit agreement (if any) requirements during the construction of the Project.

(C) Permittee shall pay for third-party environmental consultant monitoring and compliance.

(D) The ICPDSD, in consultation with the third-party Environmental Consultant and the County Executive Office, will require that all mitigation measures be satisfied, all MMRP requirements have been satisfied, all Conditions of Approval in the CUP are in full compliance and all conditions of the Development Agreement (if any) have been satisfied before the Final Certificate of Occupancy Certificate is issued.

(E) During the operation of solar facility, an Annual Compliance Report shall be submitted to the ICPDS, documenting the implementation of the conditions and general measures as well as any resource-specific measures.

(F) The Permittee shall reimburse the ICPDS for County as well as monitoring and investigations related to the construction and operation of the Project. Permittee shall compensate the County pursuant to the ICPDSD Fee Schedule for any costs incurred.

(G) Permittee shall pay for all costs as required to comply with the Conditions of Approval and MMRP.

(H) All County staff time will be billed on a time and materials basis. Failure by Permittee to provide any payment required of Permittee to the County in the CUP shall cause Permittee to be in non-compliance of the CUP. Upon notice of such noncompliance, County may, at its sole discretion, cease processing, defending any lawsuit or paying for costs associated with the Project.

S-19 SPILLS AND RUNOFF:

The Permittee shall design and construct the permitted facilities to prevent spills from endangering adjacent properties and to prevent runoff from any source being channeled or directed in an unnatural way so as to cause erosion, siltation, or other detriments pursuant to the construction Storm Water Pollution Prevention Plan approved by the Regional Water Quality Control Board.

S-20 FACILITIES CLOSURE AND SITE RESTORATION:

(A) Permittee shall implement the site restoration plan at the earlier of when the operation of the permitted facilities herein authorized has ceased or the term of the CUP has expired. At such time, all facilities shall be dismantled, and the lands involved restored to their pre-construction

condition and available for agricultural production uses as agreed to by the Imperial County Planning and Development Services Director.

(B) Prior to the issuance of a grading Permit, a decommissioning and restoration plan (the Reclamation Plan) shall be submitted and approved by the Imperial County Planning and Development Services Director. The Reclamation Plan shall documents the procedures by which the Project site will be returned to its current conditions.

(C) Within thirty (30) days prior to ground disturbance, a Bond, or other acceptable surety, in the amount of the estimated site restoration financial calculations/bond, for the developed project area, or other forms of security acceptable to County Counsel's office, shall be filed with the County that guarantees restoration of the land to its condition prior to the permitted solar plant development.

(D) Upon completion of such site restoration, and demonstration that the land has been restored to the agriculturally productive/farmable condition prior to the permitted solar plant development the Bond or other surety shall be released by the County.

(E) The above financial calculations/bond shall be reviewed every five (5) years in December and adjusted on January 1st to add a Consumer Price Index (CPI) (Los Angeles) increase by the Planning and Development Services Director. This readjustment can be made in the County's sole discretion and must be funded by the Permittee within ninety (90) calendars after notice of the additional amount of such adjustment.

S-21 PUBLIC WORKS:

1. The Applicant shall acquire proper easements from adjacent property owners for the installation of any proposed transmission lines.

2. All survey monuments, including those within the interior of the project, shall be protected, and their locations shall remain accessible to any surveyor throughout the duration of the project. Section 8774 of the Business and Professions Code, and Section 846.5 of the Civil Code, each provide the right of entry to utilize boundary evidence and perform surveys, without undue delay, to any person authorized to practice land surveying. The right of entry is not contingent upon prior notice.

3. The Applicant shall furnish a Drainage and Grading Plan/Study to provide for property grading and drainage control, which shall also include prevention of sedimentation of damage to off-site properties. The Study/Plan shall be submitted to the Department of Public Works for review and approval. The applicant shall implement the approved plan. Employment of the appropriate Best Management Practices (BMP's) shall be included (Per Imperial County Code of Ordinances, Chapter 12.10.020 B).

4. Based from the information provided on the project documents, it is assumed that County roads will not be used for site access during or after construction activities have been completed. In the event that County roads are required for site access, the Applicant shall consult with this Department in advance for review and approval.

   Access to sites shall be completed from public roads.

5. Any unimproved access roads/routes between public roads and access gates shall be improved for all-weather access. Such all-weather improvements shall be completed as recommended by a Geotechnical Engineer licensed to practice in the State of California.

6. Each site shall have, as a minimum, one (1) primary Class 2 Base aggregate material driveway and one (1) emergency access Class 2 Base aggregate material driveway, if they are tied to a County Road only.

7. Access to project sites during and after construction is expected to be completed through private unpaved roads or private property.

   The Applicant shall mitigate generation of dust caused by construction traffic as per Rule 805 – Paved and Unpaved Roads of the Imperial County Air Pollution Control District.

   - All solid and hazardous waste shall be disposed of in approved solid waste disposal sites in accordance with existing County, State and Federal regulations (Per Imperial County Code of Ordinances, Chapter 8.72).

   - All on-site traffic areas shall be hard surfaced to provide all weather access for emergency vehicles. The surfacing shall meet the Department of Public Works and Fire/Office of Emergency Services (EOS) Standards as well as those of the Air Pollution Control District (APCD).

   - The project may require a National Pollutant Discharge Elimination System (NPDES) permit and Notice of Intent (NOI) from the Regional Water Quality Control Board (RWQCB) prior to County approval of onsite grading plan (40 CFR 122.28).

   - A Transportation Permit may be required from road agency(s) having jurisdiction over the haul route(s) for any hauls of heavy equipment and/or large vehicles which impose greater than legal loads on riding surfaces, including bridges. (Per Imperial County Code of Ordinances, Chapter 10.12 - OVERWEIGHT VEHICLES AND LOADS).

   - Effective September 15, 2020, the State's Mandatory Organic Waste Recycling Law (AB 1826 or Chapter 727, Statutes of 2014) decreased the threshold requiring all businesses and multi-dwelling facilitates of 5 units or

more generating two (2) cubic yards or more of solid waste per week to recycle their organic waste including landscape waste, wood waste, and food waste. Information about possible organics waste recycling services can be found at the CalRecycle site at: https://www.calrecycle.ca.gov/Recycle/Commercial/Organics/

S-22 WASTE DISPOSAL

(A) The Permittee shall insure that all solar plant facilities waste, liquid, gas or solid, which are generated on-site shall be disposed of in compliance with appropriate local, state, and federal regulations, in effect or as subsequently duly-enacted. All solid waste debris and/or any hazardous wastes located on the Project site must be satisfactorily removed to a permitted facility prior to the commencement of grading earthen material at the site.

(B) Littering shall not be allowed. Project personnel shall not deposit or leave any food or waste in the Project area, and no biodegradable or non-biodegradable debris shall remain in the right-of-way or on the Project site following completion of construction.

S-23 IID Condition requirements

(A) The Project may impact IID drains with project site runoff flows draining into IID drains. To mitigate impacts, IID may require a comprehensive IID hydraulic drainage system analysis. IID's hydraulic drainage system analysis includes an associated drain impact fee.

(B) An IID encroachment permit is necessary to utilize existing surface-water drainpipe connections to drains and receive drainage service from IID. Surface-water drainpipe connections are to be modified in accordance with IID standards. A construction storm-water permit from the California Regional Water Quality Control Board is required before commencing construction and an industrial storm water permit from CRWQCB is needed for the operation of the proposed facility. Copies of these permits as well as the project's Storm Water Pollution Prevention Plan are to be submitted to IID.

S-24 COUNTY EXECUTIVE OFFICE:

1. Fiscal and Economic Impact Analysis. The Permittee will be invoiced by the Executive Office for expenses related to the procurement of a consultant to produce a Fiscal and Economic Impact Analysis (FEIA) and will be responsible for the cost of any subsequent updates as a result of modifications to the data and project by the developer.

2. Public Service Agreement ("Agreement" or "PSA"). Pursuant to the Guidelines for the Public Service Program for Solar Power Plants in Imperial County amended and adopted by the Board of Supervisors on May 9, 2023, PSA will be entered into by and between the County of Imperial and Developer to provide for a concerted and coordinated effort to maximize the benefits of the Project to the County of Imperial community.

Sales Tax Benefit Solar Farm:

(a) Developer will require that all qualifying contractors and subcontractors exercise their option to obtain a California Department of Tax and Fee Administration (CDTFA) sub-permit for the jobsite and allocate all eligible use tax payments to Imperial County and LTA. Prior to commencement of any construction activity on-site the developer will require that the contractor or subcontractor provide County of Imperial with either a copy of their CDTFA account number and sub-permit.

(b) To accomplish this, Permittee shall either cause its construction contractor to treat the project in accordance with California Regulation 1521(b)(2)(B), California Regulation 1521(c)(13)(B), and California Regulation 1826(b) for sales and use tax purposes or form a "Buying Company" as defined in the CDTFA 1699(h). Permittee can adopt an alternate methodology to accomplish this goal if such methodology is approved by the County Executive Officer prior to issuance of building permits. Not later than forty five (45) days after the due date for filing sales and use tax returns for each calendar quarter, occurring after the commencement of any construction activity on-site through and including the first anniversary of COD (as defined below),

(c) Developer shall report, or cause its general contractor to report to County, the total amount of sales and use taxes related to the Project that are allocated to the County, and reported on Developer's, general contractor's, and subcontractors' applicable California sales and use tax returns. The obligations of Developer under this Section III.A are hereinafter referred to as the "Developer Sales and Use Tax Responsibilities."

(d) Guarantee Amounts. In the event that Developer shall fail to perform the Developer Sales and Use Tax Responsibilities and as a result of such failure, with respect to the Project, (i) County receives less than the amount of such sales and use taxes it would have received under existing applicable sales and use tax laws had such responsibilities been fully performed subject to adjustment as set forth in Section IV.C below) or (ii) Local Transportation Authority (LTA) receives less than the amount of such sales and use taxes it would have received under existing applicable sales and use tax laws had such responsibilities been fully-performed, then Developer shall pay, as and when provided below, to County or LTA as applicable, the amount of the applicable shortfall.

(e) Adjustments to Guarantee Amounts.

(f) Developer's sales tax guarantee set out in Section III.B above shall be adjusted to be eighty-five percent (85%) of the projected sales and use taxes for the Project. At least ten (10) days prior to the issuance of the first (1st) grading permit, Developer shall provide County with evidence of such

projected sales and use taxes, including but not limited to sales taxes receipts, engineering contracts, procurement contracts, construction contracts. County shall meet with Developer to confirm that amount.

(g) The amount of sales and use tax anticipated to be generated is based on the projected construction of a **fifty (50 Mw) megawatt** alternating current 50 solar generation facility. Construction of any additional output capacity beyond the 50 MW output now projected will require the sales tax guarantee be adjusted based on the actual output from solar generation facilities of the Project as evidenced by any Power Purchase Agreement subsequently entered into by Developer related to this Project.

(h) To the extent of any reduction in the size of the Project as the result of any final ruling, stipulated judgment, or settlement, in accordance with Section V.C below, the not-to-exceed amounts set forth in Section III.B shall be reduced pro rata based on the size of such reduction.

(i) The complete amount due to County for the Project must be received within one (1) year after Commercial Operation Date ("COD") for this Project. If, within one (1) year after issuance of the final Certificate of Occupancy, the sales and use taxes received by the County are less than the amount guaranteed for that portion of the project, Developer shall pay the difference to the County.

(j) Payments to County and LTA as a result of a shortfall shall be due within thirty days of Developer's receipt of written notice of shortfall from the County. Payments received by County after the ninetieth (90th) day following Developer's receipt of notice shall be deemed late. Developer hereby agrees to pay interest at the rate of six percent (6%) per annum of the payment due for any payment received by County beyond the due date. Said interest shall be included with the late payment. The obligation to pay interest shall be stayed when such amounts are disputed in good faith, so long as Developer submits the payments "under written protest." Upon determination of dispute, such interest may be assessed if it is determined that the dispute was not made in good faith.

(k) In the event that Developer repowers or replaces the equipment onsite, each Site shall be designated as the "Point of Sale" so as to create an additional local tax-funding source for the County of Imperial.

Battery Storage Sales Tax Benefit

1.1.1. To the extent permitted by applicable local, state, and Federal law, Developer will require that all qualifying contractors and subcontractors exercise their option to obtain a California Department of Tax and Fee Administration ("CDTFA") sub-permit for the jobsite and allocate all eligible sales and use tax payments to County and the Local Transit Authority ("LTA").

1.1.2. Prior to commencement of any construction activity onsite exclusive of grading. Developer shall require that the contractor or subcontractor provide County with a copy of their CDTFA account number and sub-permit. Developer shall either cause its construction contractor to treat the Project in accordance with California Sales and Use Tax Regulation

1521(b)(2)(B), California Sales and Use Tax Regulation 1521(c)(13)(B), and California Sales and Use Tax Regulation 1826(b) for sales and use tax purposes, or form a "Buying Company," as defined in the California Sales and Use Tax Regulation 1699(h). Developer may adopt an alternate methodology to accomplish this goal if such methodology is approved by the County's Executive Officer prior to issuance of any building permit.

1.1.3. No later than forty-five (45) days after the due date for filing sales and use tax returns for each calendar quarter, occurring after the commencement of any construction activity on-site through and including the first anniversary of commercial operating date ("COD"), Developer shall report, or cause its general contractor to report to County, the total amount of sales and use taxes related to the Project that are allocated to the County, and reported on Developer's, general contractor's and subcontractors' applicable California sales and use tax returns.

1.1.4. *Guarantee Amounts.* Prior to the issuance of any building permit for the Project, Developer shall provide County with a guarantee of the minimum sales and use that will be received by County and LTA under existing applicable sales and use tax laws. The guarantee amount shall be based on the total storage capacity of the Project in megawatts, which is projected to be **one hundred megawatts (100 Mws)** Should Developer choose to develop the Project in phases, and receives the required approvals from County to do so, then Developer shall provide a separate guarantee amount for each phase of the project based on the total storage capacity in megawatts for the applicable phase.

(a) Developer warrants that the sales/use tax guarantee amounts to be provided to County as mandated in this Subparagraph 9.2.4 shall be true and accurate estimates of the projected sales and use taxes that will be generated for this Project. Developer shall provide County with evidence of the projected sales/use taxes for the Project, including but not limited to sales tax receipts, and executed or anticipated engineering contracts, procurement contracts, and construction contracts. If the Parties are unable to agree upon a guarantee amount, then the dispute shall be referred to an independent accountant mutually acceptable to both Parties. The costs for such nonbinding mediation shall be borne by Developer.

(b) Developer warrants that the sales/use tax guarantee amounts to be provided to County as mandated in this Subparagraph 9.2.4 will incorporate any and all sales/use tax exemptions that Developer and/or its contractors and subcontractors intend to utilize, and that such exemptions will be disclosed to County fully and in good faith prior to the issuance of any building permit for this Project.

(c) Developer understands and acknowledges that the sales/use tax guarantee amounts to be provided to County as mandated by this Subparagraph 9.2.4 are a part of the consideration to be received by County in return for entering into this Agreement, and further understands

and acknowledges that County would not enter into this Agreement but for said guarantee from Developer.

1.1.5. In the event that County and / or LTA receives less than the amount of sales/use taxes guaranteed pursuant to Subparagraph 9.2.4, then Developer shall pay, as and when provided below, to County or LTA as applicable, the amount of the applicable shortfall.

1.1.6. *Adjustments to Guarantee Amounts.*

(a) The amount of sales and use tax anticipated to be generated is based on the projected construction of a **100 MW utility**-scale energy storage complex incorporating lithium ion batteries and/or flow battery technologies throughout the Project site. Construction of any additional storage capacity beyond the **100 MW storage** capacity now projected will require the sales/use tax guarantee amounts to be adjusted based on the actual storage facilities of the Project as evidenced by any power purchase agreement or power storage agreement subsequently entered into by Developer related to this Project.

(b) To the extent of any reduction in the size of the Project as the result of any final ruling, stipulated judgment, or settlement, the sales/use tax guarantee amounts mandated under Subparagraph 9.2.4 shall be reduced pro rata based on the size of such reduction.

(c) Should Developer become of aware of a change in circumstances that would materially affect the sales/use tax guarantee amount, then Developer shall, within thirty (30) days of learning of such change in circumstances, inform the County in writing of the change in circumstances. If the County determines that such change in circumstances warrants an adjustment to the sales/use tax guarantee amount, then County shall negotiate in good faith with Developer in revising the sales/use tax guarantee amount. If the Parties are unable to agree upon a revised guarantee amount, then the dispute shall be referred to an independent accountant mutually acceptable to both Parties. The costs for such nonbinding mediation shall be borne by Developer. Failure of the Developer to inform the County of the change in circumstances shall constitute a waiver of Developer's ability to seek any adjustment to the sales/use tax guarantee based on such change in circumstances.

1.1.7. The complete sales/use tax guarantee amount due to County and LTA for the Project must be received within one (1) year after COD for this Project, or such later date as any applicable sales/use tax is due or is transmitted from the CDTFA, unless it is delayed due to causes beyond Developer's control or for which Developer is not responsible. If, within one (1) year after issuance of the final certificate of occupancy, or such later date as any applicable sales/use tax is due or is transmitted from the CDTFA, the sales/use taxes received by the County are less than the sales use tax guarantee amounts mandated under Subparagraph 9.2.4, then Developer shall pay the difference to the County.

1.1.8. Payments to County and LTA as a result of a shortfall shall be due within thirty days of Developer's receipt of written notice of shortfall from the County. Payments received by County after the ninetieth (90th) day following Developer's receipt of notice shall be deemed late. Developer

hereby agrees to pay interest at the rate of six percent (6%) per annum of the payment due for any payment received by County beyond the due date. Said interest shall be included with the late payment. The obligation to pay interest shall be stayed when such amounts are disputed in good faith, so long as Developer submits the payments "under written protest." Upon determination of dispute, such interest may be assessed if it is determined that the dispute was not made in good faith.

In the event that Developer repowers or replaces the equipment onsite, each Site shall be designated as the "Point of Sale" so as to create an additional local tax-funding source for the County of Imperial.

S-25 Additional Conditions

1. Because oversize vehicles may utilize this facility (i.e., SR 111), as a condition of the Conditional Use Permit, the project applicant will be required to obtain all applicable Caltrans permits required for construction of the project, including special transportation permits (if applicable) for oversize construction vehicles.
2. As a condition of the Conditional Use Permit, the applicant will be required to prepare and submit for approval a traffic management plan to Caltrans as specified in this comment.
3. As currently proposed, the project would not require an encroachment permit as no work or improvements are proposed within Caltrans right-of-way. However, as a condition of the Conditional Use Permit, the applicant will be required to obtain necessary permits from Caltrans. This includes encroachment permits if applicable.
4. **Coachella Valley Water District –** Review for requirements on elevated concrete foundations and appropriate spacing shall be evaluated, including with respect to existing training dikes and addressed as part of the final site plan engineering design.
5. **Bureau of Reclamation.** modifications to training dikes will require appropriate authorization from Bureau of Reclamation.
6. Condition of approval that the County and Developer will coordinate with the U.S. Marine Corps to notify them of the project development and to determine any potential impacts to their operations, if any.

S-26 ACCEPTANCE:

Acceptance of this permit shall be deemed to constitute agreement by Permittee with all terms and conditions herein contained.

The rest of this page is intentionally left blank.

NOW THEREFORE, County hereby issues the Conditional Use Permit #20-0021, and Permittee hereby accepts such permit upon the terms and conditions set forth herein.

IN WITNESS THEREOF, the parties hereto have executed this Agreement the day and year first written.

PERMITTEE:

_____ _____

Date

COUNTY OF IMPERIAL, a political subdivision of the STATE OF CALIFORNIA

_____ _____

Jim Minnick, Director, Planning & Development Services Department

Date

PERMITTEE NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA

COUNTY OF _____} S.S.

On_____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document._____

Title or Type of Document_____
Number of Pages_____ Date of Document_____
Signer(s) Other Than Named Above_____

Dated_____

COUNTY NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF IMPERIAL} S.S.

On _____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document.

Title or Type of Document_____

Number of Pages_____ Date of Document_____

Signer(s) Other Than Named Above_____

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ATTACHMENT "H" – CONDITIONAL USE PERMIT #22-0025 WITH RESOLUTION

RESOLUTION NO. __

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF IMPERIAL, CALIFORNIA FOR THE APPROVAL OF CONDITIONAL USE PERMIT #22-0025 AND CONDITIONS OF APPROVAL FOR THE VEGA SES 2 SOLAR ENERGY COMMERCIAL GROUND WATER WELL.

WHEREAS, APEX ENERGY, LLC has submitted an application for Conditional Use Permit proposing to drill and install a water well for commercial purposes to serve as a potable water source for a commercial purpose; and,

WHEREAS, an Environmental Impact Report (EIR) and CEQA Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State Guidelines, and the County's "Rules and Regulations to Implement CEQA, as Amended"; and,

WHEREAS, the Board of Supervisors of the County of Imperial has been delegated with the responsibility of approvals, and certifications for approvals of conditional use permits; and,

WHEREAS, public notice of said application has been given, and the Board of Supervisors has heard, received and considered all oral and written protests, objections and evidence presented by interested parties at a public hearing held with respect to this item on October 24, 2023; and,

WHEREAS, on October 24, 2023, the Board of Supervisors heard the proposed project; and,

NOW, THEREFORE, the Board of Supervisors of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Board of Supervisors has considered Conditional Use Permit #22-0025 and Conditions of Approval prior to recommend approval; the Board of Supervisors finds and determines that the Conditional Use Permit and Conditions of Approval are adequate and prepared in accordance with the requirements of the Imperial County General Plan and Land Use Ordinance and the (EIR) which analyzed environmental effects, based upon the following findings and determinations.

SECTION 2. That in accordance with State Planning and Zoning Law and the County of Imperial Land Use Ordinance and General Plan, the following findings for the approval of Conditional Use Permit #22-0025 have been made:

A. The proposed use is consistent with the goals and policies of the adopted County General Plan.

The General Plan designates the project site as "Agriculture". It is classified as S-2 RE Open Space Recreational Renewable Energy Overlay under the Imperial County Land Use Ordinance (Title 9). The proposed project is for a water well and is a conditionally permitted use pursuant to County's Land Use Ordinance (Section 92102.00).

B. The proposed use is consistent with the purpose of the zone or sub-zone which the use will be used.

The water well is for commercial purposes. Section 92102.00 of the Imperial County Land Use Ordinance governs water wells. The purposed use could be considered a compatible use with a Conditional Use Permit pursuant to the Water Well Regulation (Land Use Ordinance, Section 92102.00).

C. The proposed use is listed as a use within the zone or sub-zone or is found to be similar to a listed conditional use according to the procedures of Section 90203.10.

The proposed water well is consistent with Land Use Ordinance, Section 92102.00 with an approved Conditional Use Permit.

D. The proposed use meets the minimum requirements of this Title applicable to the use and complies with all applicable laws, ordinances and regulations of the County of Imperial and the State of California.

The Conditions of Approval will insure that the project complies with all applicable regulations of the County of Imperial and State of California. Therefore, the proposed project will meet the minimum requirements of the Land Use Ordinance, Section 90203.00.

E. The proposed use will not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity.

The proposed water well anticipated water usage amount to **661.5-acre-feet** for construction and **24-acre-feet** per year for operational water. The water well will be used for the construction period and then periodically for dust control and cleaning of panels at the solar site. There will be no detrimental to the health safety, and welfare of the public or to the property and residents in the vicinity.

F. The proposed use does not violate any other law or ordinance.

The proposed project is conditioned to be consistent with Title 9, Codified Land Use Ordinance of the County of Imperial and CEQA. The proposed project will be subject to a Conditional Use Permit and current Federal, State and Local regulations.

G. The proposed use is not granting a special privilege.

The proposed water well is a conditional permitted use subject to the conditions of approval of CUP #22-0025 (Land Use Ordinance, Section 92102.00) and will not grant a special privilege.

NOW, THEREFORE, based on the above findings, the Imperial County Board of Supervisors **DOES HEREBY APPROVE** Conditional Use Permit #22-0025, subject to the attached Conditions of Approval.

_____

Ryan E. Kelley, Chairman
Imperial County Board of Supervisors

I hereby certify that the preceding resolution was taken by the Board of Supervisors at a meeting conducted on October 24, 2023, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

_____

Blanca Acosta
Clerk of the Board of Supervisors

When Recorded Return To:

Imperial County Planning & Development
Services Department
801 Main Street
El Centro, California 92243

AGREEMENT FOR CONDITIONAL USE PERMIT #22-0025
FOR A WATER WELL
VEGA SES 2 WATER WELL
(APN 025-010-006, 025-260-011 & 025-270-023-000)

This Agreement is made and entered into on this ____ day of _____, 2023, by and between [**APEX ENERGY, LLC**,] (hereinafter referred to as "Permittee"), and the COUNTY OF IMPERIAL, a political subdivision of the State of California, (hereinafter referred to as "COUNTY").

RECITALS

WHEREAS, Permittee is the owner, and/or operator and/or successor-in-interest in certain land in Imperial County known as "Assessor's Parcel 025-010-006, 025-260-011, & 025-270-023 further described as a Section 9, 15, 17 of Township 11 South, Range 15 East, S.B.B.M, approximately 1,323-acres, and,

WHEREAS, Permittee has applied to the County for permission to construct, operate and maintain one water well, at the above site, and;

WHEREAS, Permittee has applied to the County to be allowed to pump up to 24 acre feet per year of groundwater for operations, and a one-time maximum of 661.5 acre feet of groundwater during construction, from the water well to provide water to a solar development project, and;

WHEREAS, Permittee and/or any subsequent owner(s) would be required to and intend to fully comply with all of the terms and conditions of the project as specified in this Conditional Use Permit.

WHEREAS, County, after a noticed public hearing, agreed to issue Conditional Use Permit #20-0025 to Permittee, and/or his or her successor in interest subject to the following conditions:

---

*The "GENERAL CONDITIONS" are shown by the letter **"G"**. These conditions are conditions that are either routinely and commonly included in all Conditional Use Permits as "standardized" conditions and/or are conditions that the Imperial County Planning Commission has established as a requirement on all CUP's for consistent application and enforcement. The Permittee is advised that the General Conditions are as applicable as the SITE SPECIFIC conditions!*

GENERAL CONDITIONS:

G-1 ACQUISITION OF PERMITS/LICENSES AND COMPLIANCE WITH GENERAL LAWS:

The Permittee shall obtain, comply with, and maintain all applicable County, State, and Federal permits, licenses, and/or approvals, including, but not limited to those required by Imperial County Planning & Development Services Department, Air Pollution Control District (APCD), County Division of Environmental Health Services (EHS), and Public Works Department. Additionally, Permittee agrees to comply with all applicable laws, ordinances, and/or regulations promulgated by County, State, and Federal jurisdictions whether specified herein or not. Furthermore, Permittee shall submit a copy of such additional permit(s)/license(s) to the Planning & Development Services Department within thirty (30) days of receipt, including amendments or alterations thereto.

G-2 RECORDATION:

This permit shall not be effective until it is recorded at the Imperial County Recorder's Office, and payment of the recordation fee shall be the responsibility of the Permittee.

G-3 INDEMNIFICATION:

Permittee shall defend, indemnify and hold harmless County and its agents, including consultants, officers and employees from any claim, action or proceeding against the County or its agents, including consultants, officers or employees to attack, set aside, void, or annul the approval of this application or adoption of the environmental documents which accompanies it. This indemnification obligation shall include, but not be limited to, damages, costs, expenses, attorney's fees, or expert witness costs that may be asserted by any person or entity, including the Permittee arising out of or in connection with the approval of this application, including any claim for private attorney general fees claimed by or awarded to any party from the County.

G-4 RIGHT OF ENTRY:

The County reserves the right to enter the premises to make the appropriate inspection(s) and to determine if the condition(s) of this permit are complied with and access to authorized enforcement agency personnel shall not be denied.

G-5 PROVISION TO RUN WITH THE LAND/PROJECT:

The provisions of this permit are to run with the land/project and shall bind the current and future owner(s) successor(s) of interest, assignee(s) and/or transferor(s) of said project.

- Permittee shall not without prior notification to the Planning & Development Services Department assign, sell, or transfer, or grant control of project or any right or privilege therein.

- The Permittee shall provide a minimum of 60 days written notice prior to such proposed transfer becoming effective.
- In the event that the new owner or assignee or transferor has a history of non-compliance with environmental laws or is not of substantial equivalent or superior financial capability and/or responsibility or is not willing to or has not agreed to in writing to abide by the terms or conditions of this permit, the Planning & Development Services Department shall bring this matter to the Planning Commission for either revocation or modification to the permit.

G-6 CONDITION PRIORITY:

This project shall be constructed/operated as described in the approved Conditional Use Permit and conditions , site plan, support documentation, the Environmental Impact Report (EIR), the project description, and as specified in these conditions. Where a conflict occurs, the Conditional Use Permit conditions shall govern and take precedence.

G-7 INVALID CONDITIONS/SEVERABILITY:

Should any condition(s) of this permit be determined by a Court or other agency with property jurisdiction to be invalid for any reason, such determination shall not invalidate the remaining provision(s) of this permit.

G-8 TIME LIMIT:

Unless otherwise specified within the specific conditions, this permit shall be limited to a maximum of thirty (30) years from the recordation of the CUP. If an extension is necessary, the Permittee shall file a written extension request with the Planning Director at least sixty (60) days prior to the expiration date of the permit. Such an extension request shall include the appropriate extension fee. If the original approval was granted by the Planning Commission and/or the Board of Supervisors, such an extension shall only be

considered by the approving body, after a noticed public hearing. Nothing stated or implied within this permit shall constitute a guarantee that an extension will be granted. An extension may not be granted if the Project is in violation of any one or all of the conditions or if there is a history of non-compliance with the permit conditions.

G-9 PERMIT/MONITORING-RELATED FEES:

The Permittee shall pay any and all amounts determined by the County Planning & Development Services Department to defray any and all cost(s) for the review of reports, field investigations, monitoring, and other activities directly related to the enforcement/monitoring for compliance of this Conditional Use Permit, County Ordinance or any other applicable law. All County Departments, directly involved in the monitoring/enforcement of this project may bill Permittee under this provision, however said billing shall only be through and with the approval of the Planning & Development Services Department.

G-10 DEFINITIONS:

In the event of a dispute the meaning(s) or the intent of any word(s), phrase(s) and/or conditions or sections herein shall be determined by the Planning Commission of the County of Imperial. Their determination shall be final unless an appeal is made to the Board of Supervisors within ten (10) days from the date of the Commission's decision.

G-11 REVOCATION:

Upon the determination by the Planning & Development Services Department that the project is or may not be in full compliance with any one or all of the conditions of this Conditional Use Permit, or upon the finding that the project is creating a nuisance as defined by law, the issue shall be brought immediately to the appropriate enforcement agency or to the Planning

Commission for hearing to consider appropriate response including but not limited to the revocation of the CUP or to consider possible amendments to the CUP. The hearing shall be held upon due notice having been provided to the Permittee and to the public in accordance with established ordinance/policy.

G-12 HEALTH HAZARD:

If the County Health Officer determines that a significant health hazard exists to the public, the Health Officer may require appropriate measures and the Permittee shall implement such measures to mitigate the health hazard. If the hazard to the public is determined to be imminent, such measures may be imposed immediately and may include temporary suspension of operations; the measures imposed by the County Health Officer must be submitted to the Planning Commission for review and approval. Nothing shall prohibit Permittee from requesting a special Planning Commission meeting provided Permittee bears all costs.

PROJECT SPECIFIC CONDITIONS:

S-1 The Conditional Use Permit (CUP) 22-0025 allows the Permittee to draw a maximum of **24-acre-feet** of groundwater per year for operations, and a one-time maximum of **661.5-acre**-feet of groundwater during construction. Exceeding the amount of water specified herein will result in the Planning & Development Services Department taking action to rescind the CUP for non-compliance.

S-2 Water from the well shall not be used, sold, given, exported, or transported from those lands within VEGA SES 2 Solar Development and Battery Storage designated areas per the VEGA SES 2 approved EIR

S-3 The water shall be used only for on-site use(s) within VEGA SES 2 solar and battery development areas only which includes the washing of solar panels, dust control and onsite construction related activities.

S-4 If the Board of Supervisors determines that groundwater management activities may be necessary to improve and preserve the quality or quantity of groundwater resources or prevent other environmental damage, the Board , after notice to the public and a public hearing, limitations or suspension of extractions from this water well. Title 9: Division 22: Ground Water Ordinance, Chapter 2: 92202.00 (E).

S-5 A flow meter shall be installed and sealed by a California State Licensed Water Well Drilling Contractor. Registered user shall submit an annual report to the Planning & Development Services Department indicating the yearly amount of water extracted from the well. A photograph (dated and signed) of the flow meter readings shall be included in the annual report. The report shall be received within thirty (30) days following the anniversary date of the issuance of this registration. In the event of a flow meter failure, the registered user shall be required to cease the water well operation and notify the Planning & Development Services Department. The registered user may be allowed to temporarily substitute the flow meter for an alternative measuring device, at the approval of the Planning & Development Services Department. In this case two (2) separate reports shall be submitted as stipulated herein. **Title 9, Division 22: Groundwater Ordinance 92202.04 Extraction Facility Water Flow Measurements.**

S-6 Should the water well be "abandoned" at any time for more than 365 consecutive days, or such longer period of not more than twenty-four (24)

consecutive months as the Director may approve in writing, Permittee shall seal/cap the well according to standards set by the State and in a manner acceptable to the County Building Official. Abandonment shall mean as follows:

- ABANDONMENT: A well is deemed "abandoned" when it has not been used for one (1) year. An owner may have the well deemed "inactive" by filling a written notice with the Department stating his/her intentions to use the well under specific conditions and/or time frames. As evidence of his/her intentions, the conditions contained in Bulletin 74-81 (Sec. 21) shall be met.
- Any well that is open or whose services/operating equipment (e.g. pumps/motors/pipes, etc.) has been removed shall be deemed abandoned.

S-7 The water well shall be registered with the Planning & Development Services Department to comply with the Imperial County's Groundwater Ordinance (Title 9, Division 22) and Water Well Regulations (Title 9, Division 21). The applicant is required to sign the registration form prior to recordation of the CUP.

S-8 Permittee shall provide a bond, letter of credit, cash deposit or other surety acceptable to County Counsel in the amount of $5,000 to the County to assure for proper closure and/or transfer of permit.

S-9 Water Well Replacement: In the event the proposed water well under this CUP requires replacement, and the CUP is still active and in compliance, said replacement water well shall be constructed by a California Licensed Driller in accordance with California Department of Water Resources Bulletin 74-81 and

74-90 (including any subsequent revisions), and with the Imperial County Water Well Ordinance, Section 92101.00 et seq.

- Permittee shall submit copies of the "Report of Completion" (as required by the California Water Code, Section 13751), by the California Licensed Driller on the construction of any water well replaced. Copies shall be submitted to the Environmental Health Services, Planning & Development Services Department, and Public Works within thirty (30) days of the construction or destruction of the well, this report shall include:

  1. A description of the exact location of the well'
  2. A detailed log of the well
  3. A description of the type and depth of casings
  4. Details of perforation
  5. The methods used for sealing off surface or contaminated waters.
  6. Methods for preventing contaminated waters from one aquifer to mix with another aquifer.
  7. Name of person who constructed the well.

S-10 On a bi-annual basis, the Permittee shall provide chemical analysis of the well water to the Departments of Planning, Public Works, and Health Services. The analysis shall include but not be limited to all General Mineral and Inorganic Chemical Analysis for chemicals listed in Section 64431, Article 4, Title 22, California Code of Regulations. All sampling and analysis shall be performed by a laboratory licensed by the State of California to perform drinking water analysis. The reported analysis results shall be provided to the Planning Department during the second year report, and all subsequent bi-annual reports.

NOW THEREFORE, County hereby issues Conditional Use Permit **#20-0025** and Permittee hereby accepts such permit upon the terms and conditions set forth herein.

IN WITNESS THEREOF, the parties hereto have executed this Agreement the day and year first written.

PERMITTEE

By: _____ Dated: _____

[APEX ENERGY, LLC]

COUNTY OF IMPERIAL, a political Subdivision of the STATE OF CALIFORNIA

By: _____ Dated: _____

Jim Minnick, Director of
Planning & Development Services
Department.

PERMITTEE NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

Dated_____

STATE OF CALIFORNIA

COUNTY OF _____} S.S.

On _____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document.

Title or Type of Document_____
Number of Pages_____ Date of Document_____
Signer(s) Other Than Named Above_____

Dated_____

COUNTY NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

COUNTY OF IMPERIAL} S.S.

On _____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document.

Title or Type of Document_____
Number of Pages_____ Date of Document_____
Signer(s) Other Than Named Above_____

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ATTACHMENT "I" – CONDITIONAL USE PERMIT #22-0026 WITH RESOLUTION

RESOLUTION NO. __

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF IMPERIAL, CALIFORNIA FOR THE APPROVAL OF CONDITIONAL USE PERMIT #22-0026 AND CONDITIONS OF APPROVAL FOR THE VEGA SES 3 SOLAR ENERGY COMMERCIAL GROUND WATER WELL.

WHEREAS, APEX ENERGY, LLC has submitted an application for Conditional Use Permit proposing to drill and install a water well for commercial purposes to serve as a potable water source for a commercial purpose; and,

WHEREAS, an Environmental Impact Report (EIR) and CEQA Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State Guidelines, and the County's "Rules and Regulations to Implement CEQA, as Amended"; and,

WHEREAS, the Board of Supervisors of the County of Imperial has been delegated with the responsibility of approvals, and certifications for approvals of conditional use permits; and,

WHEREAS, public notice of said application has been given, and the Board of Supervisors has heard, received and considered all oral and written protests, objections and evidence presented by interested parties at a public hearing held with respect to this item on October 24, 2023; and,

WHEREAS, on October 24, 2023, the Board of Supervisors heard the proposed project; and,

NOW, THEREFORE, the Board of Supervisors of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Board of Supervisors has considered Conditional Use Permit #22-0026 and Conditions of Approval prior to recommend approval; the Board of Supervisors finds and determines that the Conditional Use Permit and Conditions of Approval are adequate and prepared in accordance with the requirements of the Imperial County General Plan and Land Use Ordinance and the (EIR) which analyzed environmental effects, based upon the following findings and determinations.

SECTION 2. That in accordance with State Planning and Zoning Law and the County of Imperial Land Use Ordinance and General Plan, the following findings for the approval of Conditional Use Permit #22-0026 have been made:

A. The proposed use is consistent with the goals and policies of the adopted County General Plan.

The General Plan designates the project site as "Agriculture". It is classified as S-2 RE Open Space Recreational Renewable Energy Overlay under the Imperial County Land Use Ordinance (Title 9). The proposed project is for a water well and is a conditionally permitted use pursuant to County's Land Use Ordinance (Section 92102.00).

B. The proposed use is consistent with the purpose of the zone or sub-zone which the use will be used.

The water well is for commercial purposes. Section 92102.00 of the Imperial County Land Use Ordinance governs water wells. The purposed use could be considered a compatible use with a Conditional Use Permit pursuant to the Water Well Regulation (Land Use Ordinance, Section 92102.00).

C. The proposed use is listed as a use within the zone or sub-zone or is found to be similar to a listed conditional use according to the procedures of Section 90203.10.

The proposed water well is consistent with Land Use Ordinance, Section 92102.00 with an approved Conditional Use Permit.

D. The proposed use meets the minimum requirements of this Title applicable to the use and complies with all applicable laws, ordinances and regulations of the County of Imperial and the State of California.

The Conditions of Approval will insure that the project complies with all applicable regulations of the County of Imperial and State of California. Therefore, the proposed project will meet the minimum requirements of the Land Use Ordinance, Section 90203.00.

E. The proposed use will not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity.

The proposed water well anticipated annual water usage amount to **115-acre-feet** for construction and **6-acre-feet** per year for operational water. The water well will be used for the construction period and then periodically for dust control and cleaning of panels at the solar site. There will be no detrimental to the health safety, and welfare of the public or to the property and residents in the vicinity.

F. The proposed use does not violate any other law or ordinance.

The proposed project is conditioned to be consistent with Title 9, Codified Land Use Ordinance of the County of Imperial and CEQA. The proposed project will be subject to a Conditional Use Permit and current Federal, State and Local regulations.

G. The proposed use is not granting a special privilege.

The proposed water well is a conditional permitted use subject to the conditions of approval of CUP #22-0026 (Land Use Ordinance, Section 92102.00) and will not grant a special privilege.

NOW, THEREFORE, based on the above findings, the Imperial County Board of Supervisors **DOES HEREBY APPROVE** Conditional Use Permit #22-0026, subject to the attached Conditions of Approval.

_____

Ryan E. Kelley, Chairman
Imperial County Board of Supervisors

I hereby certify that the preceding resolution was taken by the Board of Supervisors at a meeting conducted on October 24, 2023, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

_____

Blanca Acosta
Clerk of the Board of Supervisors

When Recorded Return To:

Imperial County Planning & Development
Services Department
801 Main Street
El Centro, California 92243

AGREEMENT FOR CONDITIONAL USE PERMIT # 22-0026

FOR A WATER WELL
VEGA SES 3 WATER WELL
(APN 025-010-006 -000)

This Agreement is made and entered into on this ____ day of _____, 2023, by and between [**APEX ENERGY, LLC**,] (hereinafter referred to as "Permittee"), and the COUNTY OF IMPERIAL, a political subdivision of the State of California, (hereinafter referred to as "COUNTY").

RECITALS

WHEREAS, Permittee is the owner, and/or operator and/or successor-in-interest in certain land in Imperial County known as "Assessor's Parcel 025-010-006, further described as a Section 9, 15, 17 of Township 11 South, Range 15 East, S.B.B.M, approximately 1,323-acres, and,

WHEREAS, Permittee has applied to the County for permission to construct, operate and maintain one water well, at the above site, and;

WHEREAS, Permittee has applied to the County to be allowed to pump up to **6-acre-feet** per year of groundwater for operations and **115-acre-feet** for construction phase of project from the water well to provide water to a solar development project, and;

WHEREAS, Permittee and/or any subsequent owner(s) would be required to and intend to fully comply with all of the terms and conditions of the project as specified in this Conditional Use Permit.

WHEREAS, County, after a noticed public hearing, agreed to issue Conditional Use Permit #_____ to Permittee, and/or his or her successor in interest subject to the following conditions:

---

*The "GENERAL CONDITIONS" are shown by the letter **"G"**. These conditions are conditions that are either routinely and commonly included in all Conditional Use Permits as "standardized" conditions and/or are conditions that the Imperial County Planning Commission has established as a requirement on all CUP's for consistent application and enforcement. The Permittee is advised that the General Conditions are as applicable as the SITE SPECIFIC conditions!*

GENERAL CONDITIONS:

G-1 ACQUISITION OF PERMITS/LICENSES AND COMPLIANCE WITH GENERAL LAWS:

The Permittee shall obtain, comply with, and maintain all applicable County, State, and Federal permits, licenses, and/or approvals, including, but not limited to those required by Imperial County Planning & Development Services Department, Air Pollution Control District (APCD), County Division of Environmental Health Services (EHS), and Public Works Department. Additionally, Permittee agrees to comply with all applicable laws, ordinances, and/or regulations promulgated by County, State, and Federal jurisdictions whether specified herein or not. Furthermore, Permittee shall submit a copy of such additional permit(s)/license(s) to the Planning & Development Services Department within thirty (30) days of receipt, including amendments or alterations thereto.

G-2 RECORDATION:

This permit shall not be effective until it is recorded at the Imperial County Recorder's Office, and payment of the recordation fee shall be the responsibility of the Permittee.

G-3 INDEMNIFICATION:

Permittee shall defend, indemnify and hold harmless County and its agents, including consultants, officers and employees from any claim, action or proceeding against the County or its agents, including consultants, officers or employees to attack, set aside, void, or annul the approval of this application or adoption of the environmental documents which accompanies it. This indemnification obligation shall include, but not be limited to, damages, costs, expenses, attorney's fees, or expert witness costs that may be asserted by any person or entity, including the Permittee arising out of or in connection with the approval of this application, including any claim for private attorney general fees claimed by or awarded to any party from the County.

G-4 RIGHT OF ENTRY:

The County reserves the right to enter the premises to make the appropriate inspection(s) and to determine if the condition(s) of this permit are complied with and access to authorized enforcement agency personnel shall not be denied.

G-5 PROVISION TO RUN WITH THE LAND/PROJECT:

The provisions of this permit are to run with the land/project and shall bind the current and future owner(s) successor(s) of interest, assignee(s) and/or transferor(s) of said project.

- Permittee shall not without prior notification to the Planning & Development Services Department assign, sell, or transfer, or grant control of project or any right or privilege therein.

- The Permittee shall provide a minimum of 60 days written notice prior to such proposed transfer becoming effective.
- In the event that the new owner or assignee or transferor has a history of non-compliance with environmental laws or is not of substantial equivalent or superior financial capability and/or responsibility or is not willing to or has not agreed to in writing to abide by the terms or conditions of this permit, the Planning & Development Services Department shall bring this matter to the Planning Commission for either revocation or modification to the permit.

G-6 CONDITION PRIORITY:

This project shall be constructed/operated as described in the approved Conditional Use Permit and conditions , site plan, support documentation, the Environmental Impact Report (EIR), the project description, and as specified in these conditions. Where a conflict occurs, the Conditional Use Permit conditions shall govern and take precedence.

G-7 INVALID CONDITIONS/SEVERABILITY:

Should any condition(s) of this permit be determined by a Court or other agency with property jurisdiction to be invalid for any reason, such determination shall not invalidate the remaining provision(s) of this permit.

G-8 TIME LIMIT:

Unless otherwise specified within the specific conditions, this permit shall be limited to a maximum of thirty (30) years from the recordation of the CUP. If an extension is necessary, the Permittee shall file a written extension request with the Planning Director at least sixty (60) days prior to the expiration date of the permit. Such an extension request shall include the appropriate extension fee. If the original approval was granted by the Planning Commission and/or the Board of Supervisors, such an extension shall only be

considered by the approving body, after a noticed public hearing. Nothing stated or implied within this permit shall constitute a guarantee that an extension will be granted. An extension may not be granted if the Project is in violation of any one or all of the conditions or if there is a history of non-compliance with the permit conditions.

G-9 PERMIT/MONITORING-RELATED FEES:

The Permittee shall pay any and all amounts determined by the County Planning & Development Services Department to defray any and all cost(s) for the review of reports, field investigations, monitoring, and other activities directly related to the enforcement/monitoring for compliance of this Conditional Use Permit, County Ordinance or any other applicable law. All County Departments, directly involved in the monitoring/enforcement of this project may bill Permittee under this provision, however said billing shall only be through and with the approval of the Planning & Development Services Department.

G-10 DEFINITIONS:

In the event of a dispute the meaning(s) or the intent of any word(s), phrase(s) and/or conditions or sections herein shall be determined by the Planning Commission of the County of Imperial. Their determination shall be final unless an appeal is made to the Board of Supervisors within ten (10) days from the date of the Commission's decision.

G-11 REVOCATION:

Upon the determination by the Planning & Development Services Department that the project is or may not be in full compliance with any one or all of the conditions of this Conditional Use Permit, or upon the finding that the project is creating a nuisance as defined by law, the issue shall be brought immediately to the appropriate enforcement agency or to the Planning

Commission for hearing to consider appropriate response including but not limited to the revocation of the CUP or to consider possible amendments to the CUP. The hearing shall be held upon due notice having been provided to the Permittee and to the public in accordance with established ordinance/policy.

G-12 HEALTH HAZARD:

If the County Health Officer determines that a significant health hazard exists to the public, the Health Officer may require appropriate measures and the Permittee shall implement such measures to mitigate the health hazard. If the hazard to the public is determined to be imminent, such measures may be imposed immediately and may include temporary suspension of operations; the measures imposed by the County Health Officer must be submitted to the Planning Commission for review and approval. Nothing shall prohibit Permittee from requesting a special Planning Commission meeting provided Permittee bears all costs.

PROJECT SPECIFIC CONDITIONS:

S-1 The Conditional Use Permit (CUP) allows the Permittee to draw a maximum of **6-acre**-feet of groundwater per year for operations and **115-acre-feet** for construction phase of project. Exceeding the amount of water specified herein will result in the Planning & Development Services Department taking action to rescind the CUP for non-compliance.

S-2 Water from the well shall not be used, sold, given, exported, or transported from those lands within VEGA SES 3 Solar Development and Battery Storage designated areas per the VEGA SES 3 approved EIR

S-3 The water shall be used only for on-site use(s) within VEGA SES 3 solar and battery development areas only which includes the washing of solar panels, dust control and onsite construction related activities.

S-4 If the Board of Supervisors determines that groundwater management activities may be necessary to improve and preserve the quality or quantity of groundwater resources or prevent other environmental damage, the Board , after notice to the public and a public hearing, limitations or suspension of extractions from this water well. Title 9: Division 22: Ground Water Ordinance, Chapter 2: 92202.00 (E).

S-5 A flow meter shall be installed and sealed by a California State Licensed Water Well Drilling Contractor. Registered user shall submit an annual report to the Planning & Development Services Department indicating the yearly amount of water extracted from the well. A photograph (dated and signed) of the flow meter readings shall be included in the annual report. The report shall be received within thirty (30) days following the anniversary date of the issuance of this registration. In the event of a flow meter failure, the registered user shall be required to cease the water well operation and notify the Planning & Development Services Department. The registered user may be allowed to temporarily substitute the flow meter for an alternative measuring device, at the approval of the Planning & Development Services Department. In this case two (2) separate reports shall be submitted as stipulated herein. **Title 9, Division 22: Groundwater Ordinance 92202.04 Extraction Facility Water Flow Measurements.**

S-6 Should the water well be "abandoned" at any time for more than 365 consecutive days, or such longer period of not more than twenty-four (24) consecutive months as the Director may approve in writing, Permittee shall seal/cap the well according to standards set by the State and in a manner

acceptable to the County Building Official. Abandonment shall mean as follows:

- ABANDONMENT: A well is deemed "abandoned" when it has not been used for one (1) year. An owner may have the well deemed "inactive" by filling a written notice with the Department stating his/her intentions to use the well under specific conditions and/or time frames. As evidence of his/her intentions, the conditions contained in Bulletin 74-81 (Sec. 21) shall be met.
- Any well that is open or whose services/operating equipment (e.g. pumps/motors/pipes, etc.) has been removed shall be deemed abandoned.

S-7 The water well shall be registered with the Planning & Development Services Department to comply with the Imperial County's Groundwater Ordinance (Title 9, Division 22) and Water Well Regulations (Title 9, Division 21). The applicant is required to sign the registration form prior to recordation of the CUP.

S-8 Permittee shall provide a bond, letter of credit, cash deposit or other surety acceptable to County Counsel in the amount of $5,000 to the County to assure for proper closure and/or transfer of permit.

S-9 Water Well Replacement: In the event the proposed water well under this CUP requires replacement, and the CUP is still active and in compliance, said replacement water well shall be constructed by a California Licensed Driller in accordance with California Department of Water Resources Bulletin 74-81 and 74-90 (including any subsequent revisions), and with the Imperial County Water Well Ordinance, Section 92101.00 et seq.

- Permittee shall submit copies of the "Report of Completion" (as required by the California Water Code, Section 13751), by the California Licensed Driller on the construction of any water well replaced. Copies shall be submitted to the Environmental Health Services, Planning & Development Services Department, and Public Works within thirty (30) days of the construction or destruction of the well, this report shall include:

  1. A description of the exact location of the well'
  2. A detailed log of the well
  3. A description of the type and depth of casings
  4. Details of perforation
  5. The methods used for sealing off surface or contaminated waters.
  6. Methods for preventing contaminated waters from one aquifer to mix with another aquifer.
  7. Name of person who constructed the well.

S-10 On a bi-annual basis, the Permittee shall provide chemical analysis of the well water to the Departments of Planning, Public Works, and Health Services. The analysis shall include but not be limited to all General Mineral and Inorganic Chemical Analysis for chemicals listed in Section 64431, Article 4, Title 22, California Code of Regulations. All sampling and analysis shall be performed by a laboratory licensed by the State of California to perform drinking water analysis. The reported analysis results shall be provided to the Planning Department during the second year report, and all subsequent bi-annual reports.

NOW THEREFORE, County hereby issues Conditional Use Permit **# 22-0026** and Permittee hereby accepts such permit upon the terms and conditions set forth herein.

IN WITNESS THEREOF, the parties hereto have executed this Agreement the day and year first written.

PERMITTEE

By: _____ Dated: _____

[**APEX ENERGY, LLC**]

COUNTY OF IMPERIAL, a political Subdivision of the STATE OF CALIFORNIA

By: _____ Dated: _____

Jim Minnick, Director of
Planning & Development Services
Department.

PERMITTEE NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

Dated_____

STATE OF CALIFORNIA

COUNTY OF _____} S.S.

On _____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document._____

Title or Type of Document_____
Number of Pages_____ Date of Document_____
Signer(s) Other Than Named Above_____

Dated_____

COUNTY NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

COUNTY OF IMPERIAL} S.S.

On _____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document.

Title or Type of Document_____
Number of Pages_____ Date of Document_____
Signer(s) Other Than Named Above_____

ATTACHMENT "J" – CONDITIONAL USE PERMIT #22-0027 WITH RESOLUTION

RESOLUTION NO. __

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF IMPERIAL, CALIFORNIA FOR THE APPROVAL OF CONDITIONAL USE PERMIT #22-0027 AND CONDITIONS OF APPROVAL FOR THE VEGA SES 5 SOLAR ENERGY COMMERCIAL GROUND WATER WELL.

WHEREAS, APEX ENERGY, LLC has submitted an application for Conditional Use Permit proposing to drill and install a water well for commercial purposes to serve as a potable water source for a commercial purpose; and,

WHEREAS, an Environmental Impact Report (EIR) and CEQA Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State Guidelines, and the County's "Rules and Regulations to Implement CEQA, as Amended"; and,

WHEREAS, the Board of Supervisors of the County of Imperial has been delegated with the responsibility of approvals, and certifications for approvals of conditional use permits; and,

WHEREAS, public notice of said application has been given, and the Board of Supervisors has heard, received and considered all oral and written protests, objections and evidence presented by interested parties at a public hearing held with respect to this item on October 24, 2023; and,

WHEREAS, on October 24, 2023, the Board of Supervisors heard the proposed project; and,

NOW, THEREFORE, the Board of Supervisors of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Board of Supervisors has considered Conditional Use Permit #22-0027 and Conditions of Approval prior to recommend approval; the Board of Supervisors finds and determines that the Conditional Use Permit and Conditions of Approval are adequate and prepared in accordance with the requirements of the Imperial County General Plan and Land Use Ordinance and the (EIR) which analyzed environmental effects, based upon the following findings and determinations.

SECTION 2. That in accordance with State Planning and Zoning Law and the County of Imperial Land Use Ordinance and General Plan, the following findings for the approval of Conditional Use Permit #22-0027 have been made:

A. The proposed use is consistent with the goals and policies of the adopted County General Plan.

The General Plan designates the project site as "Agriculture". It is classified as S-2 RE Open Space Recreational Renewable Energy Overlay under the Imperial County Land Use Ordinance (Title 9). The proposed project is for a water well and is a conditionally permitted use pursuant to County's Land Use Ordinance (Section 92102.00).

B. The proposed use is consistent with the purpose of the zone or sub-zone which the use will be used.

The water well is for commercial purposes. Section 92102.00 of the Imperial County Land Use Ordinance governs water wells. The purposed use could be considered a compatible use with a Conditional Use Permit pursuant to the Water Well Regulation (Land Use Ordinance, Section 92102.00).

C. The proposed use is listed as a use within the zone or sub-zone or is found to be similar to a listed conditional use according to the procedures of Section 90203.10.

The proposed water well is consistent with Land Use Ordinance, Section 92102.00 with an approved Conditional Use Permit.

D. The proposed use meets the minimum requirements of this Title applicable to the use and complies with all applicable laws, ordinances and regulations of the County of Imperial and the State of California.

The Conditions of Approval will insure that the project complies with all applicable regulations of the County of Imperial and State of California. Therefore, the proposed project will meet the minimum requirements of the Land Use Ordinance, Section 90203.00.

E. The proposed use will not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity.

The proposed water well anticipated water usage amount to **205-acre-feet** for construction and **5-acre-feet** per year for operational water. The water well will be used for the construction period and then periodically for dust control and cleaning of panels at the solar site. There will be no detrimental to the health safety, and welfare of the public or to the property and residents in the vicinity.

F. The proposed use does not violate any other law or ordinance.

The proposed project is conditioned to be consistent with Title 9, Codified Land Use Ordinance of the County of Imperial and CEQA. The proposed project will be subject to a Conditional Use Permit and current Federal, State and Local regulations.

G. The proposed use is not granting a special privilege.

The proposed water well is a conditional permitted use subject to the conditions of approval of CUP#22-0027 (Land Use Ordinance, Section 92102.00) and will not grant a special privilege.

NOW, THEREFORE, based on the above findings, the Imperial County Board of Supervisors **DOES HEREBY APPROVE** Conditional Use Permit #22-0027, subject to the attached Conditions of Approval.

_____

Ryan E. Kelley, Chairman
Imperial County Board of Supervisors

I hereby certify that the preceding resolution was taken by the Board of Supervisors at a meeting conducted on October 24, 2023, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

_____

Blanca Acosta
Clerk of the Board of Supervisors

When Recorded Return To:

Imperial County Planning & Development
Services Department
801 Main Street
El Centro, California 92243

AGREEMENT FOR CONDITIONAL USE PERMIT CUP 22-0027
VEGA SES 5 WATER WELL
(APN 025-010-006-000)

This Agreement is made and entered into on this ____ day of _____, 2024, by and between [**APEX ENERGY, LLC**,] (hereinafter referred to as "Permittee"), and the COUNTY OF IMPERIAL, a political subdivision of the State of California, (hereinafter referred to as "COUNTY").

RECITALS

WHEREAS, Permittee is the owner, and/or operator and/or successor-in-interest in certain land in Imperial County known as "Assessor's Parcel 025-010-006, further described as a Section 9, Township 11 South, Range 15 East, S.B.B.M, approximately 640-acre parcel, and,

WHEREAS, Permittee has applied to the County for permission to construct, operate and maintain one water well, at the above site, and;

WHEREAS, Permittee has applied to the County to be allowed to pump up to **5-acre-feet** per year of groundwater for operations, and a one-time maximum of **205-acre-feet** of groundwater during construction, from the water well to provide water to a solar development project, and;

WHEREAS, Permittee and/or any subsequent owner(s) would be required to and intend to fully comply with all of the terms and conditions of the project as specified in this Conditional Use Permit.

WHEREAS, County, after a noticed public hearing, agreed to issue Conditional Use Permit # 22-0027 to Permittee, and/or his or her successor in interest subject to the following conditions:

---

*The "GENERAL CONDITIONS" are shown by the letter **"G"**. These conditions are conditions that are either routinely and commonly included in all Conditional Use Permits as "standardized" conditions and/or are conditions that the Imperial County Planning Commission has established as a requirement on all CUP's for consistent application and enforcement. The Permittee is advised that the General Conditions are as applicable as the SITE SPECIFIC conditions!*

GENERAL CONDITIONS:

G-1 ACQUISITION OF PERMITS/LICENSES AND COMPLIANCE WITH GENERAL LAWS:

The Permittee shall obtain, comply with, and maintain all applicable County, State, and Federal permits, licenses, and/or approvals, including, but not limited to those required by Imperial County Planning & Development Services Department, Air Pollution Control District (APCD), County Division of Environmental Health Services (EHS), and Public Works Department. Additionally, Permittee agrees to comply with all applicable laws, ordinances, and/or regulations promulgated by County, State, and Federal jurisdictions whether specified herein or not. Furthermore, Permittee shall submit a copy of such additional permit(s)/license(s) to the Planning & Development Services Department within thirty (30) days of receipt, including amendments or alterations thereto.

G-2 RECORDATION:

This permit shall not be effective until it is recorded at the Imperial County Recorder's Office, and payment of the recordation fee shall be the responsibility of the Permittee.

G-3 INDEMNIFICATION:

Permittee shall defend, indemnify and hold harmless County and its agents, including consultants, officers and employees from any claim, action or proceeding against the County or its agents, including consultants, officers or employees to attack, set aside, void, or annul the approval of this application or adoption of the environmental documents which accompanies it. This indemnification obligation shall include, but not be limited to, damages, costs, expenses, attorney's fees, or expert witness costs that may be asserted by any person or entity, including the Permittee arising out of or in connection with the approval of this application, including any claim for private attorney general fees claimed by or awarded to any party from the County.

G-4 RIGHT OF ENTRY:

The County reserves the right to enter the premises to make the appropriate inspection(s) and to determine if the condition(s) of this permit are complied with and access to authorized enforcement agency personnel shall not be denied.

G-5 PROVISION TO RUN WITH THE LAND/PROJECT:

The provisions of this permit are to run with the land/project and shall bind the current and future owner(s) successor(s) of interest, assignee(s) and/or transferor(s) of said project.

- Permittee shall not without prior notification to the Planning & Development Services Department assign, sell, or transfer, or grant control of project or any right or privilege therein.

- The Permittee shall provide a minimum of 60 days written notice prior to such proposed transfer becoming effective.
- In the event that the new owner or assignee or transferor has a history of non-compliance with environmental laws or is not of substantial equivalent or superior financial capability and/or responsibility or is not willing to or has not agreed to in writing to abide by the terms or conditions of this permit, the Planning & Development Services Department shall bring this matter to the Planning Commission for either revocation or modification to the permit.

G-6 CONDITION PRIORITY:

This project shall be constructed/operated as described in the approved Conditional Use Permit and conditions , site plan, support documentation, the Environmental Impact Report (EIR), the project description, and as specified in these conditions. Where a conflict occurs, the Conditional Use Permit conditions shall govern and take precedence.

G-7 INVALID CONDITIONS/SEVERABILITY:

Should any condition(s) of this permit be determined by a Court or other agency with property jurisdiction to be invalid for any reason, such determination shall not invalidate the remaining provision(s) of this permit.

G-8 TIME LIMIT:

Unless otherwise specified within the specific conditions, this permit shall be limited to a maximum of thirty (30) years from the recordation of the CUP. If an extension is necessary, the Permittee shall file a written extension request with the Planning Director at least sixty (60) days prior to the expiration date of the permit. Such an extension request shall include the appropriate extension fee. If the original approval was granted by the Planning Commission and/or the Board of Supervisors, such an extension shall only be

considered by the approving body, after a noticed public hearing. Nothing stated or implied within this permit shall constitute a guarantee that an extension will be granted. An extension may not be granted if the Project is in violation of any one or all of the conditions or if there is a history of non-compliance with the permit conditions.

G-9 PERMIT/MONITORING-RELATED FEES:

The Permittee shall pay any and all amounts determined by the County Planning & Development Services Department to defray any and all cost(s) for the review of reports, field investigations, monitoring, and other activities directly related to the enforcement/monitoring for compliance of this Conditional Use Permit, County Ordinance or any other applicable law. All County Departments, directly involved in the monitoring/enforcement of this project may bill Permittee under this provision, however said billing shall only be through and with the approval of the Planning & Development Services Department.

G-10 DEFINITIONS:

In the event of a dispute the meaning(s) or the intent of any word(s), phrase(s) and/or conditions or sections herein shall be determined by the Planning Commission of the County of Imperial. Their determination shall be final unless an appeal is made to the Board of Supervisors within ten (10) days from the date of the Commission's decision.

G-11 REVOCATION:

Upon the determination by the Planning & Development Services Department that the project is or may not be in full compliance with any one or all of the conditions of this Conditional Use Permit, or upon the finding that the project is creating a nuisance as defined by law, the issue shall be brought immediately to the appropriate enforcement agency or to the Planning

Commission for hearing to consider appropriate response including but not limited to the revocation of the CUP or to consider possible amendments to the CUP. The hearing shall be held upon due notice having been provided to the Permittee and to the public in accordance with established ordinance/policy.

G-12 HEALTH HAZARD:

If the County Health Officer determines that a significant health hazard exists to the public, the Health Officer may require appropriate measures and the Permittee shall implement such measures to mitigate the health hazard. If the hazard to the public is determined to be imminent, such measures may be imposed immediately and may include temporary suspension of operations; the measures imposed by the County Health Officer must be submitted to the Planning Commission for review and approval. Nothing shall prohibit Permittee from requesting a special Planning Commission meeting provided Permittee bears all costs.

PROJECT SPECIFIC CONDITIONS:

S-1 The Conditional Use Permit (CUP) allows the Permittee to draw a maximum of **5-acre-feet** of groundwater per year for operations, and a one-time maximum of **205–acre-feet** of groundwater during construction. Exceeding the amount of water specified herein will result in the Planning & Development Services Department taking action to rescind the CUP for non-compliance.

S-2 Water from the well shall not be used, sold, given, exported, or transported from those lands within VEGA SES 5 Solar Development and Battery Storage designated areas per the VEGA SES 5 approved EIR

S-3 The water shall be used only for on-site use(s) within VEGA SES 5 solar and battery development areas only, which includes the washing of solar panels, dust control and onsite construction related activities.

S-4 If the Board of Supervisors determines that groundwater management activities may be necessary to improve and preserve the quality or quantity of groundwater resources or prevent other environmental damage, the Board , after notice to the public and a public hearing, limitations or suspension of extractions from this water well. Title 9: Division 22: Ground Water Ordinance, Chapter 2: 92202.00 (E).

S-5 A flow meter shall be installed and sealed by a California State Licensed Water Well Drilling Contractor. Registered user shall submit an annual report to the Planning & Development Services Department indicating the yearly amount of water extracted from the well. A photograph (dated and signed) of the flow meter readings shall be included in the annual report. The report shall be received within thirty (30) days following the anniversary date of the issuance of this registration. In the event of a flow meter failure, the registered user shall be required to cease the water well operation and notify the Planning & Development Services Department. The registered user may be allowed to temporarily substitute the flow meter for an alternative measuring device, at the approval of the Planning & Development Services Department. In this case two (2) separate reports shall be submitted as stipulated herein. **Title 9, Division 22: Groundwater Ordinance 92202.04 Extraction Facility Water Flow Measurements.**

S-6 Should the water well be "abandoned" at any time for more than 365 consecutive days, or such longer period of not more than twenty-four (24) consecutive months as the Director may approve in writing, Permittee shall seal/cap the well according to standards set by the State and in a manner

acceptable to the County Building Official. Abandonment shall mean as follows:

- ABANDONMENT: A well is deemed "abandoned" when it has not been used for one (1) year. An owner may have the well deemed "inactive" by filling a written notice with the Department stating his/her intentions to use the well under specific conditions and/or time frames. As evidence of his/her intentions, the conditions contained in Bulletin 74-81 (Sec. 21) shall be met.
- Any well that is open or whose services/operating equipment (e.g. pumps/motors/pipes, etc.) has been removed shall be deemed abandoned.

S-7 The water well shall be registered with the Planning & Development Services Department to comply with the Imperial County's Groundwater Ordinance (Title 9, Division 22) and Water Well Regulations (Title 9, Division 21). The applicant is required to sign the registration form prior to recordation of the CUP.

S-8 Permittee shall provide a bond, letter of credit, cash deposit or other surety acceptable to County Counsel in the amount of $5,000 to the County to assure for proper closure and/or transfer of permit.

S-9 Water Well Replacement: In the event the proposed water well under this CUP requires replacement, and the CUP is still active and in compliance, said replacement water well shall be constructed by a California Licensed Driller in accordance with California Department of Water Resources Bulletin 74-81 and 74-90 (including any subsequent revisions), and with the Imperial County Water Well Ordinance, Section 92101.00 et seq.

- Permittee shall submit copies of the "Report of Completion" (as required by the California Water Code, Section 13751), by the California Licensed Driller on the construction of any water well replaced. Copies shall be submitted to the Environmental Health Services, Planning & Development Services Department, and Public Works within thirty (30) days of the construction or destruction of the well, this report shall include:

  1. A description of the exact location of the well'
  2. A detailed log of the well
  3. A description of the type and depth of casings
  4. Details of perforation
  5. The methods used for sealing off surface or contaminated waters.
  6. Methods for preventing contaminated waters from one aquifer to mix with another aquifer.
  7. Name of person who constructed the well.

S-10 On a bi-annual basis, the Permittee shall provide chemical analysis of the well water to the Departments of Planning, Public Works, and Health Services. The analysis shall include but not be limited to all General Mineral and Inorganic Chemical Analysis for chemicals listed in Section 64431, Article 4, Title 22, California Code of Regulations. All sampling and analysis shall be performed by a laboratory licensed by the State of California to perform drinking water analysis. The reported analysis results shall be provided to the Planning Department during the second year report, and all subsequent bi-annual reports.

NOW THEREFORE, County hereby issues Conditional Use Permit # 22-0027 and Permittee hereby accepts such permit upon the terms and conditions set forth herein.

IN WITNESS THEREOF, the parties hereto have executed this Agreement the day and year first written.

PERMITTEE

By: _____ Dated: _____

[**APEX ENERGY, LLC**]

COUNTY OF IMPERIAL, a political Subdivision of the STATE OF CALIFORNIA

By: _____ Dated: _____

Jim Minnick, Director of
Planning & Development Services
Department.

PERMITTEE NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

Dated_____

STATE OF CALIFORNIA

COUNTY OF _____} S.S.

On _____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document._____

Title or Type of Document_____

Number of Pages_____ Date of Document_____

Signer(s) Other Than Named Above_____

Dated_____

COUNTY NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

COUNTY OF IMPERIAL} S.S.

On _____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document.

Title or Type of Document_____
Number of Pages_____ Date of Document_____
Signer(s) Other Than Named Above_____

ATTACHMENT "K" – ORIGINAL PC PACKAGE ON A CD

PROJECT REPORT

TO: PLANNING COMMISSION **AGENDA DATE: August 23, 2023**

FROM: PLANNING & DEVELOPMENT SERVICES **AGENDA TIME 9:00 AM/No.5**

WSA, FEIR, MMRP, CUP's #20-0021, #20-0022 & #20-0023 #22-0025, #22-0026 & #22-0027
PROJECT TYPE: VEGA SES 2, 3 & 5 Solar Energy Storage Projects SUPERVISOR DIST: #4

LOCATION: approx. 5 miles southeast of Niland along East Main Canal
APN: 025-010-006-000, 025-260-011; 025-270-023-000, 025-260-019; 025-260-022-000

Niland, CA 92257 PARCEL SIZE: Approx. 1963 acres

GENERAL PLAN (existing) Agriculture & Open Space/Recreation GENERAL PLAN (proposed) N/A
A-2 (General Agriculture, A-3 Heavy Agriculture
ZONE (existing) S-2-RE (Open Space/Reservation) - Renewable Energy Overlay ZONE (proposed) N/A

GENERAL PLAN FINDINGS ☒ CONSISTENT ☐ INCONSISTENT ☐ MAY BE/FINDINGS

PLANNING COMMISSION DECISION: HEARING DATE: 08/23/2023

☐ APPROVED ☐ DENIED ☐ OTHER

PLANNING DIRECTORS DECISION: HEARING DATE:

☐ APPROVED ☐ DENIED ☐ OTHER

ENVIROMENTAL EVALUATION COMMITTEE DECISION: HEARING DATE: N/A

INITIAL STUDY: #20-0030

☐ NEGATIVE DECLARATION ☐ MITIGATED NEG. DECLARATION ☒ EIR

DEPARTMENTAL REPORTS / APPROVALS:

PUBLIC WORKS	☐	NONE	☒ ATTACHED
AG	☐	NONE	☒ ATTACHED
APCD	☐	NONE	☒ ATTACHED
E.H.S.	☐	NONE	☒ ATTACHED
FIRE / OES	☐	NONE	☒ ATTACHED
SHERIFF OFFICE	☐	NONE	☐ ATTACHED
OTHER	IID, BLM, CALTRANS, CVWD,		

REQUESTED ACTION:

Staff recommends that the Planning Commission hold a public hearing and hear all proponents and opponents of the proposed project. Staff would then recommend that the Planning Commission take the following actions by resolution:

1. **Recommend the Board of Supervisors approve the Water Supply Assessment for VEGA 2 & 3, with findings; and,**
2. **Recommend the Board of Supervisors approve the Water Supply Assessment for VEGA 5, with findings; and,**
3. **Recommend the Board of Supervisors Certify of the Final EIR, with findings; and,**
4. **Recommend the Board of Supervisors adopt the Mitigation Monitoring and Reporting Program; and,**
5. **Recommend the Board of Supervisors approve Conditional Use Permit #20-0021 (Vega SES 2 Solar Energy Storage Project), with findings; and,**
6. **Recommend the Board of Supervisors approve Conditional Use Permit #20-0022 (Vega SES 3 Solar Energy Storage Project), with findings; and,**
7. **Recommend the Board of Supervisors approve Conditional Use Permit #20-0023 (Vega SES 5 Solar Energy Storage Project), with findings; and,**
8. **Recommend the Board of Supervisors approve Conditional Use Permit #22-0025 (VEGA SES 2 water well) w/ findings; and,**
9. **Recommend the Board of Supervisors approve Conditional Use Permit #22-0026 (VEGA SES 3 water well w/ findings; and,**
10. **Recommend the Board of Supervisors approve Conditional Use Permit #22-0027 (VEGA SES 3 water well) w/ findings.**

STAFF REPORT
Planning Commission
August 23, 2023
VEGA 2, 3, & 5 SES SOLAR ENERGY PROJECTS

SUBJECT:

A. Water Supply Assessment (WSA) for VEGA 2 & 3
B. Water Supply Assessment (WSA) for VEGA 5
C. Final Environmental Impact Report (SCH #2021050013)
D. Mitigation Monitoring and Reporting Program (MM&RP) with Findings
E. Conditional Use Permit Solar & Battery (CUP) #20-0021
F. Conditional Use Permit Solar & Battery (CUP) #20-0022
G. Conditional Use Permit Solar & Battery (CUP) #20-0023
H. Conditional Use Permit Water Well (CUP) #22-0025
I. Conditional Use Permit Water Well (CUP) #22-0026
J. Conditional Use Permit Water Well (CUP) #22-0027

Applicant/Owner: APEX Energy Solutions, LLC
604 Sutter Street, Suite 250,
Folsom, CA 95630

PROJECT NAME: VEGA SES 2, 3, & 5 SOLAR ENERGY & STORAGE PROJECTS

Project Location:

The project site is located on a total of approximately 1,963 acres of privately owned land in the unincorporated area of Imperial County. The proposed project area will be located at approximately 5.67 miles southeast of the unincorporated community of Niland, between the unincorporated areas of Iris and Slab City. The Coachella and East Highline Canals and the Union Pacific Railway transect the project area. The project area is located entirely within the County's Renewable Energy Overlay Zone (RE).

Project Summary:

The proposed project consists of three primary components: 1) **solar energy generation** equipment and associated facilities including a substation and access roads (herein referred to as "solar energy facility"); 2) **battery storage system**; and, 3) **gen-tie line** that would connect the proposed on-site substation to the point of interconnection at the existing Imperial Irrigation District's (IID) 161-kV "F" line. The proposed three projects involves the construction of a 50-megawatt, 60-megawatt, and 240- megawatt (MW) alternating current (AC) photovoltaic (PV) solar energy facilities with integrated 100, 120 and 480 MW battery storage systems. The project proposes to utilize thin film or crystalline solar PV technology modules mounted on fixed frames or horizontal single-

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axis tracker systems. Additionally, the project would include electronic/electrical equipment, an on-site substation, access road(s), gen-tie's and fencing. The electrical energy produced by the project would be conducted through the project's interconnection facilities to the existing IID approved point of interconnection.

Land Use Analysis:

The proposed projects are located within an unincorporated area of the County. The existing General Plan land use designation is "Recreation/Open Space." The projects sites are currently zoned S-2-RE, A-2-RE & A-3-RE with a Renewable Energy Zone Overlay). Construction of solar facilities with a battery energy storage system (BESS) would be allowed within the existing zoning under an approved Conditional Use Permit.

Surrounding Land Uses, Zoning and General Plan Designations:

DIRECTION	CURRENT LAND USE	ZONING	GENERAL PLAN
Project Site	Vacant	S-2- RE	Recreation/Open Space with a Renewable Energy
North	Vacant	BLM	Recreation/Open Space
South	Vacant	S-2	Recreation/Open Space
East	Vacant	BLM	Recreation/Open Space
West	Vacant	BLM	Recreation/Open Space

Environmental Determination:

On May 4, 2021, the Imperial County Planning Department sent a Notice of Preparation (NOP) to the California State Clearinghouse (SCH #2021050013) for a 30-day pubic and agency review ending June 7, 2021 for the start on the preparation of the VEGA SES Solar Energy projects Draft Environmental Impact Report (DEIR). Additionally, the County published an NOP in the IV Press on May 4, 2021. A scoping meeting was held to address possible impacts with the public on May 13, 2021.

On December 11, 2022, a Notice of Availability (NOA) for the VEGA 2, 3, & 5 SES Solar Energy Draft EIR was published in the IV Press newspaper and a Notice of Completion with DEIR was sent to State Clearinghouse for agency review for 50 days beginning on

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December 14, 2022 and ending on February 2, 2023. All significant impacts were addressed in the DEIR.

A Final Environmental Impact Report and the Response to Comments received on the DEIR was completed.

Staff Recommendation:

Staff recommends that the Planning Commission hold a public hearing and hear all proponents and opponents of the proposed project. Staff would then recommend that the Planning Commission take the following actions by resolution:

1. Recommend to the Board of Supervisors to approve Resolution on the Water Supply Assessment (WSA for VEGA 2 & 3) , with Findings; and,
2. Recommend to the Board of Supervisors to approve Resolution on the Water Supply Assessment (WSA for VEGA 5) , with Findings; and,
3. Recommend to the Board of Supervisors to approve Resolution and Certify of the VEGA SES 2, 3, & 5 Final EIR, & CEQA Findings; and,
4. Recommend the Board of Supervisors to approve Resolution to adopt the Mitigation Monitoring and Reporting Program for the VEGA SES 2, 3, & 5 projects; and,
5. Recommend the Board of Supervisors to approve Resolution for Conditional Use Permit #20-0021 (Vega SES 2 Solar Energy Storage Project), with attached Findings, and,
6. Recommend the Board of Supervisors to approve Resolution for Conditional Use Permit #20-0022 (Vega SES 3 Solar Energy Storage Project), with attached Findings, and,
7. Recommend the Board of Supervisors to approve Resolution for Conditional Use Permit #20-0023 (Vega SES 5 Solar Energy Storage Project), with attached Findings; and,
8. Recommend the Board of Supervisors to approve Resolution for Conditional Use Permit #22-0025 (Vega SES 2 Solar Water Well Project), with attached Findings; and,
9. Recommend the Board of Supervisors to approve Resolution for Conditional Use Permit #22-0026 (Vega SES 3 Solar Water Well Project), with attached Findings; and,
10. Recommend the Board of Supervisors to approve Resolution for Conditional Use Permit #22-0027 (Vega SES 5 Solar Water Well Project), with attached Findings

PREPARED BY: David Black, Project Planner
Planning & Development Services

For

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REVIEWED BY: Michael Abraham, AICP, Assistant Director
Planning & Development Services

APPROVED BY: Jim Minnick, Director
Planning & Development Services

ATTACHMENTS:

A. Location Maps
B. Water Supply Assessment(s) VEGA 2 & 3 VEGA 5
C. Final EIR Finding of Fact\Errata
D. Mitigation Monitoring and Reporting Program
E. Solar Energy Storage Conditional Use Permit CUP #20-0021, 0022 & 0023
F. Water Well CUP's #20-0025, 0026 & 0027
G. Applications and backup

S/db/025/010/006/cup20 0022/pcfolder/staffreport

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Attachment A:
Location Map

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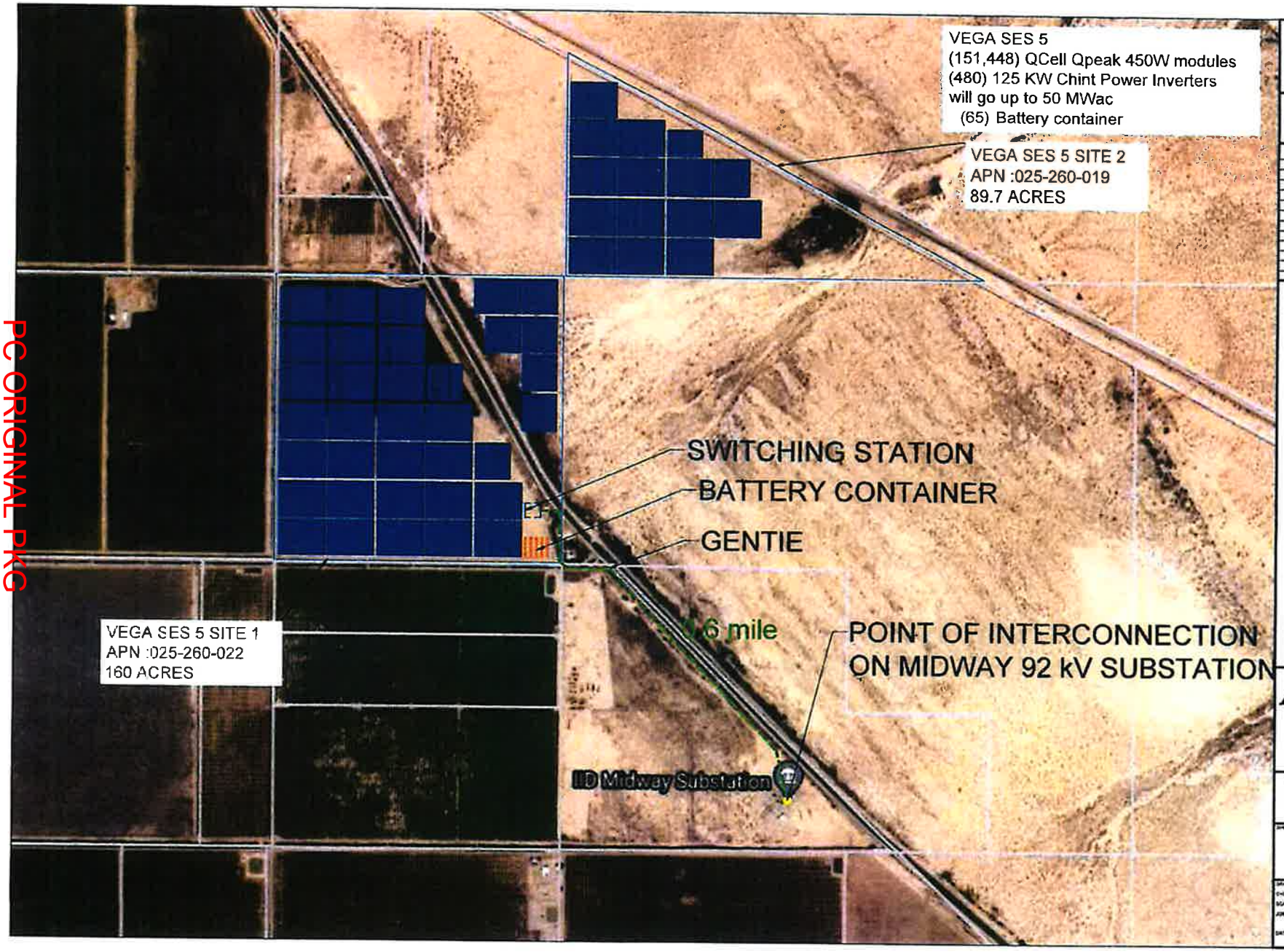


VEGA SES 5

CONFIDENTIAL DOCUMENTS

REV.	BY	DESCRIPTION	DATE	APPR'D BY
0	RD	PRELIMINARY	[illegible]	ZA

1 inch

Scale to Confirm 24"x36" Plot

Apex Energy SOLUTIONS
604 SUTTER ST, STE 250
FOLSOM, CA 95630
Phone : 916.985.9461
Fax: 916.985.9467

THESE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED BY ZGLOBAL INC. FOR THEIR EXCLUSIVE USE IN ACCORD WITH SEC. 6707.1 OF THE 2012 PROFESSIONAL ENGINEERS ACT OF THE STATE OF CALIFORNIA

SHEET TITLE

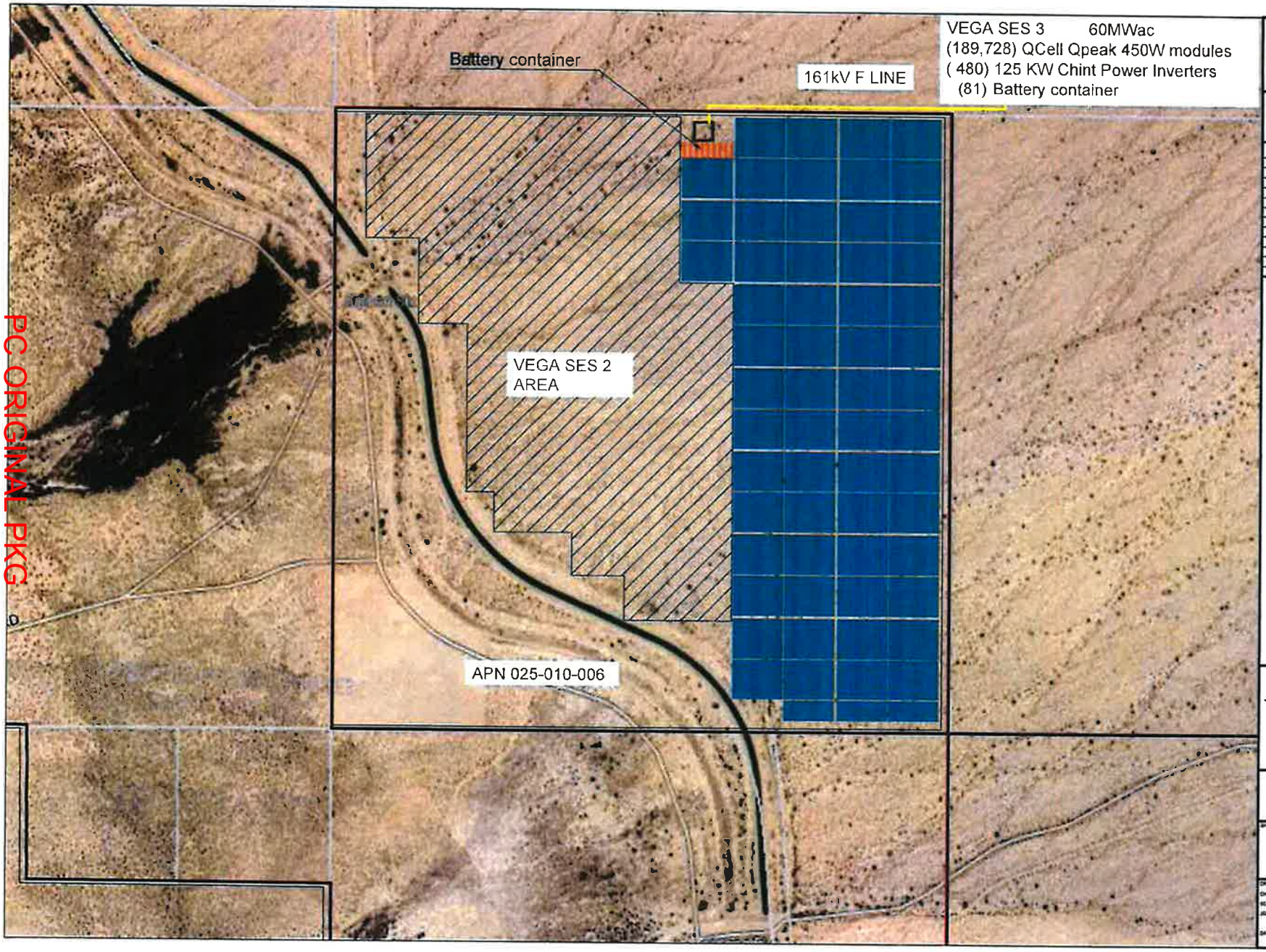
SITE PLAN

DRAWN BY: RD
CHECKED: ZA
SCALE: 1/128" = 1'-0"
JOB NO:
DATE:

DRAWING No. C-000

REV No. 1

PC ORIGINAL PKG



VEGA SES 3

CONFIDENTIAL DOCUMENTS

REV.	BY	DESCRIPTION	DATE	
0	RG	PRE-SUBMITTAL	[illegible]	[illegible]

1 inch

Scale to Custom 24"x36" Plot

Apex Energy SOLUTIONS

604 SUTTER ST, STE 250
FOLSOM, CA 95630
Phone : 916.985.9461
Fax : 916.985.9467

THESE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED BY ZEROBAL INC. FOR THEIR EXCLUSIVE USE IN ACCORD WITH SECTION 5 OF THE 2012 PROFESSIONAL ENGINEERS ACT OF THE STATE OF CALIFORNIA

SHEET TITLE

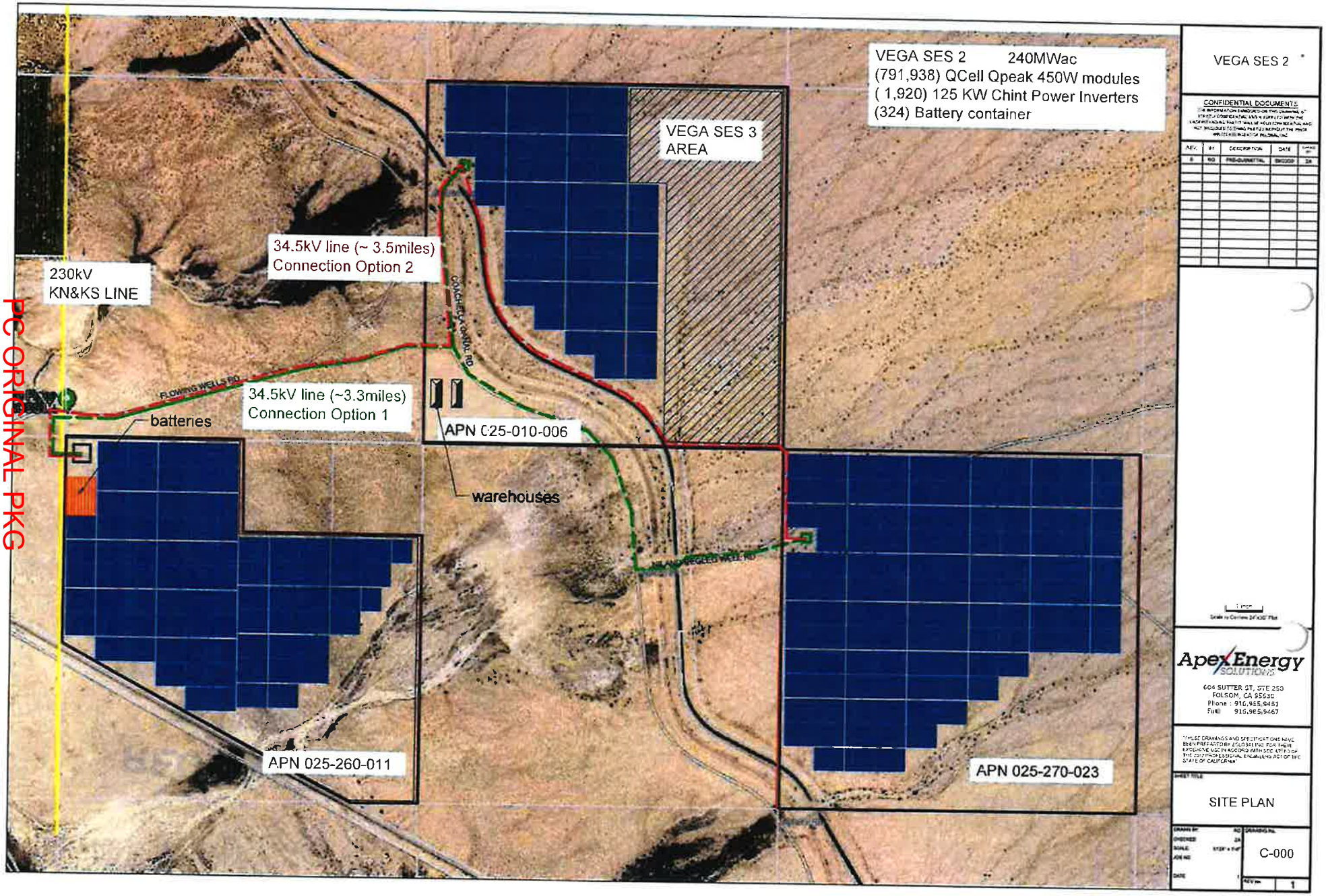
SITE PLAN

DRAWN BY RG
CHECKED
SCALE
JOB NO.
DATE

DRAWING No.
C-000

REV No. 1

PC ORIGINAL PKG


VEGA SES 2 240MWac
(791,938) QCell Qpeak 450W modules
(1,920) 125 KW Chint Power Inverters
(324) Battery container
VEGA SES 3
AREA
34.5kV line (~ 3.5miles)
Connection Option 2
230kV
KN&KS LINE
COACHELLA CANAL RD
FLOWING WELLS RD
34.5kV line (~3.3miles)
Connection Option 1
batteries
APN 025-010-006
warehouses
APN 025-260-011
APN 025-270-023
PC ORIGINAL PKG
VEGA SES 2
CONFIDENTIAL DOCUMENTS
REV. BY DESCRIPTION DATE
0 RO PRE-SUBMITTAL 9/2/22
ApexEnergy SOLUTIONS
604 SUTTER ST, STE 250
FOLSOM, CA 95630
Phone : 916.985.9461
Fax: 916.985.9467
SITE PLAN
C-000
1

Attachment B:
WSA's Resolutions

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RESOLUTION NO.

A RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF IMPERIAL, CALIFORNIA, RECOMMENDING APPROVAL OF THE WATER SUPPLY ASSESSEMENT FOR THE VEGA SES 2 & 3 SOLAR ENERGY STORAGE PROJECTS TO THE BOARD OF SUPERVISORS.

WHEREAS, the VEGA SES 2 & VEGA SES 3 Solar Energy Projects qualifies as a "project" under the Water Code triggering the need to prepare a Water Supply Assessment because it proposed to a demand of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project, and/or because it is a proposed industrial use occupying more than 40 acres of land. The Water Supply Assessment (WSA) has been prepared in accordance with Water Code 10912(c) (4); and,

WHEREAS, the Imperial County Board of Supervisors has the authority and responsibility for approving the Water Supply Assessment; and,

WHEREAS, the duty to prepare a Water Supply Assessment falls to the County of Imperial ("County") because the Imperial Irrigation District (IID) is not a public water system within the meaning of the Water Code 10912(c); and,

WHEREAS, the County, in consultation with an expert engineering firm and the IID prepared the Water Supply Assessment , which includes any and all Water Supply Assessment addendums; and,

WHEREAS, the County has independently reviewed and considered the Water Supply Assessment and the entire administrative record, and;

WHEREAS, public notice of said application has been given, and the Planning Commission has considered evidence presented by the Imperial County Planning & Development Services Department and other interested parties at a public hearing held with respect to this item on August 23, 2023; and,

NOW THEREFORE, the Planning Commission of the County of Imperial **DOES HEREBY RECOMMEND APPROVAL TO THE BOARD OF SUPERVISORS BASED ON THE FOLLOWING FINDINGS FOR THE WSA** as follows:

SECTION 1. The Planning Commission has considered the proposed VEGA SES 2 & 3 SOLAR ENERGY STORAGE PROJECT'S WSA prior to making a decision to recommend approval of the proposed WSA. The Planning Commission finds and determines that the WSA is adequate and prepared in accordance with the requirements of Water Code, Section 10912(c)(4) and the analysis of the WSA demonstrates that the total projected water supplies, determined to be available by the County for the Project during normal, single dry, and multiple dry water years, will meet the projected water demand associated with the proposed project and based upon the following findings and determinations.

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SECTION 2. That in accordance with State Planning and Zoning law, the County Planning Commission makes the following findings for the approval of the VEGA SES 2 & 3 SOLAR ENERGY projects:

1. This Water Supply Assessment (WSA) has determined that adequate ground water supply is currently available as well as during normal water years. Adequate agreements, plans and policies are in place that enable the Imperial Unit water supply to be considered reliable for 40 years.

2. The WSA has determined that the construction water and operational water required for VEGA SES 2 & 3 Solar and Battery Storage project is sufficient.

3. A Water Well Conditional Use Permit approval will be required before ground water is allowed to be pumped for construction and operations. Total acreage feet of water allowed for this water well CUP will be 775 af. (acre feet) for the construction and 24 acre feet for VEGA SES 2 and 6 acre feet for VEGA SES 3 for the life of project. Conditions will be applied with CUP to require owner of facility to monitor and report annual acre feet used.

NOW, THEREFORE, based on the above findings, the Planning Commission of the County of Imperial **DOES HEREBY** recommend approval to the Board of Supervisors for the proposed Water Supply Assessment for VEGA SES 2 & 3 SOLAR ENERGY Projects.

_____

Rudy Schaffner, Chairman
Imperial County Planning Commission

I hereby certify that the preceding resolution was taken by the Planning Commission at a meeting conducted on **August 23, 2023** by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

_____

James Minnick, Secretary of the
Planning Commission/Director of Planning

PC ORIGINAL PKG

Water Supply Assessment
For the ZGlobal
Vega SES 2, LLC and Vega SES 3, LLC
Solar Energy Projects
Imperial County, California

Prepared for:

ECORP Consulting, Inc.
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November 30, 2022

PC ORIGINAL PKG

Water Supply Assessment
For the ZGlobal
Vega SES 2, LLC and Vega SES 3, LLC
Solar Energy Projects
Imperial County, California

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Water Supply Assessment
For the ZGlobal
Vega SES 2, LLC and Vega SES 3, LLC
Solar Energy Projects
Imperial County, California

1.0 INTRODUCTION

EMKO Environmental, Inc. (EMKO) has prepared this Water Supply Assessment (WSA) as a subconsultant to ECORP Consulting, Inc. for the proposed ZGlobal Vega SES 2, LLC and Vega SES 3, LLC Solar Energy Projects (Project or Projects) in Imperial County, California at the location indicated on Figure 1. Project water use includes dust control and soil conditioning requirements during construction and routine maintenance, primarily panel washing, during operation.

Water Code Sections 10910 through 10915 were amended by Senate Bill 610 (SB 610) in 2002. SB 610 requires that under specific circumstances, as detailed below, an assessment of available water supplies must be conducted. The purpose of the assessment is to determine if available water supplies are sufficient to serve the demand generated by the Project, as well as the reasonably foreseeable demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. Water Code Section 10910 was further amended by SB 1262 on September 24, 2016 to require a Water Supply Assessment to include additional information regarding the groundwater basin designation and adjacent water systems. This report provides the information required for a Water Supply Assessment (WSA), as described in the October 2003 *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001 to Assist Water Suppliers, Cities, and Counties in Integrating Water and Land Use Planning*, published by the California Department of Water Resources (DWR Guidebook) along with the additional information required by SB 1262.

2.0 PROJECT DESCRIPTION

Vega SES 2, LLC and Vega SES 3, LLC are proposing to construct and operate solar energy generation and storage facilities on private lands in the Imperial Valley in Imperial County. The Project sites are located approximately four miles southeast of the community of Niland and 16 miles northeast of the City of Brawley (see Figure 1).

> **Vega SES 2** would cover approximately 1,323 acres in Sections 9, 15 and 17 of Township 11 South, Range 15 East of the San Bernardino Base and Meridian (SBB&M) within the "Iris" 7.5-minute U.S. Geologic Survey (USGS) quadrangle.

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The Project site includes all or part of Imperial County Assessor's Parcel Numbers (APNs) 025-260-011 (approximately 288 acres), APN 025-270-023 (approximately 625 acres) and APN 025-010-006 (approximately 410 acres). The site is located east of the East Highline Canal and partially straddles the Coachella Canal (see Figure 2). Vega SES 2 would include a 240-megawatt solar photovoltaic system and integrated 480-megawatt battery energy storage system along with related substations and transmission lines. Figure 3 is a Site Plan showing the Project layout and ancillary facilities.

Vega SES 3 would cover approximately 230 acres in Section 9 of Township 11 South, Range 15 East of the SBB&M within the "Iris" 7.5-minute USGS quadrangle. The Project site includes part of APN 025-010-006. The site is located east of the Coachella Canal (see Figure 2). Vega SES 3 would include a 60-megawatt solar photovoltaic system and integrated 120-megawatt battery energy storage system along with related substations and transmission lines. Figure 3 is a Site Plan showing the Project layout and ancillary facilities.

All parcels are located within the Imperial County Renewable Energy Overlay Zone, requiring projects to be permitted through the issuance of a Conditional Use Permit (CUP), which is a discretionary action by the County requiring compliance with the California Environmental Quality Act (CEQA). This Water Supply Assessment is intended to support and be a part of the CEQA analysis.

Domestic water and sanitation facilities would be required during construction. These would be provided through bottled water and portable facilities. A domestic/potable water connection would not be required.

Construction is anticipated to require 12 to 18 months to complete. Anticipated operational Project life is 25 to 30 years.

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Figure 1. Regional Location Map

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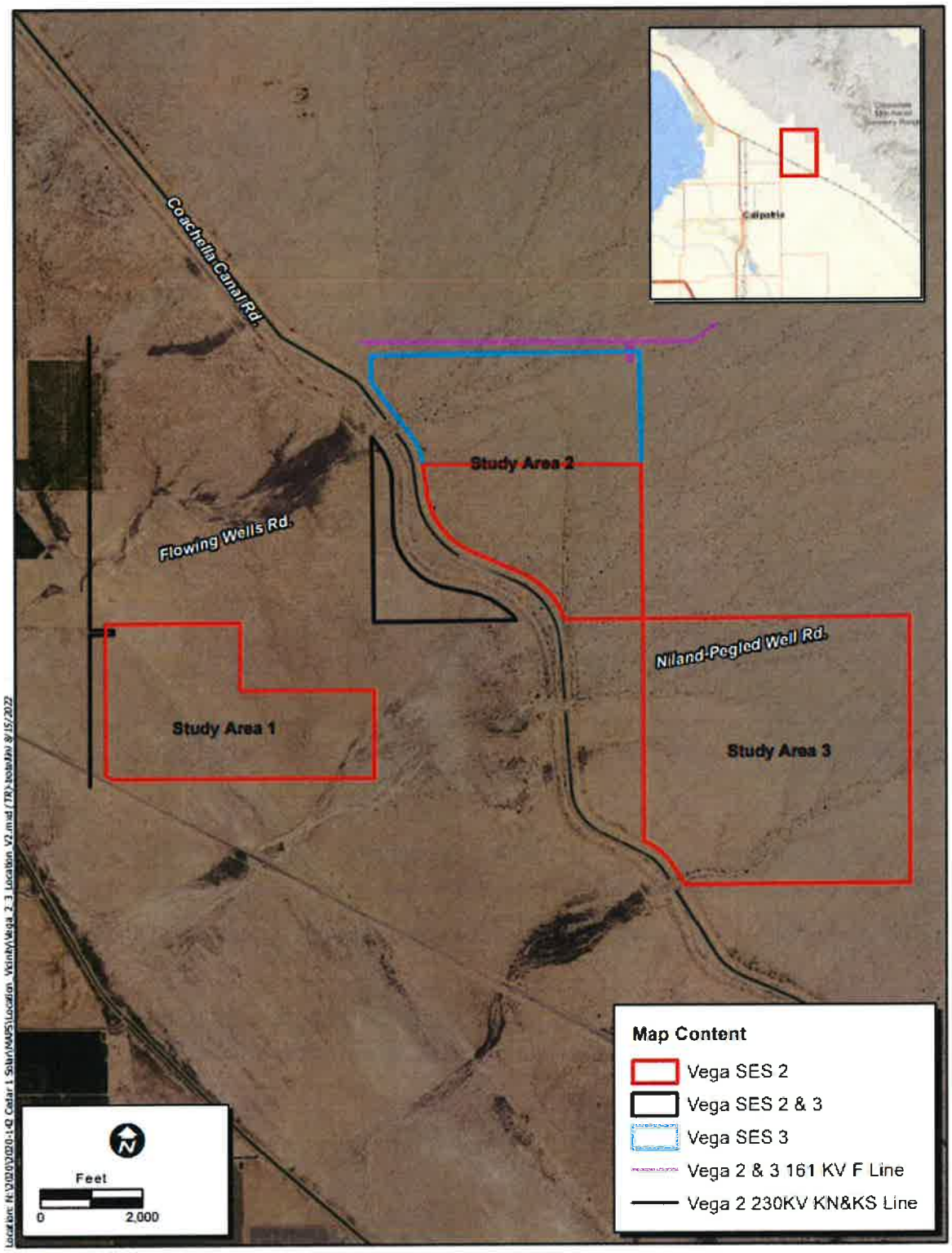

Figure 2. Project Location

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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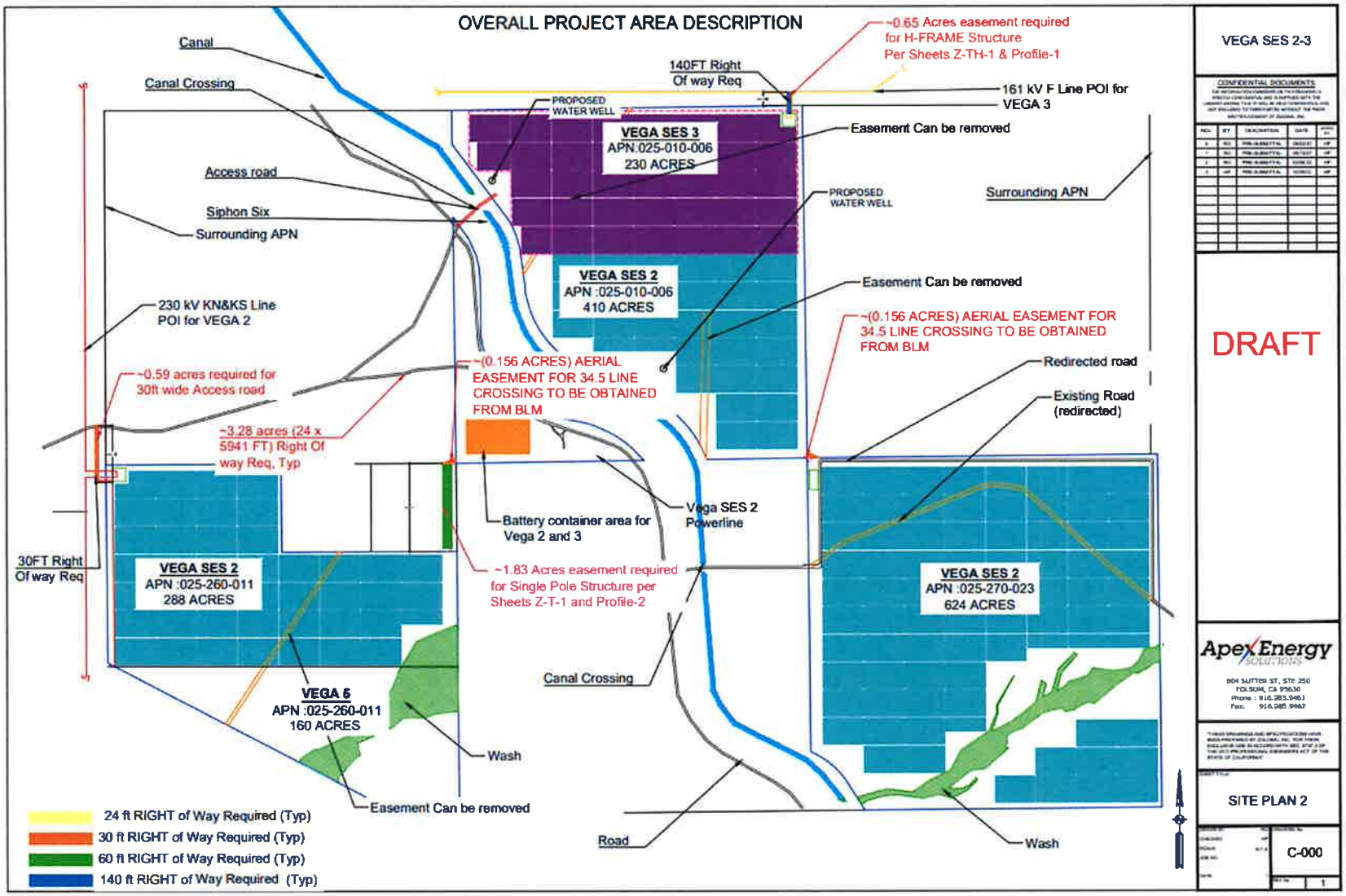
FIGURE 3. Site Plan



3.0 WATER SUPPLY PLANNING UNDER SB 610 and SB 1262

SB 610, effective January 1, 2002, amends Sections 10910 through 10915 of the Water Code by requiring preparation of a WSA for development projects subject to CEQA and other criteria, as discussed below. SB 610 also amends Section 10631 of the Water Code, which relates to Urban Water Management Plans (UWMPs). The WSA process under SB 610 is designed to rely on the information typically contained in UWMPs, where available.

On September 24, 2016, SB 1262 further amended Section 10910 of the Water Code to require additional information related to adjacent public water systems and the status of the groundwater basin. These amendments provide additional consistency with the Sustainable Groundwater Management Act of 2014, as discussed further in Section 4.4.

The first steps in the WSA process are to determine whether SB 610 applies to the proposed Project. If so, then documentation of available water supplies, anticipated Project demand, and the sufficiency of supplies must be conducted. These issues are summarized by the following questions, as outlined in the DWR Guidebook:

1. Is the proposed Project subject to CEQA?
2. Is the proposed Project a "Project" under SB 610?
3. Is there a public water system that will service the proposed Project?
4. Is there a current UWMP that accounts for the project demand?
5. Is groundwater a component of the supplies for the Project?
6. Are there sufficient supplies to serve the Project over the next twenty years?

Each of these issues are discussed in the following sections as they relate to the proposed Project.

3.1 Is the Proposed Project Subject to CEQA?

The first step in the SB 610 process is to determine whether the proposed project is subject to CEQA. Water Code Section 10910(a) states that any city or county that determines that an application meets the definition of "project", per Water Code Section 10912 (see Section 3.2, below), and is subject to CEQA, shall prepare a water supply assessment for the project. CEQA applies to projects requiring issuance of a discretionary permit by a public agency, projects undertaken by a public agency, or projects funded by a public agency. As noted in Section 2.0, the proposed Project is within the Imperial County Renewable Energy Overlay Zone, which requires discretionary approval of a CUP by Imperial County, a public agency. Therefore, the Project is subject

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to CEQA. This WSA has been prepared to support the environmental review that will be conducted by Imperial County under CEQA.

3.2 Is the Proposed Project a "Project" Under SB 610?

The second step in the SB 610 process is to determine if the proposed Project meets the definition of "project" under Water Code Section 10912(a). Under Section 10912(a) a "project" is defined as meeting any of the following criteria:

1. a proposed residential development of more than 500 dwelling units;
2. a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
3. a proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
4. a proposed hotel or motel, or both, having more than 500 rooms;
5. a proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
6. a mixed-use project that includes one or more of the projects defined above; or
7. a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The Vega SES 2 site is 1,323 acres and the Vega SES 3 site is 230 acres. As a result, the Project will include an industrial site that is larger than 40 acres and thus this WSA is being prepared in accordance with criterion 5, above.

3.3 Is There a Public Water System That Will Service the Proposed Project?

Section 10912(c) of the Water Code identifies a public water system as a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections. The Project site is approximately four miles southeast of the community of Niland and 16 miles northeast of the City of Brawley. APN 025-260-011 and parts of APN 025-010-006 and APN 025-270-023 are located within IID's East Mesa Unit (https://mygis.iid.com/portal/apps/webappviewer/index.html?id=a33cfeb3714f4eb8a1c85320613a2d1b) but do not have water service from IID. Thus, there is not a public water system that will serve the Project. The water supply will be provided by new onsite groundwater supply wells to be drilled and installed as part of the Project.

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3.4 Is There a Current Urban Water Management Plan That Accounts for the Project Demand?

The Water Code requires that all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet per year, must prepare an UWMP. The DWR Guidebook (page iii) states that SB 610 repeatedly refers to the UWMP as a planning document that can be used to meet the standards set forth in the statute, and that UWMPs act as a foundation to fulfill the requirements of the statute. As noted in Section 3.3, above, there is no public water system that will serve the Project and, therefore, there is not an UWMP that addresses the Project area or Project demand. Since there is not an UWMP that accounts for the Project demand, this WSA is based upon available and relevant information from DWR, the U.S. Geological Survey (USGS), and other publicly available data. As this WSA has been prepared for use by the CEQA lead agency, this document includes an evaluation of whether the total projected water supplies, determined to be available during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed Project, in addition to existing and planned future uses, including agricultural and manufacturing uses, in accordance with Water Code § 10910(c)(4).

3.5 Is Groundwater a Component of the Supplies for the Project?

Water Code Section 10910(f), paragraphs 1 through 5, must be addressed if groundwater is a source of supply for the proposed Project. As described in Section 3.3, the water supply will be provided by new groundwater supply wells that will be drilled and installed as part of the Project. The proposed locations for two new groundwater supply wells are shown on Figure 3. Therefore, an assessment of groundwater conditions is included in this document.

Water Code Section 10910(f) paragraphs 1 through 5, as modified by SB 1262, state:

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

> (1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.
>
> (2) (A) A description of any groundwater basin or basins from which the proposed project will be supplied. (B) For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. (C) For a basin that has not been adjudicated that is a

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basin designated as high- or medium priority pursuant to Section 10722.4, information regarding the following: (i) Whether the department has identified the basin as being subject to critical conditions of overdraft pursuant to Section 12924; and (ii) If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative, a copy of that alternative or plan. (D) For a basin that has not been adjudicated that is a basin designated as low- or very-low priority pursuant to Section 10722.4, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

Paragraphs 1 through 4, above, are addressed in Section 4.0, below, including a description of the groundwater basin, groundwater conditions, and available supply. Section 5.0 presents available information regarding water demand for the Project.

The Paragraph 5 requirement to provide an analysis of the sufficiency of the groundwater basin to meet the projected water demand associated with the proposed project is addressed in Section 6.0, below.

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3.6 Are There Sufficient Supplies to Serve the Project Over the Next Twenty Years?

Water Code Section 10910(c)(4) requires the WSA to "*include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and future planned uses, including agricultural and manufacturing uses.*"

The sufficiency of water supply for the proposed Project is addressed in Sections 6.0 and 7.0, below.

4.0 PROJECT WATER SUPPLY

As stated in Section 3.3, above, water for the Project will be provided by new wells to be drilled at the proposed locations shown on Figure 3. As such, groundwater will be the sole water supply for both the construction and operational water needs. Because there are no public water systems or other significant users of groundwater in the groundwater basin, there are no Urban Water Management Plans or other planning documents available. Thus, limited information is available regarding groundwater conditions in the Project vicinity.

Overall conditions within the groundwater basin are described in Section 4.1. Groundwater recharge and available supply are discussed in Section 4.2. Groundwater level trends and the status of the basin relative to the Sustainable Groundwater Management Act of 2014 (SGMA) is provided in Section 4.3, as required by SB 1262.

4.1 Groundwater Basin

The Project is located within the western part of the East Salton Sea Groundwater Basin (Basin), designated as basin number 7-033, as defined by DWR (2022a). The Basin is bounded on the northeast by the Chocolate Mountains and on the southwest by the San Andreas and Banning Mission Creek fault zones (DWR, 2003). The northwest and southeast edges of the groundwater basin are approximately defined by transitions between major surface drainages coming off of the Chocolate Mountains. The groundwater basin has an area of approximately 196,000 acres, or 306 square miles (DWR, 2003). The Basin has not been adjudicated (DWR, 2022b). Figure 4 shows the groundwater basin boundary and the approximate location of the Project.

Groundwater occurs within unconsolidated to semi-consolidated coarse sediment eroded from the Chocolate Mountains (DWR, 2003). The sediment generally occurs within large alluvial fans that originate at drainages and canyons within the bedrock

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formations in the mountains and spread out as they decrease in elevation toward the floor of the Imperial Valley or the Salton Sea. The alluvial fan sediments range in age from Tertiary to Quaternary. DWR (2003) reports that the alluvium is at least 400 feet thick.

4.2 Groundwater Supply and Recharge

DWR (2022c) reports that the population in the East Salton Sea Groundwater Basin in 2010 was approximately 1,093 persons and that the population is expected to decrease 10 percent by 2030. There are no public water supply wells in the Basin and 11 total wells present. Only 4,906 acres of the 196,000-acre Basin, or 2.54 percent, are irrigated (DWR, 2022c). The total groundwater storage capacity of the groundwater basin is estimated to be 360,000 acre-feet (DWR, 2003).

The average annual rainfall is very low, as discussed further in Section 6.0 below, and typically does not provide a sufficient quantity of moisture to percolate deep into the alluvial sediments. As a result, recharge of groundwater occurs primarily due to runoff from the Chocolate Mountains during major storm events, which may not occur every year. The average annual recharge is estimated to be 200 acre-feet per year (DWR, 2003). That estimate is from a 1975 version of DWR Bulletin 118. No changes to basin conditions are reported in the most recent updates to DWR Bulletin 118 (DWR, 2021 and 2022a).

DWR's California Data Exchange Center website (https://cdec.water.ca.gov) and the U.S. Geological Survey's (USGS's) National Water Information System mapping application (https://maps.waterdata.usgs.gov/mapper/index.html) show only one active groundwater monitoring location within the Basin at the time this report was prepared. That well is located approximately 3,600 feet southeast of the southeast corner of the Project site and 950 feet northeast of the Coachella Canal. The well has USGS identification number 331144115231501, which identifies the latitude and longitude of the well (i.e., 33°11'44" latitude, -115°23'15" longitude), and California state well number 011S015E23M001, which indicates the township, range, and quarter-quarter section (i.e., northwest quarter or the southwest quarter of township 11S, range 15E, San Bernardino Base and Meridian). The ground surface elevation at the well location is reported to be 120 feet above mean sea level (ft msl) while the borehole in which the well was installed is reported to have been drilled to a depth of 550 feet below ground surface (ft bgs) (USGS, 2022).

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FIGURE 4. East Salton Sea Groundwater Basin

(Source: DWR, 2022b)

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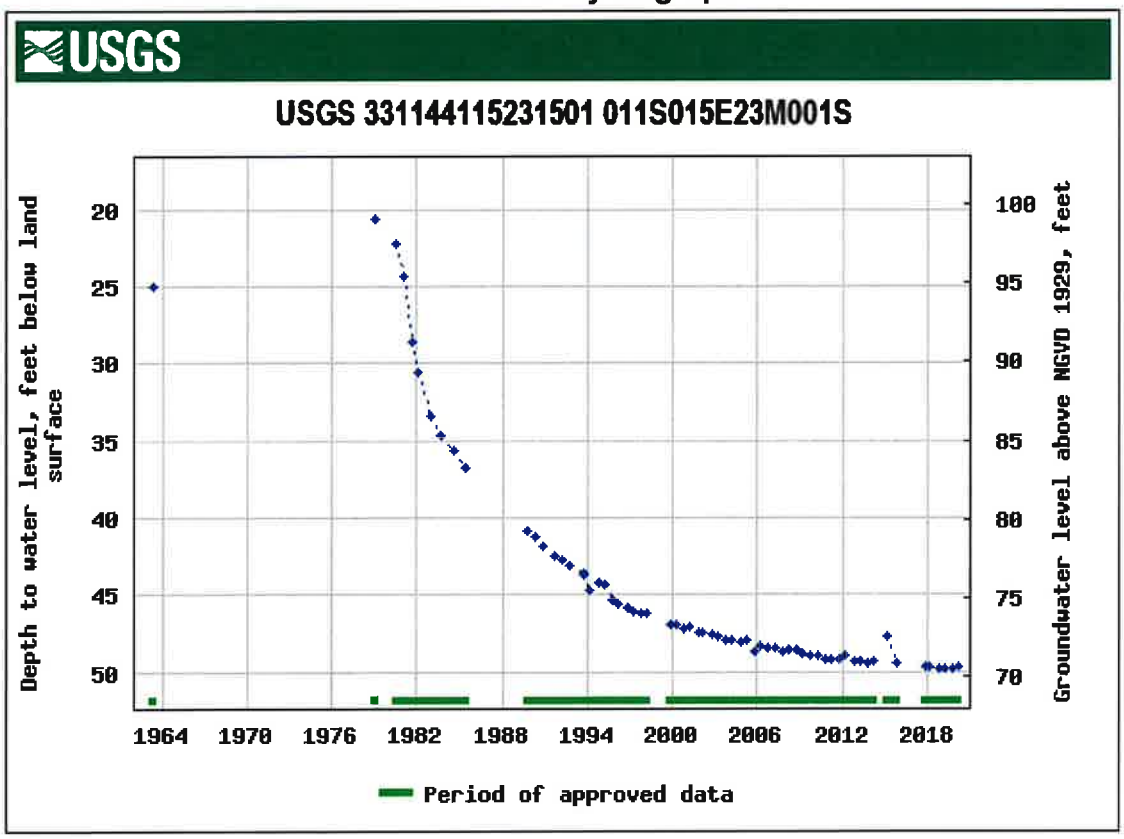
Figure 5 is a hydrograph from USGS (2022) showing the groundwater level and groundwater elevation measured since 1963 in the sole active monitoring well in the Basin. As indicated on Figure 5, the groundwater level decreased at a relatively rapid rate from 1979 to approximately 2000, with the depth to water dropping from approximately 21 ft bgs to approximately 47 ft bgs over that period. Since 2000, the groundwater level has continued to decrease, but at a slower rate, with the level in March 2020 (the last date with a reported measurement by USGS) being approximately 50 ft bgs. While the groundwater level has decreased by almost 30 feet since 1979, it has changed by less than one foot over the past decade. Based on the depth to groundwater and the borehole depth for the monitoring well, the potential loss of aquifer volume since 1979 is only six percent of the total available storage reported by DWR (2003).

FIGURE 5. USGS Groundwater Level Hydrograph



Water quality samples were collected and analyzed from the monitoring well within the Basin in June and September 1963 (USGS, 2022). Table 1 shows the water quality results from June 1963. The September results were comparable. The groundwater sampled from the monitoring well has a normal pH but the levels of sodium, chloride, and sulfate are elevated compared to what would be expected from percolation of locak

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rainfall. The dissolved soids concentration of 2,190 milligrams per liter (mg/L) is more than twice the value of the high end of the range of the secondary maximum contaminant level (MCL) for drinking water of 1,000 mg/L. The high dissolved solids concentration renders the water unsuitable for potable or agricultural uses without treatment. The existing water quality is suitable for use for construction and maintenance purposes, though.

TABLE 1. USGS Water Quality Data (June 13, 1963)

Parameter	Units	Result
Temperature	Degrees Celsius (° C)	26.9
Specific Conductance	MicroSiemens per centimeter at 25° C	3630
pH	Standard units	7.4
Carbon Dioxide	Milligrams per liter (mg/L)	14
Acid Neutralizing Capacity	mg/L as calcium carbonate ($CaCO_3$)	174
Bicarbonate	mg/L	212
Carbonate	mg/L	0.0
Hardness	mg/L as $CaCO_3$	700
Non-carbonate hardness	mg/L as $CaCO_3$	530
Calcium	mg/L	106
Magnesium	mg/L	107
Sodium + Potassium	mg/L	500
Chloride	mg/L	635
Sulfate	mg/L	700
Fluoride	mg/L	1.6
Silica	mg/L as silica dioxide (SiO_2)	33
Dissolved Solids	mg/L	2190

Source:
https://nwis.waterdata.usgs.gov/nwis/qwdata?site_no=331144115231501&agency_cd=USGS&inventory_output=0&rdb_inventory_output=file&TZoutput=0&pm_cd_compare=Greater%20than&radio_parm_cds=all_parm_cds&format=html_table&qw_attributes=0&qw_sample_wide=wide&rdb_qw_attributes=0&date_format=YYYY-MM-DD&rdb_compression=file&submitted_form=brief_list

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4.3 Groundwater Sustainability

A series of three bills passed by the California legislature and were signed by Governor Brown on September 16, 2014. These three bills, Assembly Bill (AB) 1739, SB 1168, and SB 1319, together comprise the Sustainable Groundwater Management Act of 2014 (SGMA). SGMA provides a structure under which local agencies are to develop a sustainable groundwater management program. SGMA focuses on basins or subbasins designated by DWR as high or medium priority basins, and those with critical conditions of overdraft.

According to DWR (2022b), the Basin is a very low priority basin. DWR has not identified the Basin as overdrafted nor has it projected that the basin will become overdrafted if present management conditions continue (DWR, 2021 and 2022c). Thus, the Basin is not subject to the current requirements of SGMA, including the formation of a groundwater sustainability agency (GSA) and preparation of a groundwater sustainability plan (GSP).

5.0 PROJECT WATER DEMAND

Water demand varies depending on the Project phase. During construction, water will be needed for dust control and soil conditioning during installation of the photovoltaic panels, battery storage units, and related infrastructure. During the operational phase of the project, water will be needed for routine maintenance activities, which primarily consists of washing the photovoltaic panels to maintain generation efficiency.

Table 2. Project Water Demand

Site	Area (acres)	Output (megawatts)	Construction Water (acre-feet)	Operational Water (acre-feet per year)
Vega SES 2	1323	240	630 (total combined)	10
Vega SES 3	230	60		2

Table 2 provides a summary of Project parameters that affect water demand and the estimated water needs for construction and operation. The construction water demand is primarily for dust control. Thus, the water needs are proportional to the size of the disturbed area and the local climate. Construction of the Vega SES 2 and Vega SES 3 sites is expected to occur simultaneously and the combined construction water demand is approximately 630 acre-feet. Construction is anticipated to require 12 to 18 months to complete. Thus, the monthly water demand during that period may range from 35 acre-feet to 52.5 acre-feet, on average.

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The operational water demand for panel washing and other maintenance needs is based primarily on the number of panels, which relates to the energy production or output, in megawatts. The operational water demand is anticipated to range from 10 acre-feet per year for Vega SES 2 to two acre-feet per year for Vega SES 3. The maintenance activities for each system are anticipated to be conducted up to twice a year over a one-to-two-week period each event, so the maintenance water demand is intermittent and not spread throughout the year. The operational water demand will occur throughout the life of the Project.

6.0 DRY YEAR SUPPLY

The volume and sustainability of dry-year water supply for the Project is addressed by comparing annual rainfall with changes in groundwater levels in the Basin. This comparison is made for a normal or average water year[1], for single dry year, and for multiple dry water years. Local rainfall data were obtained from the Western Region Climate Center (WRCC, 2022) for Niland, California, located approximately four miles northwest of the Project location (see Figure 1).

Figure 6 shows the annual water year rainfall for Niland, California from 1943 through 2017. The average water year rainfall during this period is 2.58 inches. The driest year was 1956, when no precipitation was recorded. The driest year during the period of available groundwater elevation data (see Figure 5) was 1996, with only 0.2 inch of rainfall reported. The wettest year was 1983, when 8.23 inches of rain was measured. As indicated on Figure 6, a relatively wet period occurred from 1976 to 1986, with 10 of 11 water years exceeding the average annual rainfall. In comparison, the period from 1996 to 2016 was relatively dry, with 18 of 21 water years having below normal rainfall.

The historic rainfall data on Figure 6 can be compared with the groundwater levels shown on Figure 5 to assess the effects of wet and dry periods on groundwater supply in the Basin. The wettest year recorded, 1983, and the relatively wet period from 1976 to 1986, correspond to a period when groundwater levels were dropping rapidly. In contrast, the dry period from 1996 to 2016 corresponds to a period when the rate of decline of the groundwater elevation was attenuating rapidly and beginning to stabilize. Thus, the available groundwater level and rainfall data do not indicate any relationship between wet, normal, single dry year, or multiple dry years and available groundwater supply. As

[1] In California, a water year is defined as the period from October 1 of a calendar year through September 30 of the subsequent calendar year. A water year is designated by the year in which it ends. For example, the period from October 1, 2006 through September 30, 2007 is referred to as the 2007 water year. Due to the nature of weather patterns in the state, a water year better represents hydrologic conditions related to wet and dry periods than does a calendar year.

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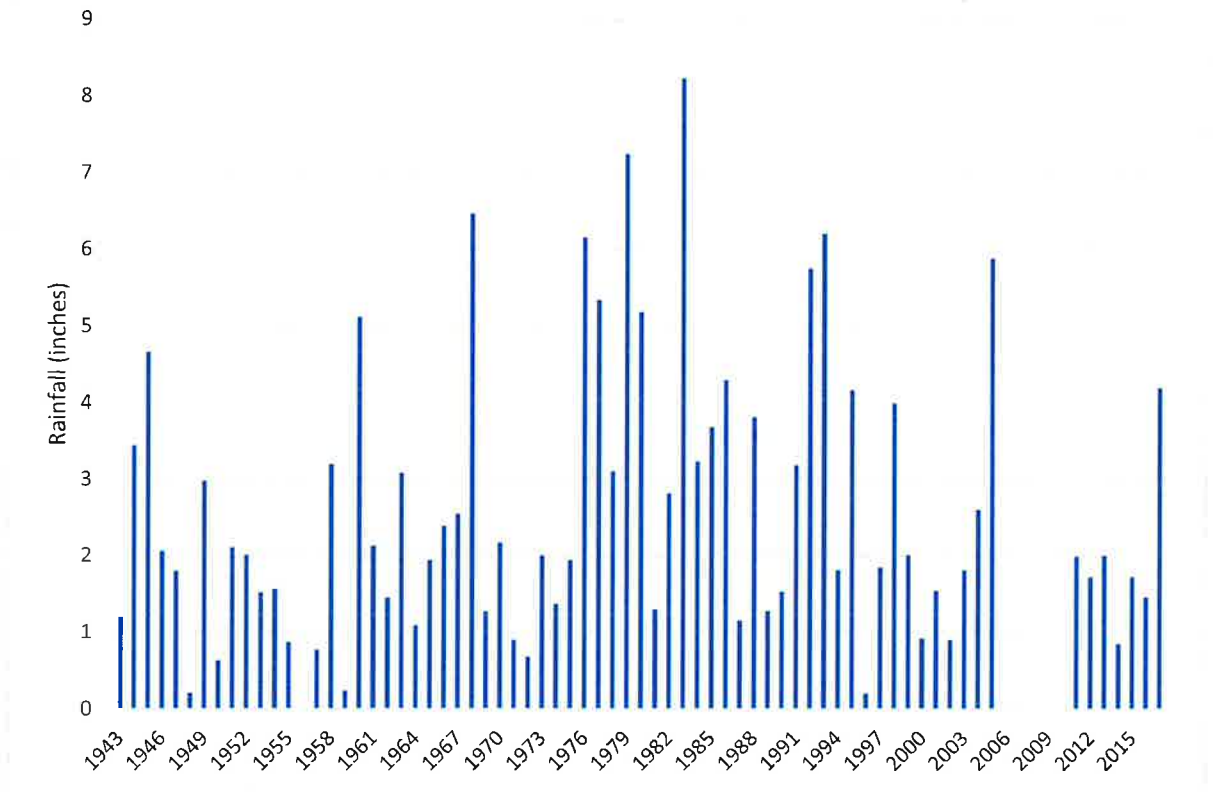
noted above in Section 4.2, recharge of groundwater occurs primarily due to runoff from the mountains during individual major storm events (DWR, 2003). Such storm events typically occur infrequently and there may be many years between events that produce enough runoff to provide appreciable recharge.

Figure 6. Water Year Rainfall at Niland



The total groundwater storage capacity of the Basin is estimated to be 360,000 acre-feet (DWR, 2003) and the groundwater level decline from 1979 to 2018 decreased groundwater storage by approximately six percent (see Section 4.2). Thus, the current storage in the Basin may be in the range of 335,000 to 340,000 acre-feet. The single year combined construction water demand of 630 acre-feet and the annual combined operational water needs of 12 acre-feet are miniscule (0.2 percent and 0.004 percent, respectively) compared to the available groundwater in storage. Furthermore, the long term annual operational water needs are much less than the estimated annual recharge of 200 acre-feet per year. Overall, there is adequate water available to supply the Project water needs during single dry, and multiple dry year periods.

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7.0 FINDINGS and DISCUSSION

This WSA has been prepared in accordance with SB 610 and SB 1262 to support the CEQA environmental review for the proposed Project and provides an assessment of water supply adequacy for the Project in accordance with Water Code Sections 10910 through 10915. As stated in Section 1.0, the purpose of the assessment is to determine if available water supplies are sufficient to serve the demand generated by the Project, as well as the reasonably foreseeable demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. As noted in Section 4.2, above, while groundwater levels in the Basin had been declining during the period from the late 1970s to the early 2000s, over the past decade they have stabilized, indicating that current water demands are in balance with recharge and replenishment. The population, and presumably the related water demand, are anticipated to decrease over the next decade. Therefore, the Basin has adequate resources for current and anticipated future existing water needs.

The water demand for the proposed Project will consist of water needed during construction and water needed for maintenance once the Project is operational. The construction water demand is anticipated to be a combined total of 630 acre-feet over 12 to 18 months, primarily for dust control. The operational demand is anticipated to be a combined total of 12 acre-feet per year for panel washing and other maintenance activities. The operational demand will exist for the life of the Project, which is anticipated to be 25 to 30 years.

The construction water demand exceeds the reported average annual recharge to the Basin of 200 acre-feet per year (DWR, 2003). However, the construction water needs are short-term and temporary. This temporary water use is not anticipated to cause persistent and long-term lowering of groundwater levels. Therefore, the construction water demand will not cause or contribute to overdraft, exhaustion of water supplies, lowering of groundwater levels to depths that would be uneconomic for pumping, land subsidence, or significant alteration of groundwater quality.

The annual operational water needs are equivalent to six percent of the average annual recharge and 0.004 percent of the estimated current storage volume of the Basin. Therefore, the long-term operation and maintenance of the Project would not have any measurable effect or impact on groundwater resources in the Basin.

Based on the analysis presented in this WSA, there will be sufficient water available for existing water uses in the Basin and the Project water demand during normal, single dry year, and multiple dry year periods for the anticipated life of the Project, which is anticipated to be greater than 20 years.

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8.0 DOCUMENTS CONSIDERED AND REFERENCES CITED

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U.S. Geological Survey (USGS), 2022, National Water Information System (NWIS) website, https://nwis.waterdata.usgs.gov/usa/nwis/gwlevels/?site_no=331144115231501, accessed November 29, 2022.

Western Region Climate Center (WRCC), 2022, Niland, California Climate Summary, https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6197, accessed November 29, 2022.

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RESOLUTION NO.

A RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF IMPERIAL, CALIFORNIA, RECOMMENDING APPROVAL OF THE WATER SUPPLY ASSESSEMENT FOR THE VEGA SES 5 SOLAR ENERGY STORAGE PROJECT TO THE BOARD OF SUPERVISORS.

WHEREAS, the VEGA SES 5 Solar Energy Project qualifies as a "project" under the Water Code triggering the need to prepare a Water Supply Assessment because it proposed to a demand of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project, and/or because it is a proposed industrial use occupying more than 40 acres of land. The Water Supply Assessment (WSA) has been prepared in accordance with Water Code 10912(c) (4); and,

WHEREAS, the Imperial County Board of Supervisors has the authority and responsibility for approving the Water Supply Assessment; and,

WHEREAS, the duty to prepare a Water Supply Assessment falls to the County of Imperial ("County") because the Imperial Irrigation District (IID) is not a public water system within the meaning of the Water Code 10912(c); and,

WHEREAS, the County, in consultation with an expert engineering firm and the IID prepared the Water Supply Assessment , which includes any and all Water Supply Assessment addendums; and,

WHEREAS, the County has independently reviewed and considered the Water Supply Assessment and the entire administrative record, and;

WHEREAS, public notice of said application has been given, and the Planning Commission has considered evidence presented by the Imperial County Planning & Development Services Department and other interested parties at a public hearing held with respect to this item on August 23, 2023; and,

NOW THEREFORE, the Planning Commission of the County of Imperial **DOES HEREBY RECOMMEND APPROVAL TO THE BOARD OF SUPERVISORS BASED ON THE FOLLOWING FINDINGS FOR THE WSA** as follows:

SECTION 1. The Planning Commission has considered the proposed VEGA SES 5 SOLAR ENERGY STORAGE PROJECT WSA prior to making a decision to recommend approval of the proposed WSA. The Planning Commission finds and determines that the WSA is adequate and prepared in accordance with the requirements of Water Code, Section 10912(c)(4) and the analysis of the WSA demonstrates that the total projected water supplies, determined to be available by the County for the Project during normal, single dry, and multiple dry water years, will meet the projected water demand associated with the proposed project and based upon the following findings and determinations.

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SECTION 2. That in accordance with State Planning and Zoning law, the County Planning Commission makes the following findings for the approval of the VEGA SES 5 SOLAR ENERGY projects:

1. This Water Supply Assessment (WSA) has determined that adequate ground water supply is currently available as well as during normal water years. Adequate agreements, plans and policies are in place that enable the Imperial Unit water supply to be considered reliable for 40 years.

2. The WSA has determined that the construction water and operational water required for VEGA SES 5 Solar and Battery Storage project is sufficient.

3. A Water Well Conditional Use Permit approval will be required before ground water is allowed to be pumped for construction and operations. Total acreage feet of water allowed for this water well CUP will be 205 af. (acre feet) for the construction and 5 acre feet for VEGA SES 5 for the life of project. Conditions will be applied with CUP to require owner of facility to monitor and report annual acre feet used.

NOW, THEREFORE, based on the above findings, the Planning Commission of the County of Imperial **DOES HEREBY** recommend approval to the Board of Supervisors for the proposed Water Supply Assessment for VEGA SES 5 SOLAR ENERGY Projects.

_____

Rudy Schaffner, Chairman
Imperial County Planning Commission

I hereby certify that the preceding resolution was taken by the Planning Commission at a meeting conducted on **August 23, 2023** by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

_____

James Minnick, Secretary of the
Planning Commission/Director of Planning

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Water Supply Assessment
For the ZGlobal
Vega SES 5, LLC
Solar Energy Project
Imperial County, California

Prepared for:

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November 30, 2022

PC ORIGINAL PKG

Water Supply Assessment
For the ZGlobal
Vega SES 5, LLC
Solar Energy Project
Imperial County, California

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Water Supply Assessment
For the ZGlobal
Vega SES 5, LLC
Solar Energy Project
Imperial County, California

1.0 INTRODUCTION

EMKO Environmental, Inc. (EMKO) has prepared this Water Supply Assessment (WSA) as a subconsultant to ECORP Consulting, Inc. for the proposed ZGlobal Vega SES 5, LLC Solar Energy Project (Project) in Imperial County, California at the location indicated on Figure 1. Project water use includes dust control and soil conditioning requirements during construction and routine maintenance, primarily panel washing, during operation.

Water Code Sections 10910 through 10915 were amended by Senate Bill 610 (SB 610) in 2002. SB 610 requires that under specific circumstances, as detailed below, an assessment of available water supplies must be conducted. The purpose of the assessment is to determine if available water supplies are sufficient to serve the demand generated by the Project, as well as the reasonably foreseeable demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. Water Code Section 10910 was further amended by SB 1262 on September 24, 2016 to require a Water Supply Assessment to include additional information regarding the groundwater basin designation and adjacent water systems. This report provides the information required for a Water Supply Assessment (WSA), as described in the October 2003 *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001 to Assist Water Suppliers, Cities, and Counties in Integrating Water and Land Use Planning*, published by the California Department of Water Resources (DWR Guidebook) along with the additional information required by SB 1262.

2.0 PROJECT DESCRIPTION

Vega SES 5, LLC is proposing to construct and operate solar energy generation and storage facilities on private lands in the Imperial Valley in Imperial County. The Project site is located approximately four miles southeast of the community of Niland and 16 miles northeast of the City of Brawley (see Figure 1).

Vega SES 5 would cover approximately 410 acres in Sections 17 and 19 of Township 11 South, Range 15 East of the San Bernardino Base and Meridian (SBB&M) within the "Iris" 7.5-minute U.S. Geologic Survey (USGS) quadrangle. The Project site includes all or part of Imperial County Assessor's Parcel Numbers (APNs) 025-260-011

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(approximately 160 acres), APN 025-260-019 (approximately 90 acres) and APN 025-260-022 (approximately 160 acres). The East Highline Canal runs diagonally through APN 025-260-022 (see Figure 2). The other two parcels are located east of the East Highline Canal. Vega SES 5 would include a 50-megawatt solar photovoltaic system and integrated 100-megawatt battery energy storage system along with related substations and transmission lines. Figure 3 is a Site Plan showing the Project layout and ancillary facilities.

All parcels are located within the Imperial County Renewable Energy Overlay Zone, requiring projects to be permitted through the issuance of a Conditional Use Permit (CUP), which is a discretionary action by the County requiring compliance with the California Environmental Quality Act (CEQA). This Water Supply Assessment is intended to support and be a part of the CEQA analysis.

Domestic water and sanitation facilities would be required during construction. These would be provided through bottled water and portable facilities. A domestic/potable water connection would not be required.

Construction is anticipated to require 12 months to complete. Anticipated operational Project life is 25 to 30 years.

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Figure 1. Regional Location Map

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Figure 2. Project Location

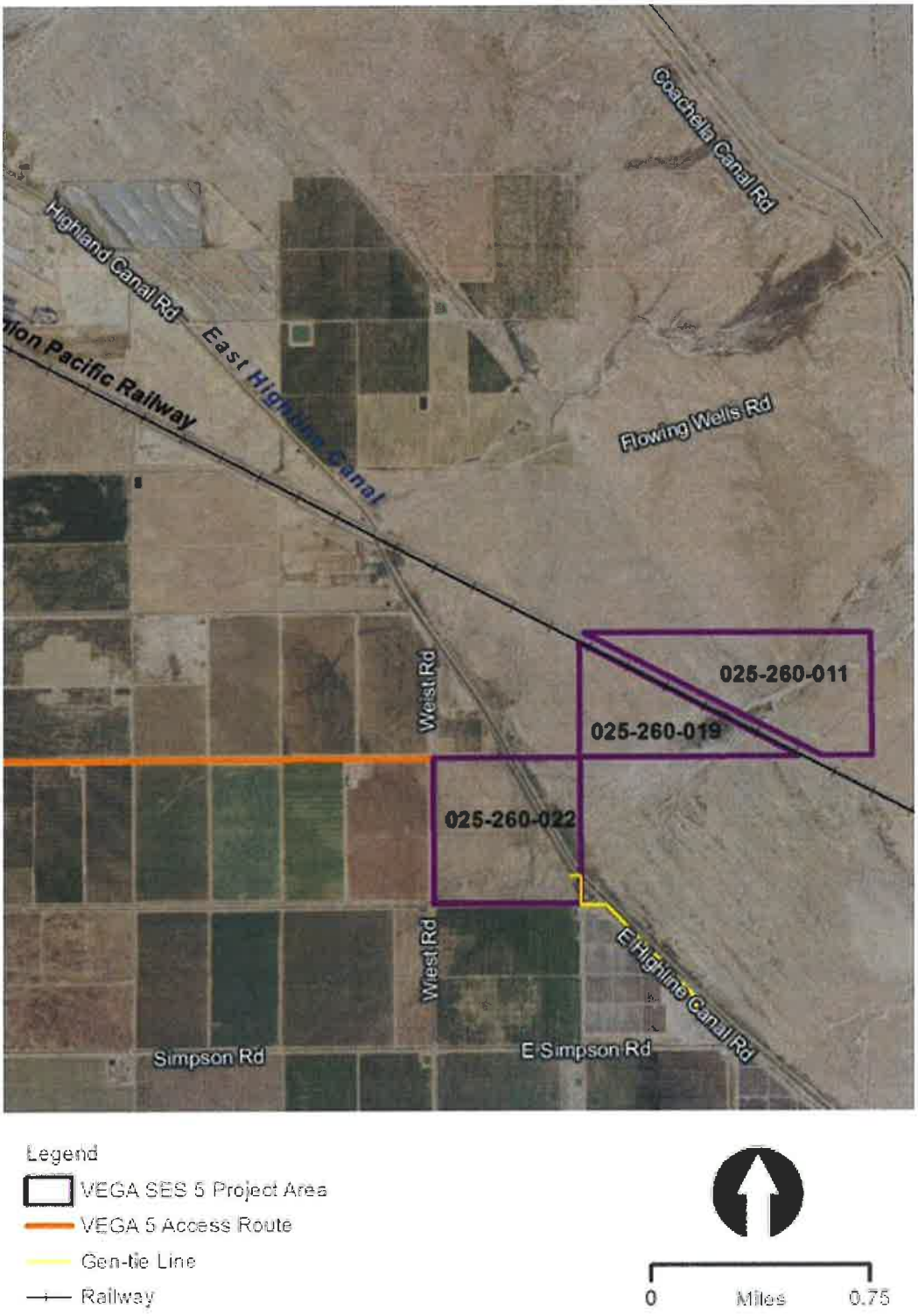

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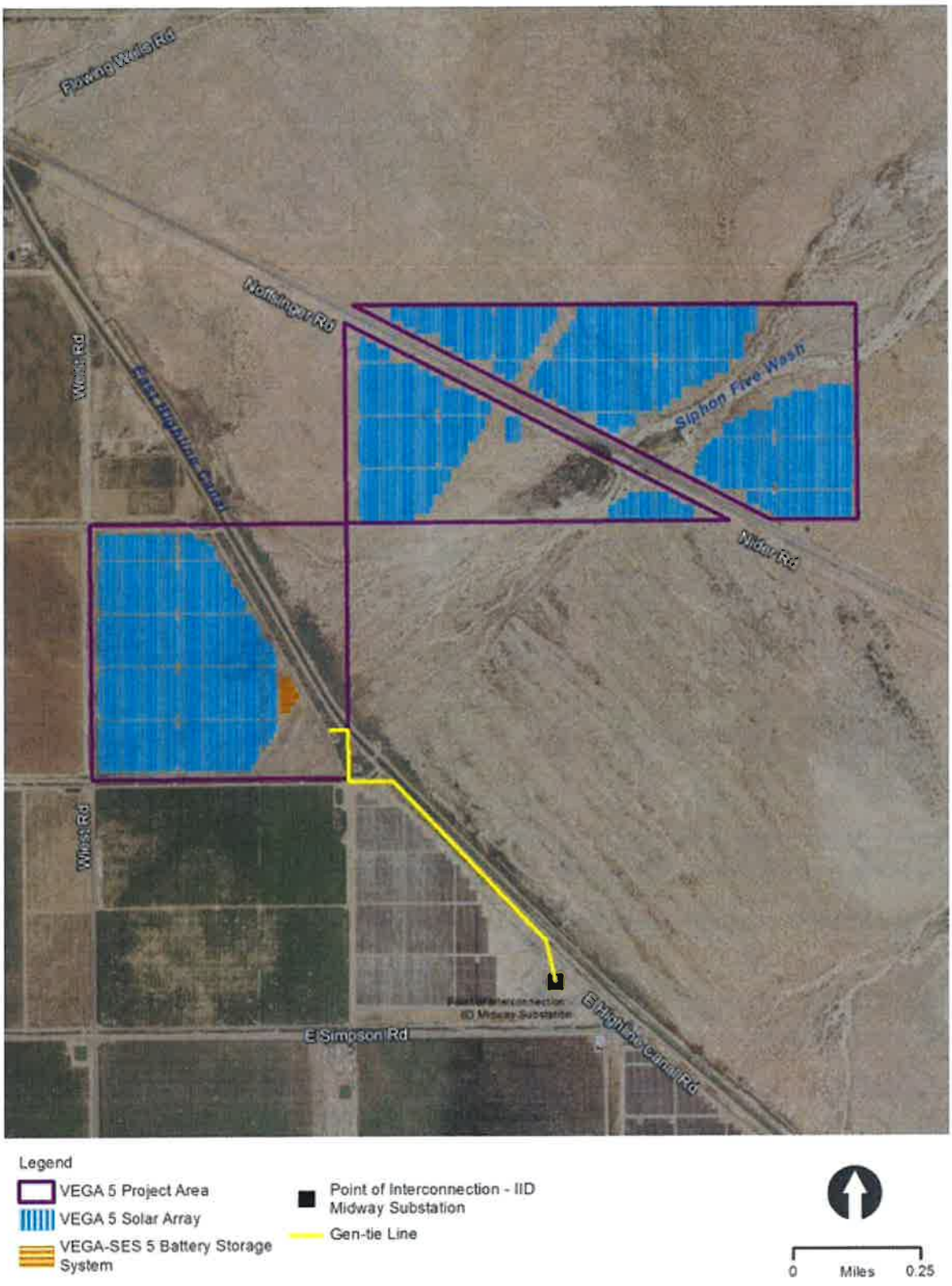
FIGURE 3. Site Plan



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3.0 WATER SUPPLY PLANNING UNDER SB 610 and SB 1262

SB 610, effective January 1, 2002, amends Sections 10910 through 10915 of the Water Code by requiring preparation of a WSA for development projects subject to CEQA and other criteria, as discussed below. SB 610 also amends Section 10631 of the Water Code, which relates to Urban Water Management Plans (UWMPs). The WSA process under SB 610 is designed to rely on the information typically contained in UWMPs, where available.

On September 24, 2016, SB 1262 further amended Section 10910 of the Water Code to require additional information related to adjacent public water systems and the status of the groundwater basin. These amendments provide additional consistency with the Sustainable Groundwater Management Act of 2014, as discussed further in Section 4.4.

The first steps in the WSA process are to determine whether SB 610 applies to the proposed Project. If so, then documentation of available water supplies, anticipated Project demand, and the sufficiency of supplies must be conducted. These issues are summarized by the following questions, as outlined in the DWR Guidebook:

1. Is the proposed Project subject to CEQA?
2. Is the proposed Project a "Project" under SB 610?
3. Is there a public water system that will service the proposed Project?
4. Is there a current UWMP that accounts for the project demand?
5. Is groundwater a component of the supplies for the Project?
6. Are there sufficient supplies to serve the Project over the next twenty years?

Each of these issues are discussed in the following sections as they relate to the proposed Project.

3.1 Is the Proposed Project Subject to CEQA?

The first step in the SB 610 process is to determine whether the proposed project is subject to CEQA. Water Code Section 10910(a) states that any city or county that determines that an application meets the definition of "project", per Water Code Section 10912 (see Section 3.2, below), and is subject to CEQA, shall prepare a water supply assessment for the project. CEQA applies to projects requiring issuance of a discretionary permit by a public agency, projects undertaken by a public agency, or projects funded by a public agency. As noted in Section 2.0, the proposed Project is within the Imperial County Renewable Energy Overlay Zone, which requires discretionary approval of a CUP by Imperial County, a public agency. Therefore, the Project is subject

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to CEQA. This WSA has been prepared to support the environmental review that will be conducted by Imperial County under CEQA.

3.2 Is the Proposed Project a "Project" Under SB 610?

The second step in the SB 610 process is to determine if the proposed Project meets the definition of "project" under Water Code Section 10912(a). Under Section 10912(a) a "project" is defined as meeting any of the following criteria:

1. a proposed residential development of more than 500 dwelling units;
2. a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
3. a proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
4. a proposed hotel or motel, or both, having more than 500 rooms;
5. a proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
6. a mixed-use project that includes one or more of the projects defined above; or
7. a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The Project encompasses 410 acres. As a result, the Project will include an industrial site that is larger than 40 acres and thus this WSA is being prepared in accordance with criterion 5, above.

3.3 Is There a Public Water System That Will Service the Proposed Project?

Section 10912(c) of the Water Code identifies a public water system as a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections. The Project site is approximately four miles southeast of the community of Niland and 16 miles northeast of the City of Brawley. APN 025-260-011, APN 025-260-019, and the area of APN 025-260-022 east of the East Highline Canal are located within Imperial Irrigation District's (IID's) East Mesa Unit, while 114.4 acres of the area of APN 025-260-022 west of the East Highline Canal is within IID's Imperial Unit (IID, 2022). The Project parcel areas in the East Mesa Unit do not currently have water service from IID. Although water service from IID is currently available for the area of APN 025-260-022 within the Imperial Unit, Vega SES 5, LLC does not plan to use surface water from IID to supply any area of the Project. Thus, there are no public water systems that will serve the Project. The water supply will be provided by new onsite groundwater supply wells to be drilled and installed as part of the Project.

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3.4 Is There a Current Urban Water Management Plan That Accounts for the Project Demand?

The Water Code requires that all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet per year, must prepare an UWMP. The DWR Guidebook (page iii) states that SB 610 repeatedly refers to the UWMP as a planning document that can be used to meet the standards set forth in the statute, and that UWMPs act as a foundation to fulfill the requirements of the statute. As noted in Section 3.3, above, there are no public water systems that will serve the Project and, therefore, there is not an UWMP that addresses the Project area or Project demand. Since there is not an UWMP that accounts for the Project demand, this WSA is based upon available and relevant information from DWR, the USGS, and other publicly available data. As this WSA has been prepared for use by the CEQA lead agency, this document includes an evaluation of whether the total projected water supplies, determined to be available during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed Project, in addition to existing and planned future uses, including agricultural and manufacturing uses, in accordance with Water Code § 10910(c)(4).

3.5 Is Groundwater a Component of the Supplies for the Project?

Water Code Section 10910(f), paragraphs 1 through 5, must be addressed if groundwater is a source of supply for the proposed Project. As described in Section 3.3, the water supply will be provided by new groundwater supply wells that will be drilled and installed as part of the Project. One groundwater supply well is proposed to be drilled on APN 025-260-022. Additional water may be supplied from two wells to be installed as part of the ZGlobal Vega SES 2, LLC and Vega SES 3, LLC projects, located to the northeast of the Vega SES 5, LLC project area. Evaluation of available water supply from those two wells to the northeast has been conducted as part of a separate WSA for the adjacent Vega SES projects (EMKO, 2022). However, a separate assessment of groundwater conditions and availability for the Vega SES 5, LLC project is included in this document.

Water Code Section 10910(f) paragraphs 1 through 5, as modified by SB 1262, state:

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

> (1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.
>
> (2) (A) A description of any groundwater basin or basins from which the proposed project will be supplied. (B) For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to

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comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. (C) For a basin that has not been adjudicated that is a basin designated as high- or medium priority pursuant to Section 10722.4, information regarding the following: (i) Whether the department has identified the basin as being subject to critical conditions of overdraft pursuant to Section 12924; and (ii) If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative, a copy of that alternative or plan. (D) For a basin that has not been adjudicated that is a basin designated as low- or very-low priority pursuant to Section 10722.4, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

Paragraphs 1 through 4, above, are addressed in Section 4.0, below, including a description of the groundwater basin, groundwater conditions, and available supply. Section 5.0 presents available information regarding water demand for the Project.

The Paragraph 5 requirement to provide an analysis of the sufficiency of the groundwater basin to meet the projected water demand associated with the proposed project is addressed in Section 6.0, below.

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3.6 Are There Sufficient Supplies to Serve the Project Over the Next Twenty Years?

Water Code Section 10910(c)(4) requires the WSA to "*include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and future planned uses, including agricultural and manufacturing uses.*"

The sufficiency of water supply for the proposed Project is addressed in Sections 6.0 and 7.0, below.

4.0 PROJECT WATER SUPPLY

As stated in Section 3.3, above, water for the Project will be provided by new wells to be drilled for this and adjacent solar energy projects. As such, groundwater will be the sole water supply for both the construction and operational water needs. Because there are no public water systems or other significant users of groundwater in the groundwater basin, there are no Urban Water Management Plans or other planning documents that can be relied upon for this WSA. Thus, limited information is available regarding groundwater conditions in the Project vicinity.

Overall conditions within the groundwater basin are described in Section 4.1. Groundwater recharge and available supply are discussed in Section 4.2. Groundwater level trends and the status of the basin relative to the Sustainable Groundwater Management Act of 2014 (SGMA) is provided in Section 4.3, as required by SB 1262.

4.1 Groundwater Basin

Most of the Project is located within the western part of the East Salton Sea Groundwater Basin, designated as basin number 7-033, as defined by DWR (2022a) (see Figure 4). However, approximately 20 acres in the southwest corner of APN 025-260-022 overlies the adjacent Imperial Valley Groundwater Basin, designated as basin number 7-030 (DWR, 2022a). The inset on the left side of Figure 4 shows the area of the Project within the Imperial Valley Groundwater Basin. As discussed further below, all groundwater for the Project will be sourced from the East Salton Sea Groundwater Basin (Basin). Therefore, except for additional limited information provided in Section 4.3, below, the Imperial Valley Groundwater Basin is not addressed further in this WSA.

The Basin is bounded on the northeast by the Chocolate Mountains and on the southwest by the San Andreas and Banning Mission Creek fault zones (DWR, 2003). DWR (2003) reports that these faults zones may act as barriers to groundwater movement between basins. The northwest and southeast edges of the groundwater

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basin are approximately defined by transitions between major surface drainages coming off of the Chocolate Mountains. The groundwater basin has an area of approximately 196,000 acres, or 306 square miles (DWR, 2003). The Basin has not been adjudicated (DWR, 2022b). Figure 4 shows the groundwater basin boundary and the approximate location of the Project.

Groundwater occurs within unconsolidated to semi-consolidated coarse sediment eroded from the Chocolate Mountains (DWR, 2003). The sediment generally occurs within large alluvial fans that originate at drainages and canyons within the bedrock formations in the mountains and spread out as they decrease in elevation toward the floor of the Imperial Valley or the Salton Sea. The alluvial fan sediments range in age from Tertiary to Quaternary. DWR (2003) reports that the alluvium is at least 400 feet thick.

4.2 Groundwater Supply and Recharge

DWR (2022c) reports that the population in the Basin in 2010 was approximately 1,093 persons and that the population is expected to decrease 10 percent by 2030. There are no public water supply wells in the Basin and 11 total wells present. Only 4,906 acres of the 196,000-acre Basin, or 2.54 percent, are irrigated (DWR, 2022c). The total groundwater storage capacity of the groundwater basin is estimated to be 360,000 acre-feet (DWR, 2003).

The average annual rainfall is very low, as discussed further in Section 6.0 below, and typically does not provide a sufficient quantity of moisture to percolate deep into the alluvial sediments. As a result, recharge of groundwater occurs primarily due to runoff from the Chocolate Mountains during major storm events, which may not occur every year. The average annual recharge is estimated to be 200 acre-feet per year (DWR, 2003). That estimate is from a 1975 version of DWR Bulletin 118. No changes to basin conditions are reported in the most recent updates to DWR Bulletin 118 (DWR, 2021 and 2022a).

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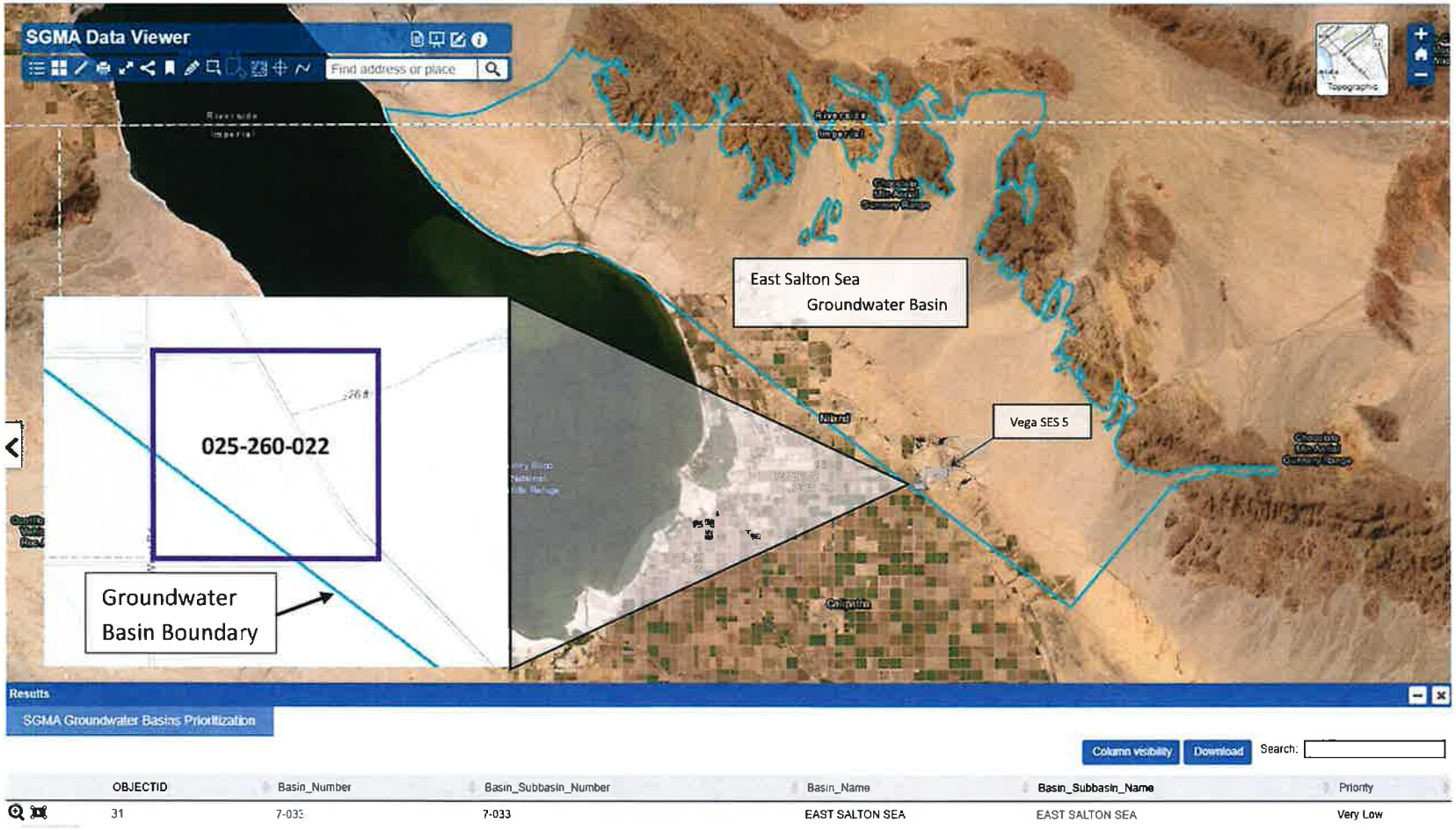
FIGURE 4. East Salton Sea Groundwater Basin



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DWR's California Data Exchange Center website (https://cdec.water.ca.gov) and the USGS's National Water Information System mapping application (https://maps.waterdata.usgs.gov/mapper/index.html) show only one active groundwater monitoring location within the Basin at the time this report was prepared. That well is located approximately 3,600 feet southeast of the southeast corner of the Project site and 950 feet northeast of the Coachella Canal. The well has USGS identification number 331144115231501, which identifies the latitude and longitude of the well (i.e., 33°11'44" latitude, -115°23'15" longitude), and California state well number 011S015E23M001, which indicates the township, range, and quarter-quarter section (i.e., northwest quarter or the southwest quarter of township 11S, range 15E, San Bernardino Base and Meridian). The ground surface elevation at the well location is reported to be 120 feet above mean sea level (ft msl) while the borehole in which the well was installed is reported to have been drilled to a depth of 550 feet below ground surface (ft bgs) (USGS, 2022).

FIGURE 5. USGS Groundwater Level Hydrograph

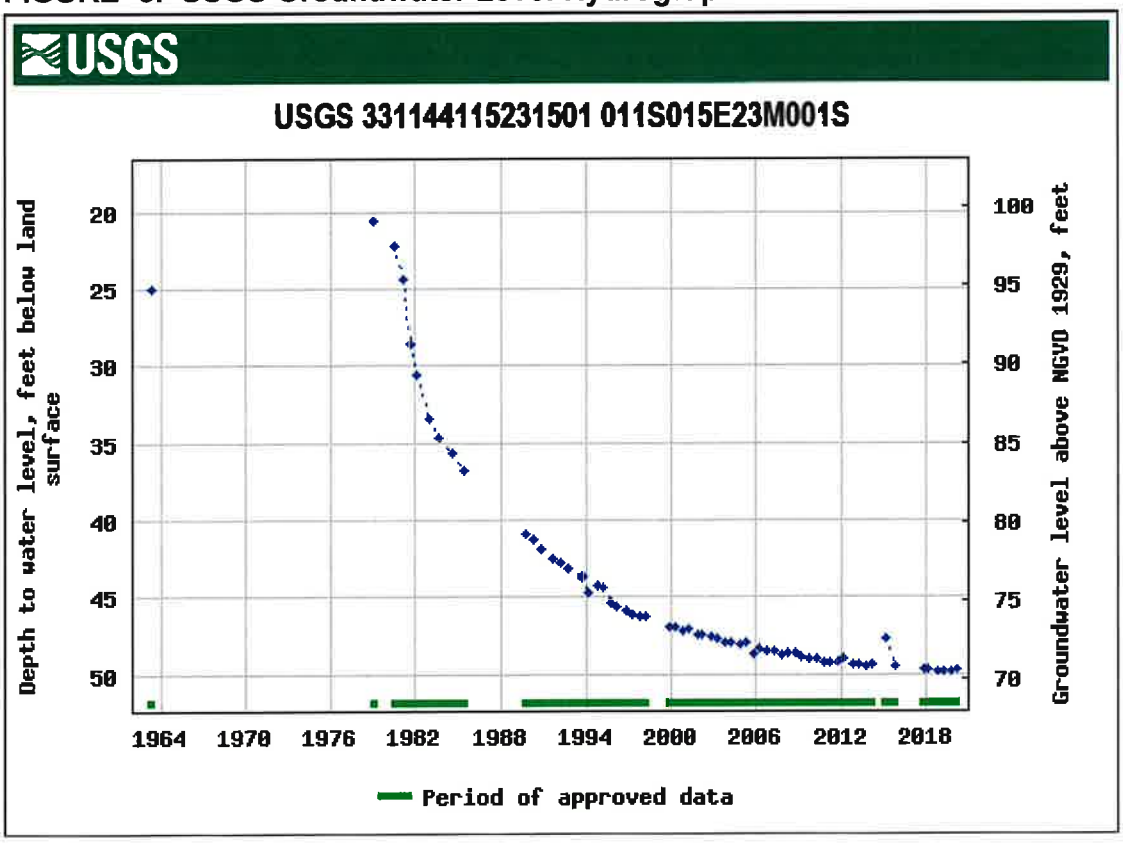

Figure 5 is a hydrograph from USGS (2022) showing the groundwater level and groundwater elevation measured since 1963 in the sole active monitoring well in the Basin. As indicated on Figure 5, the groundwater level decreased at a relatively rapid

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rate from 1979 to approximately 2000, with the depth to water dropping from approximately 21 ft bgs to approximately 47 ft bgs over that period. Since 2000, the groundwater level has continued to decrease, but at a slower rate, with the level in March 2020 (the last date with a reported measurement by USGS) being approximately 50 ft bgs. While the groundwater level has decreased by almost 30 feet since 1979, it has changed by less than one foot over the past decade. Based on the depth to groundwater and the borehole depth for the monitoring well, the potential loss of aquifer volume since 1979 is only six percent of the total available storage reported by DWR (2003).

TABLE 1. USGS Water Quality Data (June 13, 1963)

Parameter	Units	Result
Temperature	Degrees Celsius (° C)	26.9
Specific Conductance	MicroSiemens per centimeter at 25° C	3630
pH	Standard units	7.4
Carbon Dioxide	Milligrams per liter (mg/L)	14
Acid Neutralizing Capacity	mg/L as calcium carbonate ($CaCO_3$)	174
Bicarbonate	mg/L	212
Carbonate	mg/L	0.0
Hardness	mg/L as $CaCO_3$	700
Non-carbonate hardness	mg/L as $CaCO_3$	530
Calcium	mg/L	106
Magnesium	mg/L	107
Sodium + Potassium	mg/L	500
Chloride	mg/L	635
Sulfate	mg/L	700
Fluoride	mg/L	1.6
Silica	mg/L as silica dioxide (SiO_2)	33
Dissolved Solids	mg/L	2190

Source:
https://nwis.waterdata.usgs.gov/nwis/qwdata?site_no=331144115231501&agency_cd=USGS&inventory_output=0&rdb_inventory_output=file&TZoutput=0&pm_cd_compare=Greater%20than&radio_parm_cds=all_parm_cds&format=html_table&qw_attributes=0&qw_sample_wide=wide&rdb_qw_attributes=0&date_format=YYYY-MM-DD&rdb_compression=file&submitted_form=brief_list

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Water quality samples were collected and analyzed from the monitoring well within the Basin in June and September 1963 (USGS, 2022). Table 1 shows the water quality results from June 1963. The September results were comparable. The groundwater sampled from the monitoring well has a normal pH but the levels of sodium, chloride, and sulfate are elevated compared to what would be expected from percolation of local rainfall. The dissolved solids concentration of 2,190 milligrams per liter (mg/L) is more than twice the value of the high end of the range of the secondary maximum contaminant level (MCL) for drinking water of 1,000 mg/L. The high dissolved solids concentration renders the water unsuitable for potable or agricultural uses without treatment. The existing water quality is suitable for use for construction and maintenance purposes, though.

4.3 Groundwater Sustainability

A series of three bills passed by the California legislature and were signed by Governor Brown on September 16, 2014. These three bills, Assembly Bill (AB) 1739, SB 1168, and SB 1319, together comprise the Sustainable Groundwater Management Act of 2014 (SGMA). SGMA provides a structure under which local agencies are to develop a sustainable groundwater management program. SGMA focuses on basins or subbasins designated by DWR as high or medium priority basins, and those with critical conditions of overdraft.

According to DWR (2022b), the both the East Salton Sea Groundwater Basin and the Imperial Valley Groundwater Basin are very low priority basins. DWR has not identified these two basins as being overdrafted nor has it projected that these basins will become overdrafted if present management conditions continue (DWR, 2021 and 2022c). Thus, neither groundwater basin is subject to the current requirements of SGMA, including the formation of a groundwater sustainability agency (GSA) and preparation of a groundwater sustainability plan (GSP).

5.0 PROJECT WATER DEMAND

Water demand varies depending on the Project phase. During construction, water will be needed for dust control and soil conditioning during installation of the photovoltaic panels, battery storage units, and related infrastructure. During the operational phase of the project, water will be needed for routine maintenance activities, which primarily consists of washing the photovoltaic panels to maintain generation efficiency.

Table 2 provides a summary of Project parameters that affect water demand and the estimated water needs for construction and operation. The construction water demand is primarily for dust control. Thus, the water needs are proportional to the size of the disturbed area and the local climate. Construction water demand is approximately 365

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acre-feet. Construction is anticipated to require 12 months to complete. Thus, the monthly water demand during that period will average about 30 acre-feet.

Table 2. Project Water Demand

Site	Area (acres)	Output (megawatts)	Construction Water (acre-feet)	Operational Water (acre-feet per year)
Vega SES 5	410	50	365	20

The operational water demand for panel washing and other maintenance needs is based primarily on the number of panels, which relates to the energy production or output, in megawatts. The operational water demand is anticipated to be 20 acre-feet per year. The maintenance activities are anticipated to be conducted up to twice a year over a one-to-two-week period each event, so the maintenance water demand is intermittent and not spread throughout the year. The operational water demand will occur throughout the life of the Project.

For the purpose of evaluating cumulative impacts, it should be noted that the evaluations in this WSA assume that Project construction will not occur simultaneously with construction of the adjacent Vega SES 2, LLC and Vega SES 3, LLC solar energy projects. However, operational water use for all three projects will occur over the same approximate timeframe during the next 25 to 30 years.

6.0 DRY YEAR SUPPLY

The volume and sustainability of dry-year water supply for the Project is addressed by comparing annual rainfall with changes in groundwater levels in the Basin. This comparison is made for a normal or average water year[1], for single dry year, and for multiple dry water years. Local rainfall data were obtained from the Western Region Climate Center (WRCC, 2022) for Niland, California, located approximately four miles northwest of the Project location (see Figure 1).

Figure 6 shows the annual water year rainfall for Niland, California from 1943 through 2017. The average water year rainfall during this period is 2.58 inches. The driest year was 1956, when no precipitation was recorded. The driest year during the period of available groundwater elevation data (see Figure 5) was 1996, with only 0.2 inch of rainfall

[1] In California, a water year is defined as the period from October 1 of a calendar year through September 30 of the subsequent calendar year. A water year is designated by the year in which it ends. For example, the period from October 1, 2006 through September 30, 2007 is referred to as the 2007 water year. Due to the nature of weather patterns in the state, a water year better represents hydrologic conditions related to wet and dry periods than does a calendar year.

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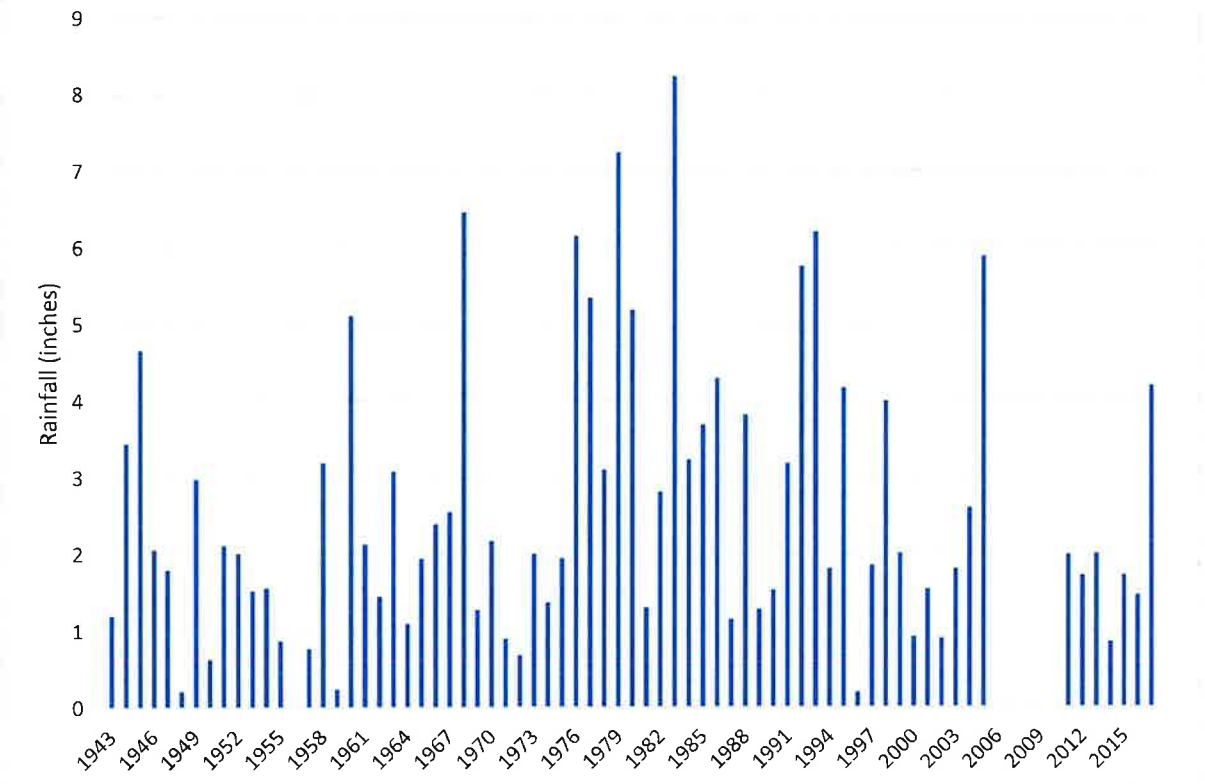
reported. The wettest year was 1983, when 8.23 inches of rain was measured. As indicated on Figure 6, a relatively wet period occurred from 1976 to 1986, with 10 of 11 water years exceeding the average annual rainfall. In comparison, the period from 1996 to 2016 was relatively dry, with 18 of 21 water years having below normal rainfall.

The historic rainfall data on Figure 6 can be compared with the groundwater levels shown on Figure 5 to assess the effects of wet and dry periods on groundwater supply in the Basin. The wettest year recorded, 1983, and the relatively wet period from 1976 to 1986, correspond to a period when groundwater levels were dropping rapidly. In contrast, the dry period from 1996 to 2016 corresponds to a period when the rate of decline of the groundwater elevation was attenuating rapidly and beginning to stabilize. Thus, the available groundwater level and rainfall data do not indicate any relationship between wet, normal, single dry year, or multiple dry years and available groundwater supply. As noted above in Section 4.2, recharge of groundwater occurs primarily due to runoff from the mountains during individual major storm events (DWR, 2003). Such storm events typically occur infrequently and there may be many years between events that produce enough runoff to provide appreciable recharge.

Figure 6. Water Year Rainfall at Niland



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The total groundwater storage capacity of the Basin is estimated to be 360,000 acre-feet (DWR, 2003) and the groundwater level decline from 1979 to 2018 decreased groundwater storage by approximately six percent (see Section 4.2). Thus, the current storage in the Basin may be in the range of 335,000 to 340,000 acre-feet. The single year construction water demand of 365 acre-feet and the annual combined operational water needs of 20 acre-feet are miniscule (0.1 percent and 0.006 percent, respectively) compared to the available groundwater in storage. Furthermore, the long term annual operational water needs are much less than the estimated annual recharge of 200 acre-feet per year. Overall, there is adequate water available to supply the Project water needs during single dry, and multiple dry year periods.

On a cumulative basis, the construction water demand for the Project and the adjacent Vega SES 2, LLC and Vega SES 3, LLC solar energy projects is equivalent to 0.3 percent of the available groundwater in storage. The annual cumulative operational water needs for all three solar energy projects is equivalent to 0.01 percent of the available groundwater in storage in the Basin. Thus, the cumulative effect on groundwater availability in the Basin would also be miniscule such that there would be adequate water available to supply the water needs of all three solar projects during single dry, and multiple dry year periods.

7.0 FINDINGS and DISCUSSION

This WSA has been prepared in accordance with SB 610 and SB 1262 to support the CEQA environmental review for the proposed Project and provides an assessment of water supply adequacy for the Project in accordance with Water Code Sections 10910 through 10915. As stated in Section 1.0, the purpose of the assessment is to determine if available water supplies are sufficient to serve the demand generated by the Project, as well as the reasonably foreseeable demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. As noted in Section 4.2, above, while groundwater levels in the Basin had been declining during the period from the late 1970s to the early 2000s, over the past decade they have stabilized, indicating that current water demands are in balance with recharge and replenishment. The population, and presumably the related water demand, are anticipated to decrease over the next decade. Therefore, the Basin has adequate resources for current and anticipated future existing water needs.

The water demand for the proposed Project will consist of water needed during construction and water needed for maintenance once the Project is operational. The construction water demand is anticipated to be a combined total of 365 acre-feet over 12 months, primarily for dust control. The operational demand is anticipated to be 20 acre-

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feet per year for panel washing and other maintenance activities. The operational demand will exist for the life of the Project, which is anticipated to be 25 to 30 years.

The construction water demand exceeds the reported average annual recharge to the Basin of 200 acre-feet per year (DWR, 2003). However, the construction water needs are short-term and temporary. This temporary water use is not anticipated to cause persistent and long-term lowering of groundwater levels. Therefore, the construction water demand will not cause or contribute to overdraft, exhaustion of water supplies, lowering of groundwater levels to depths that would be uneconomic for pumping, land subsidence, or significant alteration of groundwater quality. As discussed in Section 6.0, above, cumulative construction water demand from the Project and the adjacent Vega SES 2, LLC and Vegs SES 3, LLC solar energy projects would also not cause persistent and long-term lowering of groundwater levels.

The annual operational water needs are equivalent to 10 percent of the average annual recharge and 0.006 percent of the estimated current storage volume of the Basin. Therefore, the long-term operation and maintenance of the Project would not have any measurable effect or impact on groundwater resources in the Basin. As discussed in Section 6.0, above, cumulative operational water demand from the Project and the adjacent Vega SES 2, LLC and Vegs SES 3, LLC solar energy projects would also not cause any measurable effect or impact on groundwater resources in the Basin.

Based on the analysis presented in this WSA, there will be sufficient water available for existing water uses in the Basin, along with the Project water demand and the water demands for the adjacent solar energy projects during normal, single dry year, and multiple dry year periods for the anticipated life of the Project, which is anticipated to be greater than 20 years.

8.0 DOCUMENTS CONSIDERED AND REFERENCES CITED

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Department of Water Resources (DWR), 2021, California's Groundwater Update 2020, Bulletin 118, https://data.cnra.ca.gov/dataset/calgw_update2020/resource/d2b45d3c-52c0-45ba-b92a-fb3c90c1d4be, accessed November 23, 2022.

Department of Water Resources (DWR), 2022a, Bulletin 118 Groundwater Basin Lookup, https://dwr.maps.arcgis.com/apps/Styler/index.html?appid=740d10eefd6148579321a3abcd065a36, accessed November 28, 2022.

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Department of Water Resources (DWR), 2022b, SGMA Data Viewer, https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#boundaries, accessed November 22 and 30, 2022.

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EMKO Environmental, Inc. (EMKO), 2022, Water Supply Assessment for the ZGlobal Vega SES 2, LLC and Vega SES 3, LLC Solar Energy Projects, Imperial County, California.

Imperial Irrigation District (IID), 2022, Public Water Map, https://mygis.iid.com/portal/apps/webappviewer/index.html?id=a33cfeb3714f4eb8a1c85320613a2d1b, accessed multiple times between November 22 and November 30, 2022.

U.S. Geological Survey (USGS), 2022, National Water Information System (NWIS) website, https://nwis.waterdata.usgs.gov/usa/nwis/gwlevels/?site_no=331144115231501, accessed November 29, 2022.

Western Region Climate Center (WRCC), 2022, Niland, California Climate Summary, https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6197, accessed November 29, 2022.

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Attachment C:
FEIR – CEQA FINDINGS-

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RESOLUTION NO.

A RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF IMPERIAL, CALIFORNIA, RECOMMENDING THE IMPERIAL COUNTY BOARD OF SUPERVISORS CERTIFY THE FINAL PROJECT ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE VEGA SES 2, 3, & 5 SOLAR ENERGY PROJECTS.

WHEREAS, a Final Project EIR SCH #2021050013 and Candidate CEQA Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State CEQA Guidelines, and the County's Rules to Implement CEQA; as amended for the VEGA SES 2, 3 & 5 SOLAR ENERGY PROJECTS. Projects consist of a Water Supply Assessments (WSA), an Environmental Impact Report (FEIR), a Mitigation Monitoring & Reporting Program and Conditional Use Permits (CUP) 20-0021, 22, 23, & Water Well CUP's 22-0025, 26, & 27 and,

WHEREAS, the Planning Commission of the County of Imperial has been delegated with the responsibility of making recommendations to the Imperial County Board of Supervisors regarding the Projects for approval and certification; and,

WHEREAS, the Final Project EIR has been provided in a timely manner to public agencies; and

WHEREAS, timely public notice of the Planning Commission's hearing on the Project application has been given, and the Planning Commission has considered evidence presented by the Imperial County Planning & Development Services Department and other interested parties at that public hearing held with respect to this item on August 23, 2023; and,

WHEREAS, the Final Project EIR includes analysis of various alternatives as required by CEQA, including the Conditional Use Permit, Mitigation Monitoring & Reporting Program and Water Supply Assessment; and,

NOW THEREFORE, the Planning Commission of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Planning Commission independently has reviewed and considered the proposed Final Environmental Impact Report (FEIR) and Candidate CEQA Findings prior to making a decision to recommend that the Board of Supervisors approve the proposed FEIR and Findings of Fact. The Planning Commission finds and determines that the Environmental Impact Report is adequate and prepared in accordance with the requirements of the California Environmental Quality Act (CEQA), which analyzes environmental effects, based upon the following findings and determinations.

SECTION 2. That in accordance with, CEQA, State Planning and Zoning law and the County of Imperial Land Use Ordinance, the following findings for the recommendation for approval and certification of the FEIR and Findings of Fact have been made as follows:

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1. That the Final Project EIR SCH #2021050013 , Candidate CEQA Findings for the Vega SES Solar Energy ("Project") have been prepared in accordance with the requirements of the California Environmental Quality Act, the State CEQA Guidelines, and the County's Rules to Implement CEQA as amended, and such findings are incorporated by reference herein

2. That the County independently has reviewed, analyzed, and considered the Final Project EIR, the environmental impacts therein identified for this Project, the Candidate CEQA Findings, and the Mitigation Monitoring and Reporting Program, and the entire Record of Proceedings prior to recommending approval of this project.

3. That the Final Project EIR and the Candidate CEQA Findings reflect the independent judgment of the County.

4. That the Candidate CEQA Findings are supported by substantial evidence and backed by information provided to the County by experts, including but not limited to the County staff and the EIR preparer, on whom the County relies.

5. That the County accept as its own, incorporate as if set forth in full herein, and make each and every one of the findings contained in the Candidate CEQA Findings, including feasibility of mitigation measures pursuant to Public Resources Code 21081(a)/CEQA Guidelines 15091, and the infeasibility of project alternatives.

6. That the Project will not individually or cumulative have an unmitigated adverse effect on fish and wildlife resources, as defined in Section 711.2 of the Fish and Game Code.

7. That the Record of Proceedings consists of the Final Project EIR (and all its technical reports and addendums thereto); the County staff reports; the CEQA Findings; the Mitigation Monitoring and Reporting Program; the various Project entitlements and documents referenced therein; all final reports, applications, memoranda, maps, letters, and other planning documents prepared and/or utilized by the EIR planning/environmental consultant; all final reports, memoranda, maps, letters, and other planning documents prepared and/or utilized by the County staff; all documents submitted by members of the public and public agencies in connection with the Final Project EIR; minutes and transcripts of all public meetings and public hearings; all written and verbal public testimony presented during a noticed public hearing for the proposed project which such testimony was taken and any and all other materials which constitute the record of proceeding pursuant to Public Resources Code section 21167.6(e); and matters of common knowledge to the County staff, Planning Commission, and Board of Supervisors, including, but not limited to the County General Plan, the County Zoning Ordinance, and County policies, which may be found at the Clerk's Office located at 940 Main Street, Suite 209, El Centro, CA, 92243 during regular business hours, and the Imperial County Planning & Development Services Department at 801 Main Street, El Centro, CA 92243.

9. That the County Planning Commission does hereby recommend for the Board of Supervisors of the County of Imperial to approve of the resolution to certify the Final Project EIR (FEIR) and the Finding of Fact.

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NOW, THEREFORE, based on the above findings, the Planning Commission of the County of Imperial **DOES HEREBY RECOMMEND** the Board of Supervisors approve the proposed Final EIR **SCH #2021050013**, Candidate CEQA Findings, for the VEGA SES 2, 3, 5 SOLAR ENERGY PROJECTS; Solar CUP's #20-0021, #20-0022 & #20-00-23, Water Wells CUP's #22-0025 & #22-0026, & #20-0027, Water Supply Assessments (WSA's) & Mitigation Monitoring and Reporting Program (MM&RP).

_____
Rudy Schaffner, Chairperson
Imperial County Planning Commission

I hereby certify that the Planning Commission at a meeting conducted on **August 23, 2023** by the following vote took the preceding resolution:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

_____
Jim Minnick, Director of Planning & Development Services
Secretary to the Planning Commission

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CALIFORNIA ENVIRONMENTAL QUALITY ACT FINDINGS
(Public Resource Code §21081, CEQA Guidelines §15091)
Final Environmental Impact Report for the
VEGA SES 2,3 and 5 Solar Energy Project
(SCH No. 2021050013)

1 Introduction

The following Findings are made for the Environmental Impact Report SCH #2021050013 (the "EIR") for the proposed VEGA SES 2,3 and 5 Solar Energy Project (herein referred to as the "project"). The EIR analyzes the significant and potentially significant environmental impacts, which may occur as a result of the project.

The proposed project consists of three primary components: 1) solar energy generation equipment and associated facilities including a substation and access roads (herein referred to as "solar energy facility"); 2) battery energy storage system (BESS); and, 3) gen-tie line that would connect the proposed on-site substation to the point of interconnection with the IID KN/KS Line.

The project site is located on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, California. The site is approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The project area is transected by the Coachella and East Highline Canals and the Union Pacific Railway.

Three separate Conditional Use Permits (CUPs) have been filed with the County for the construction and operation of the solar facilities, which together define the project sites. The three CUP applications or individual site locations consist of the following:

- CUP 20-0021: VEGA SES 2
- CUP 20-0022: VEGA SES 3
- CUP 20-0023: VEGA SES 5

1.1 Purpose of CEQA Findings; Terminology

CEQA Findings play an important role in the consideration of projects for which an EIR is prepared. Under Public Resources Code §21081 and CEQA Guidelines §15091 above, where a final EIR identifies one or more significant environmental effects, a project may not be approved until the public agency makes written findings supported by substantial evidence in the administrative record regarding each of the significant effects. In turn, the three possible findings specified in CEQA Guidelines §15091(a) are:

1. Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the final EIR.
2. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

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3. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

CEQA Guidelines §15092(b) provides that no agency shall approve a project for which an EIR was prepared unless either:

1. The project approved will not have a significant effect on the environment, or
2. The agency has:
   a. Eliminated or substantially lessened all significant effects where feasible as shown in the findings under Section 15091, and
   b. Determined that any remaining significant effects on the environment found to be unavoidable under Section 15091 are acceptable due to overriding concerns as described in Section 15093.

1.2 EIR Process

After the County reviewed the applications for the proposed project, it concluded that the project could have a significant impact on the environment and that preparation of an environmental impact report was determined to be the appropriate CEQA environmental document. The County issued a Notice of Preparation (NOP) on May 4, 2021 and made the NOP available for review and comment for a 35-day period closing on June 7, 2021. The NOP was distributed to city, county, and state and federal agencies, other public agencies, and various interested private organizations and individuals. The NOP was also published in the Imperial Valley Press and The Desert Review on May 4, 2021. A public scoping meeting was held on May 13, 2021. Three comment letters were received during the NOP review period. A copy of the NOP and written comments received in response to the NOP are included in Appendix A of the Final EIR.

Based upon comments the County received in response to the NOP, it was determined that the Draft EIR should analyze project related environmental impacts relative to the following 14 substantive potential impact areas in the Environmental Analysis section:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- GHG Emissions
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use and Planning
- Noise and Vibration

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- Public Services (Fire Protection and Police Protection)
- Transportation
- Tribal Cultural Resources
- Utilities/Service Systems (Water Supply)

Additionally, the Draft EIR was required to include other CEQA substantive sections including an Executive Summary, Introduction, Environmental Setting, Project Description, Analysis of Long-Term Effects, Cumulative Impacts, Effects Not Significant, and Alternatives.

The Draft EIR was circulated for a statutory 45-day public review period starting on December 14, 2022 and ending on February 2, 2022 (50 actual days). The public review period was extended for an additional 30 days, ending on March 3, 2023. Six letters were received during the comment period, and are responded to in the responses to comments section of the Final EIR.

2 Project Location

VEGA SES 2

The VEGA SES 2 project site is located on three non-contiguous parcels (APNs 025-010-006 [partial], 025-260-011 [partial], and 025-270-023).

The northernmost parcel, APN 025-010-006, comprises 640 acres. The VEGA SES 2 project site is located on the southern 410 acres of the 640-acre parcel. This parcel is approximately 2.31 miles northeast of the East Highline Canal Road/Wiest Road/Flowing Wells Road intersection. This parcel is transected by Coachella Canal Road (intersected by Flowing Wells Road approximately halfway through the parcel) and the Coachella Canal, which runs southeast parallel to the roadway.

The southwestern parcel, APN 025-260-011, comprises 488 acres. The VEGA SES 2 project is located on the northern 288 acres of the 488-acre parcel.

The southeastern parcel, APN 025-270-023, encompasses approximately 625 acres and is adjacent to the southeast corner of APN 025-010-006. An approximately 934-foot segment of the Coachella Canal traverses the southwestern corner of the parcel. This parcel is transected by Niland Pegleg Well Road and Ted Kipf Road in the northern half of the parcel.

VEGA SES 3

The VEGA SES 3 project site is located on the northern portion of APN 025-010-006, comprising the remaining 230 acres of the 640-acre parcel.

VEGA SES 5

The VEGA SES 5 project site is located on three parcels (APNs 025-260-011 [partial], 025-260-019 and 025-260-022) encompassing approximately 410 acres. A portion of the VEGA SES 5 project site is located on the southern 160 acres of APN 025-260-011. APN 025-260-019 is adjacent to the Union Pacific Railway and Noffsinger Road to the northeast. APN 025-260-022 is adjacent to Wiest Road to the west and McDonald Road to the north and transected by East Highline Canal Road and the East Highline Canal.

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The agricultural portion of VEGA SES 5 (APN 025-260-022) that is west of the East Highline Canal contains fallow agricultural land with scattered dry crop residue. The agricultural field is bounded by McDonald Road to the north, Schrimpf Road to the south, and Weist Road to the west. The East Highline Canal cuts across APN 025-260-022 diagonally in a northwest to southeast direction. Within the agricultural portion of the VEGA SES 5 project site, there are subsurface tile drainage pipelines that are generally aligned north to south and carry irrigation wastewater to the N Drain at the southwest corner of the field.

3 Project Description

The proposed projects (VEGA SES 2, 3, and 5) would involve the construction and operation of an expansive PV solar energy facility and associated infrastructure on approximately 1,963 acres of privately-owned land. The project sites would be developed with a ground mounted PV solar power generating system, supporting structures, on-site substations, battery energy storage system (BESS), interconnection facilities, and internal access roads. The projects would employ the use of PV power systems to convert solar energy into electricity using non-reflective technology.

Collectively, the proposed projects involve the construction of up to 350 megawatt (MW) alternating current (AC) photovoltaic (PV) solar energy facility with an integrated battery storage system (not to exceed 700 MW) (Table 1).

Table 1. Megawatt Output

Solar Facility	Proposed Megawatt Output	Battery Storage
VEGA SES 2	240 MW	480 MW
VEGA SES 3	60 MW	120 MW
VEGA SES 5	50 MW	100 MW
Total	**350MW**	**700 MW**

The projects propose to utilize either thin film or crystalline solar photovoltaic (PV) technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems.

The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The depth of the piles would be dependent on the recommendations of the geotechnical report prepared for the projects. The fixed-frame racks would be secured at a fixed tilt of 20-30 degrees from horizontal facing a southerly direction. Current project designs would have individual PV modules, mounted two high on a fixed frame, providing a two-foot ground clearance and resulting in the tops of the panels at approximately 7.5 feet above the ground. The fixed PV modules would be arranged in arrays spaced approximately 15 to 25 feet apart (pile-to-pile) to maximize performance and to allow access for panel cleaning. These arrays would be separated from each other and the perimeter security fence by up to 30-foot wide interior roads.

If HSAT technology is used, the PV modules would rotate around the north-south HSAT axis so that the PV modules would continue to face the sun as the sun moves across the sky throughout the day. The PV modules would reach their maximum height (up to 9 feet above the ground, depending on the final design) at both sunrise and sunset, when the HSAT is rotated to point the modules at the rising or setting sun. At noon, or when stowed during high winds, when the HSAT system is rotated so that

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the PV modules are horizontal, the nominal height would be about 6 feet above the ground, depending on the final design.

The individual PV systems would be arranged in large arrays by placing them in columns spaced approximately 10 feet apart to maximize operational performance and to allow access for panel cleaning and maintenance. Current project designs would have individual HSAT PV modules, each approximately two feet wide by four feet long (depending on the specific PV technology selected), mounted on a frame which is attached to an HSAT system. The HSAT arrays would be separated from each other and the perimeter security fence by up to 30-foot-wide roads, consistent with Imperial County Fire Department emergency access requirements.

3.1.1 Electrical Power System

Electricity generated by the PV modules would be collected by a direct current (DC) collection system routed underground in trenches. This DC power would be delivered to one of the pad-mounted inverters in weatherproof enclosures located within the arrays. The inverters would convert the DC power to three-phase alternating current (AC). The inverters could be connected to AC interconnection facilities which, if needed, would raise the voltage to 34.5 kilovolt (kV), or the interconnection voltage selected by the projects. Underground or overhead 12.5 kV or 34.5 kV collection lines would transmit the electricity to the new substations.

3.1.2 Substations, Distribution/Electrical Collection and Transmission

VEGA SES 2

Substations

As shown in Figure 2-3 of the Final EIR, two new substations would be constructed on the VEGA SES 2 project site. The first substation would be constructed in the northwestern corner of APN 025-260-011 on approximately two acres. The substation would take the delivery of up to 60 kV electricity and increase the voltage of the electricity to 230 kV, where it would feed into the interconnection switching station for metering and delivery to the IID KN/KS Line. The substation would include two transformers, circuit breakers, disconnect switches, microwave or other communication facilities, and an electrical control building.

The second substation would be located in the northwestern corner of APN 025-270-023 on approximately two acres. This substation would be comprised of an underground combiner box used to connect all of the low voltage AC outputs of the inverters, a medium voltage transformer to increased the voltage up to 60 kV, a protective relay system and associated circuit breakers and disconnect switches. This substation would take delivery of the energy generated on APN 025-270-023 and transmit it through the proposed 34.5 kV or 60 kV lines to the primary project substation on APN 025-260-011. The substation would include a transformer, circuit breaker, meters, disconnect switches, and microwave or other communication facilities.

One new interconnection switching station would be constructed on APN 025-260-011, immediately adjacent to the substation. The interconnection switching station and substation would be connected via a single overhead 230 kV line. The switching station would include circuit breakers, switches, overhead bus work, protective relay equipment and an electrical control building. The switching station would operate at 230 kV and be configured in a Breaker-And-A-Half arrangement. This would allow

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for looping in of one or two of the IID 230 kV lines as well as connection of the total project output at 230 kV. The switching station would be enclosed within its own fence.

To connect the project's interconnection facilities, the medium voltage power produced by the project would be conveyed underground, or above ground where necessary, to cross over any sensitive site features. The design of the project's interconnection facilities would meet all necessary utility standards and requirements. As required, surge arrestors would be used to protect facilities and auxiliary equipment from lightning strikes or other disturbances. Distribution from the site would be via an overhead connection.

Distribution and Interconnection

The VEGA SES 2 project's distribution and interconnection would be as follows: the medium voltage power would be conveyed underground or aboveground via 34.5 kV or 60 kV distribution circuits from the substation located in the northwest corner of 025-270-023 to the substation located in the northwest corner of APN 025-260-011. The height of the proposed gen-tie transmission structures would be 40 feet. The electrical energy produced by the VEGA SES 2 project would be delivered to the IID through the project's interconnection switching station to the IID's 230 kV KN/KS Line.

Bureau of Reclamation Right-of-Way Request – VEGA SES 2

60-Foot-Wide ROW for Gen-Tie Interconnection

As shown in Figure 2-4 and Figure 2-5 of the Final EIR, there is a portion of the VEGA SES 2 gen-tie line, from the southwest corner of APN 025-010-006 to the northeast corner of APN 025-260-011, that would traverse BOR land. The project applicant is requesting a 60-foot-wide ROW for a single power pole structure from BOR to construct a portion of the gen-tie line on BOR land. This ROW would be 1,200-foot-long X 60-foot wide for an area of approximately 1.82 acres.

BLM Right-of-Way Request – VEGA SES 2

Aerial Crossing ROWs for Overhead Powerlines

As shown in Figure 2-4 and Figure 2-5 of the Final EIR, a triangular aerial crossing ROW would be required at the southeastern corner of APN 025-010-006 to the northwestern corner of APN 025-270-023. The triangular ROW would be required for overhead powerlines that would span the two corners of these parcels. No power poles would be set within this ROW. The total land area would be approximately 0.02 acres.

Additionally, as shown in Figure 2-4 and Figure 2-5 of the Final EIR, a triangular aerial crossing ROW would be required at the northeastern corner of APN 025-260-035 to APN 025-010-006. This triangular ROW would be required for overhead powerlines that would span the two corners of these parcels. No power poles would be set within this ROW. The total land area would be approximately 0.02 acres.

VEGA SES 3

Substation

A new substation would be constructed on the northwestern corner of the VEGA SES 3 project site. The substation site will comprise approximately two acres. Medium voltage power electricity generated from the site would be conveyed underground, or above ground where necessary, to cross over any sensitive site features, to connect to the substation.

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Interconnection

A new interconnection switching station would be constructed immediately adjacent to the substation. The interconnection switching station and substation would be connected via a single overhead 161 kV line. The switching station would include circuit breakers, switches, overhead bus work, protective relay equipment and an electrical control building. The switching station would operate at 161 kV and be configured in a Breaker-And-A-Half or three breaker ring bus arrangement. This would allow for looping in of the IID 161 kV "F" transmission line as well as connection of the project gen-tie line. The switching station would be enclosed within its own fence. As shown in Figure 2-3, the electrical energy produced by the VEGA SES 3 project would be connected to the existing utility approved point of interconnection at the northeast corner of the site to the IID's 161 kV "F" Line.

The design of the project's interconnection facilities would meet all necessary utility standards and requirements. As required, surge arrestors would be used to protect facilities and auxiliary equipment from lightning strikes or other disturbances. Distribution from the site would be via an overhead connection.

BLM Right-of-Way Request – VEGA SES 3

140-Foot-Wide ROW for Gen-Tie Interconnection

As shown in Figure 2-3 of the Final EIR, the electrical energy produced by the VEGA SES 3 project would be connected to the existing utility approved point of interconnection at the northeastern corner of the site to the IID's 161 kV "F" Line. Because the "F" Line is located on BLM land, the project applicant is requesting a 140-foot-wide ROW from BLM for the proposed interconnection road to IID and along the IID's 161 kV "F" Line for approximately 200 feet in length and the width of the existing IID ROW. There would be two new H Frame poles installed in the corridor of the "F" Line. The total area would be approximately 0.25 acres (Figure 2-4 and Figure 2-5 of the Final EIR).

VEGA SES 5

Substation

A new substation would be constructed on the VEGA SES 5 project site, on the southeastern boundary of APN 025-260-022. This substation would take the delivery of the up to 34.5 kV power generated on the site and increase the voltage of the electricity to 92 kV, where it would be delivered to the IID 92 kV Midway Substation.

Interconnection

The proposed gen-tie line alignment for VEGA SES 5 is depicted on Figure 2-5. The substation would include a transformer, circuit breakers, meters, disconnect switches, and microwave or other communication facilities. The medium voltage power electricity generated from the project would be conveyed underground, or above ground where necessary, to cross over any sensitive site features, to connect to the projects' interconnection facilities.

The design of the project's interconnection facilities would meet all necessary utility standards and requirements. As required, surge arrestors would be used to protect facilities and auxiliary equipment from lightning strikes or other disturbances. Distribution from the site would be via an overhead connection.

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BLM Right-of-Way Request – VEGA SES 5

Aerial Crossing ROW for Overhead Powerline

As shown in Figure 2-4 and Figure 2-5 of the Final EIR, BLM approval of one triangular aerial crossing ROW would be required. At the northeast corner of APN 025-260-022 to APN 025-260-019, a triangular aerial crossing ROW would be required for the overhead power line that would span the two-corner intersection of the parcel. No power poles would be set within this area. The total land area would be approximately 0.02 acres.

Bureau of Reclamation Right-of-Way Request – VEGA SES 5

Aerial Crossing ROW for Overhead Powerline

As shown in Figure 2-4 and Figure 2-5 of the Final EIR, BOR approval of one triangular aerial crossing ROW would be required. At the southeast corner of APN 025-260-022 to APN 025-260-017, a triangular aerial crossing ROW would be required for the overhead power line that would span the two-corner intersection of the parcel. No power poles would be set within this area. The total land area would be approximately 0.02 acres.

No ground disturbance would occur associated with the aerial crossing ROWs.

Battery Energy Storage System

A BESS is proposed on an approximately 5-acre site within the VEGA SES 2 project site in the southwestern corner of APN 025-010-006. The BESS on the VEGA SES 5 project site is proposed to be located in the southeastern corner of APN 025-260-022. The proposed BESS would consist of either lithium ion or flow batteries. The batteries will either be housed in storage containers or buildings fitted with HVAC and fire suppression systems as necessary, depending on the final selection of battery technology. Inside the housing the batteries will be placed on racks, the orientation of which depends on the type of housing. Underground trenches with conduits will be used to connect the batteries to the control and monitoring systems, and inverters to convert the PV produced DC power to AC power.

3.2 Project Objectives

The following are the project objectives:

- Construct and operate a solar energy facility capable of producing up to 350 megawatt (MW) alternating current (AC) of electricity to assist the State of California in achieving its 60 percent renewable portfolio standard by 2030.
- Provide a 700 MW energy (battery storage) system, that would accommodate and store the power generated by the project so that the facility can continue to provide renewable energy during non-daylight hours.
- Interconnect directly to IID's existing electrical transmission system.
- Help California meet its statutory and regulatory goal of increasing renewable power generation, including greenhouse gas reduction goals of Senate Bill 32.
- Minimize and mitigate any potential impact to sensitive environmental resources within the project area.

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3.3 Discretionary Actions/Approvals by the County of Imperial

The County is the "lead agency" for the proposed project. Lead agency is defined as, "the public agency, which has the principal responsibility for carrying out or approving a project." The County must undertake the following discretionary actions and approvals for the project:

1. Approval of CUPs. Implementation of the projects would require the approval of CUPs by the County to allow for the construction and operation of the proposed solar energy facilities with an integrated battery storage system. The following CUPs are under consideration for approval as evaluated in this EIR:
    - CUP 20-0021: VEGA SES 2
    - CUP 20-0022: VEGA SES 3
    - CUP 20-0023: VEGA SES 5

VEGA SES 2, 3, and 5 CUPs – Solar Facilities

Project	APN	Acreage	Zoning
VEGA SES 2 (CUP 20-0021)	025-010-006 (partial)	410	S-2-RE
	025-260-011 (partial)	288	S-2-RE
	025-270-023	625	S-2-RE
	Subtotal	***1,323***	--
VEGA SES 3 (CUP 20-0022)	025-010-006 (partial)	230	S-2-RE
	Subtotal	***230***	--
VEGA SES 5 (CUP 20-0023)	025-260-011 (partial)	160	S-2-RE
	025-260-019	90	S-2-RE
	025-260-022	160	A-2-RE, A-3-RE, S-2-RE
	Subtotal	***410***	--
Total Gross Acres		**1,963**	--

The project parcels are currently zoned as A-2-RE, A-3-RE, and S-2-RE.

Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

> *j) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)*
>
> *s) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *z) Electrical substations in an electrical transmission system (500 kv/230 kv/161 kv)*
>
> *bb) Facilities for the transmission of electrical energy (100-200 kv)*
>
> *ww) Resource extraction and energy development as per Division 17*

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aaa) Solar energy electrical generator

Pursuant to Title 9, Division 5, Chapter 9, the following uses are permitted in the A-3 zone subject to approval of a CUP from Imperial County:

i) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)

o) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.

oo) Major facilities relating to the generation and transmission of electrical energy provided such facilities are not under State or Federal law, to be approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters, meeting the requirements in Division 17.

zz) Solar energy plants meeting the requirements in Division 17

Pursuant to Title 9, Division 5, Chapter 19, the following uses are permitted in the S-2 zone subject to approval of a CUP from Imperial County:

d) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.

i) Major facilities relating to the generation and transmission of electrical energy provide[d] such facilities are not under State or Federal law, to [be] approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters. Such uses shall include but be limited to the following:

- *Electrical generation plants*
- *Facilities for the transmission of electrical energy (100-200 kV)*
- *Electrical substations in an electrical transmission system (500 kv/230 kv/161 kV)*

2. Approval of CUPs (CUP 22-0025-0026, and -0027) – Groundwater Wells. Pursuant to Title 9 Division 21: Water Well Regulations, §92102.00, the Applicant will be required to obtain a CUP for each proposed on-site groundwater well. As required by §92102.00, no person shall (1) drill a new well, (2) activate a previously drilled but unused well, (unused shall mean a well or wells that have not been used for a 12 month) period by installing pumps, motors, pressure tanks, piping, or other equipment necessary or intended to make the well operational, (3) increase the pumping capacity of a well, or (4) change the use of a well, without first obtaining a CUP through the County Planning & Development Services Department.
3. Certification of the EIR. After the required public review for the Draft EIR, the County will respond to written comments, edit the document, and produce a Final EIR to be certified by

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the Planning Commission and Board of Supervisors prior to making a decision on approval or denial of the project.

3.4 Discretionary Actions/Approvals by Other Agencies

Responsible Agencies are those agencies that have discretionary approval over one or more actions involved with development of the project. Trustee Agencies are state agencies that have discretionary approval or jurisdiction by law over natural resources affected by a project. These agencies may include, but are not limited to the following:

- California RWQCB – Notice of Intent for General Construction Permit, CWA 401 Water Quality Certification
- ICAPCD – Fugitive Dust Control Plan, Rule 801 Compliance
- CDFW (Trustee Agency) – ESA Compliance, Section 1600 Streambed Alteration Agreement
- USFWS – ESA Compliance
- USACE – Section 404 of the CWA Permit
- Bureau of Land Management
    - Right-of-way easement to use Flowing Wells Road for access during construction and maintenance
    - Right-of-way grant for the off-site gen-tie lines to be located on federal lands under the jurisdiction of the BLM
    - Aerial easements to allow gen-tie connections between the facilities
- Bureau of Reclamation
    - Right-of-way easement to cross the Coachella Canal to access the project site (APN 025-010-006)
    - Right-of-way grant for the off-site gen-tie line to be located on federal lands under the jurisdiction of the BOR
    - Aerial easement to allow gen-tie connections between the facilities
    - There are two training dikes within the project area. The locations of these dikes are depicted on Figure 2-2 of the Final EIR. As shown, one dike extends northerly from the Coachella Canal through APN #025-010-006 (VEGA SES 2) and a portion of APN #025-010-006 (VEGA SES 3). Any modifications to these dikes will require appropriate authorization from Bureau of Reclamation.
- Coachella Valley Water District
    - Drainage Plan

4 Issues Addressed In the EIR

Based on the analysis presented in the NOP and the information provided in the comments to the NOP, the following environmental topics were analyzed in the EIR.

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- Aesthetics
- Agriculture Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use/Planning
- Noise and Vibration
- Transportation
- Tribal Cultural Resources
- Utilities/Service Systems

5 Mitigation Monitoring Program

Pursuant to PRC §21081.6, the County has adopted a detailed mitigation and monitoring program prepared under the County's direction. The program is designed to ensure that all mitigation measures as hereafter required are in fact implemented on a timely basis as the project is implemented.

6 Record of Proceedings

For all purposes of CEQA compliance, including these Findings of Fact, the administrative record of all County proceedings and decisions regarding the environmental analysis of the project include but are not limited to:

- The Draft and Final EIR for the project, together with all appendices and technical reports referred to therein, whether separately bound or not, or on a CD;
- All reports, letters, applications, memoranda, maps or other planning and engineering documents prepared by the County, its planning consultant and environmental consultant, the applicant or others and presented to or before the decision-makers or staff;
- All minutes of any public workshops, meetings or hearings, and any recorded or verbatim transcripts or videotapes thereof;
- Any letters, reports or other documents or evidence submitted into the record at any public workshops, meetings or hearings; and

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- Matters of common general knowledge to the County which it may consider, including applicable state or local laws, ordinances and policies, the General Plan and all applicable planning programs and policies of the County.

Documents or other materials that constitute the record of proceedings upon which these Findings are made are located at the Department of Planning and Development Services of the County of Imperial, 801 Main Street, El Centro, CA 92243.

7 Findings of Significant Impacts, Required Mitigation Measures and Supporting Facts

The County, having reviewed and considered the information contained in the EIR and the entire administrative record, including but not limited to the expert opinions of the County's professional planning staff and independent consultants familiar with the environmental conditions of the County and the facts and circumstances of the project who prepared the EIR, finds pursuant to Public Resources Code §21081(a)(1) and Guidelines §15091(a)(1) that changes or alterations have been required in, or incorporated into, the project which would mitigate, avoid, or substantially lessen to below a level of significance the following potential significant environmental effects identified in the EIR.

7.1 Agricultural Resources

7.1.1 Conversion of Important Farmlands to Non-Agricultural Use

A. Potential Impact (VEGA 5 Only). There is the potential that weeds or other pests may occur within the solar fields if the area is not properly maintained and managed to control weeds and pests.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.3 of the Final EIR, the project's potentially significant impact would be mitigated to below a level of significance with the implementation of Mitigation Measures AG-1 of the Final EIR as identified below. With the implementation of Mitigation Measure AG-1, the project applicant would be required to minimize the impact associated with control of weeds and other pests within the solar fields that, if not properly controlled, could impact adjacent farmlands. Mitigation Measure AG-1 will ensure that the project applicant prepares and implements a Pest Management Plan as approved by the County Agricultural Commissioner.

Mitigation Measure AG-1 Prior to the issuance of a grading permit or building permit (whichever occurs first), a Pest Management Plan shall be developed by the project applicant and approved by the County of Imperial Agricultural Commissioner. The project applicant shall maintain a Pest Management Plan until reclamation is complete. The plan shall provide the following:

1. Monitoring, preventative, and management strategies for weed and pest control during construction activities at any portion of the project (e.g., transmission line);

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2. Control and management of weeds and pests in areas temporarily disturbed during construction where native seed will aid in site revegetation as follows:
    - Monitor for all pests including insects, vertebrates, weeds, and pathogens. Promptly control or eradicate pests when found, or when notified by the Agricultural Commissioner's office that a pest problem is present on the project site. The assistance of a licensed pest control advisor is recommended. All treatments must be performed by a qualified applicator or a licensed pest control business.
    - All treatments must be performed by a qualified applicator or a licensed pest control operator.
    - "Control" means to reduce the population of common pests below economically damaging levels, and includes attempts to exclude pests before infestation, and effective control methods after infestation. Effective control methods may include physical/mechanical removal, bio control, cultural control, or chemical treatments.
    - Use of "permanent" soil sterilants to control weeds or other pests is prohibited because this would interfere with reclamation.
    - Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of Food Agriculture and the U.S. Department of Agriculture. Request a sample be taken by the Agricultural Commissioner's Office of a suspected invasive species. Eradication of exotic pests shall be done under the direction of the Agricultural Commissioner's Office and/or California Department of Food and Agriculture.
    - Obey all pesticide use laws, regulations, and permit conditions.
    - Allow access by Agricultural Commissioner staff for routine visual and trap pest surveys, compliance inspections, eradication of exotic pests, and other official duties.
    - Ensure all project employees that handle pest control issues are appropriately trained and certified, all required records are maintained and made available for inspection, and all required permits and other required legal documents are current.
    - Maintain records of pests found and treatments or pest management methods used. Records should include the date, location/block, project name (current and previous if changed), and methods used. For pesticides include the chemical(s) used, EPA Registration numbers, application rates, etc. A pesticide use report may be used for this.
    - Submit a report of monitoring, pest finds, and treatments, or other pest management methods to the Agricultural Commissioner quarterly within 15 days after the end of the previous quarter, and upon request. The report is required even if no pests were found or treatment occurred. It may consist of a copy of all records for the previous quarter, or may be a summary letter/report as long as the original detailed records are available upon request.
3. A long-term strategy for weed and pest control and management during the operation of the proposed project. Such strategies may include, but are not limited to:
    - Use of specific types of herbicides and pesticides on a scheduled basis.

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4. Maintenance and management of project site conditions to reduce the potential for a significant increase in pest-related nuisance conditions on surrounding agricultural lands.
5. The project shall reimburse the Agricultural Commissioner's office for the actual cost of investigations, inspections, or other required non-routine responses to the site that are not funded by other sources.

7.2 Air Quality

7.2.1 Air Quality Emissions - Construction

A. Potential Impact. As shown in Table 3.4-7 of the Final EIR, the VEGA SES 2 and 3 projects' daily construction emissions would not exceed the ICAPCD thresholds for ROG, NOx, CO, SO_2, and $PM_{2.5}$. However, emissions of PM_{10} would exceed the ICAPCD significance threshold on the peak day(s).

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII - Fugitive Dust Control Measures. The project must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. Regulation VIII requires all unpaved roadways, on- and off-site, to be conditioned and maintained with soil stabilizers to reduce dust opacity to no more than 20 percent; all unpaved disturbed surfaces, on- and off-site, to be stabilized with a dust suppressant, watering, or soil stabilizers to reduce opacity to no greater than 20 percent; and to reduce vehicle speed to no greater than 15 mph on all unpaved surfaces. Final EIR Table 3.4-8 shows the projects' emissions with implementation of the Regulation VIII fugitive dust control measures (Mitigation Measure AQ-1). With implementation of Mitigation Measure AQ-1, the project would not exceed the ICAPCD's thresholds of significance for PM_{10} emissions.

In addition, as described in Mitigation Measure AQ-2, construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at the project site by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit. The equipment list shall be submitted periodically to ICAPCD to perform a NOx analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds.

Mitigation Measure AQ-1 Fugitive Dust Control. During construction activities, the constructor contractor shall employ the following PM_{10} reducing measures:

1. All unpaved roads associated with construction shall be effectively stabilized of dust emissions using Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant before the commencement of construction, and every 30 days thereafter until the end of all construction activities. Unpaved roads associated with construction include:
    - The 1.65 miles of unpaved road on Weist Road and Flowing Wells Road to the VEGA SES 2 and 3 project sites. Monthly application of Imperial County Air Pollution Control District-

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approved chemical stabilizers/suppressant shall be applied at a rate of 0.1 gallon/square yard of chemical dust suppressant.

2. Prior to any earthmoving activity, the applicant shall submit a construction dust control plan and obtain Imperial County Air Pollution Control District and Imperial County Planning and Development Services Department (ICPDS) approval.
3. Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII – Fugitive Dust Control Measures. Whereas these Regulation VIII measures are mandatory and are not considered project environmental mitigation measures, the ICAPCD CEQA Handbook's required additional standard and enhanced mitigation measures listed below shall be implemented prior to and during construction. ICAPCD will verify implementation and compliance with these measures as part of the grading permit review/approval process.

ICAPCD Standard Measures for Fugitive Dust (PM_{10}) Control

- All disturbed areas, including bulk material storage, which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material, such as vegetative ground cover.
- All on-site and off-site unpaved roads will be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material.
- All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.
- Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.
- The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants, and/or watering.

ICAPCD "Discretionary" Measures for Fugitive Dust (PM_{10}) Control

- Water exposed soil only in those areas where active grading and vehicle movement occurs with adequate frequency to control dust.

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- Replace ground cover in disturbed areas as quickly as possible.
- Automatic sprinkler system installed on all soil piles.
- Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site.
- Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees.
- Implement a shuttle service to and from retail services and food establishments during lunch hours.

Standard Mitigation Measures for Construction Combustion Equipment

- Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum.
- Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

Enhanced Mitigation Measures for Construction Equipment

To help provide a greater degree of reduction of PM emissions from construction combustion equipment, ICAPCD recommends the following enhanced measures.

- Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways.
- Implement activity management (e.g., rescheduling activities to reduce short-term impacts).

Mitigation Measure AQ-2 Construction Equipment. Construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at the project sites by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit. The equipment list shall be submitted periodically to ICAPCD to perform a NO_x analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds. The Planning and Development Services Department and ICAPCD shall verify implementation of this measure.

7.2.2 Air Quality Emissions - Operation

A. Potential Impact. The proposed project requires minimal operations and maintenance activities. Long-term operational emissions attributable to the project are identified in Final EIR Table 3.4-9 and compared to the operational significance thresholds promulgated by the ICAPCD. As shown in Final EIR Table 3.4-9, the project's operational emissions would not exceed the ICAPCD thresholds for CO, ROG, NOx, PM_{10} and $PM_{2.5}$. Although no significant air quality impact would occur during operation, the project applicant is required to submit a Dust Suppression

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Management Plan for both construction and operation in order to reduce fugitive dust emissions. Implementation of Mitigation Measures AQ-3 and AQ-4 would ensure that a Dust Suppression Management Plan is implemented, thereby ensuring that this potential impact would remain less than significant.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.4 of the Final EIR, no significant air quality impact would occur during operation. Although no significant air quality impact would occur during operation, the project applicant is required to submit a Dust Suppression Management Plan for both construction and operation in order to reduce fugitive dust emissions. Implementation of Mitigation Measures AQ-3 and AQ-4 would ensure that a Dust Suppression Management Plan is implemented, thereby ensuring that this potential impact would remain less than significant.

Mitigation Measure AQ-3 Dust Suppression. The project applicant shall employ a method of dust suppression (such as water or chemical stabilization) approved by ICAPCD. The project applicant shall apply chemical stabilization as directed by the product manufacturer to control dust between the panels as approved by ICAPCD, and other non-used areas (exceptions will be the paved entrance and parking area, and Fire Department access/emergency entry/exit points as approved by Fire/Office of Emergency Services [OES] Department). All chemicals used for stabilization of Flowing Wells Road must be approved by BLM.

Mitigation Measure AQ-4 Operational Dust Control Plan. Prior to issuance of a Certificate of Occupancy, the applicant shall submit an operations dust control plan and obtain ICAPCD and ICPDS approval.

ICAPCD Rule 301 Operational Fees apply to any project applying for a building permit. At the time that building permits are submitted for the proposed projects, ICAPCD shall review the project to determine if Rule 310 fees are applicable to the projects.

7.3 Biological Resources

7.3.1 VEGA SES 2 and 3 Special-Status Plants

A. Potential Impact. The literature review identified 18 special-status plant species that have the potential to occur within the VEGA SES 2 and 3 project sites. A total of 13 plant species have a low potential to occur due to the limited suitable habitat within the VEGA SES 2 and 3 project sites. A total of 4 plant species have a moderate potential to occur due to the presence of suitable habitat within the VEGA SES 2 and 3 project sites: gravel milk-vetch, Wiggins' croton, glandular ditaxis, and sand food. One rare plant species, Munz's cholla (CRPR 1B.3), was found to be present within the VEGA SES 2 and 3 project sites. Potential impacts that may occur on special-status species during construction of the VEGA SES 2 and 3 projects include loss of individuals, habitat, and seedbank. Depending on the size of the population, impacts on special-status plant species within the project impact area may be considered significant.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

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C. **Facts in Support of Finding.** Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-1a, BIO-2, and BIO-3of the Final EIR. Mitigation Measure BIO-1a requires rare plants surveys to be conducted within suitable habitat during the appropriate blooming period. If species are determined to be present and project impacts are unavoidable, consultation with CDFW may be required to develop a mitigation plan and/or avoidance measures. Mitigation Measure BIO-2 requires general impact avoidance and minimization measures, and Mitigation Measure BIO-3 requires implementation of a worker environmental awareness program.

Mitigation Measure BIO-1a Rare Plant Surveys. Prior to initiating ground disturbance, rare plant surveys shall be conducted within suitable habitat on the VEGA SES 2 and 3 project sites during the appropriate blooming period for gravel milk-vetch, Wiggins' croton, glandular ditaxis, sand food, and Munz's cholla. The surveys shall be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If project-related impacts to rare plants on the project sites are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements.

Mitigation Measure BIO-2 General Impact Avoidance and Minimization Measures. The following measures will be applicable throughout the life of the projects:

- To reduce the potential indirect impact on migratory birds, bats and raptors, the project shall comply with the APLIC 2012 Guidelines for overhead utilities, as appropriate, to minimize avian collisions with transmission facilities (APLIC 2012)
- All electrical components on the project sites shall be either undergrounded or protected so that there will be no exposure to wildlife and therefore no potential for electrocution.
- The project proponent shall designate a Project Biologist who shall be responsible for overseeing compliance with protective measures for biological resources during vegetation clearing and work activities within and adjacent to areas of native habitat. The Project Biologist shall be familiar with the local habitats, plants, and wildlife. The Project Biologist shall also maintain communications with the Contractor to ensure that issues relating to biological resources are appropriately and lawfully managed and shall monitor construction. The Project Biologist shall monitor activities within construction areas during nesting bird season (generally February 1 to September 15), such as vegetation removal, the implementation of Best Management Practices (BMPs), and installation of security fencing to protect native species. The Project Biologist shall ensure that all wildlife and regulatory agency permit requirements, conservation measures, and general avoidance and minimization measures are properly implemented and followed.

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- The boundaries of all areas to be newly disturbed (including solar facility areas, staging areas, access roads, and sites for temporary placement of construction materials and spoils) shall be delineated with stakes and flagging prior to disturbance. All disturbances, vehicles, and equipment shall be confined to the flagged areas.
- No potential wildlife entrapments (e.g., trenches, bores) shall be left uncovered overnight. Any uncovered pitfalls will be excavated to 3:1 slopes at the ends to provide wildlife escape ramps. Alternatively, man-made ramps may be installed. Covered pitfalls will be covered completely to prevent access by small mammals or reptiles.
- To avoid wildlife entrapment (including birds), all pipes or other construction materials or supplies shall be covered or capped in storage or laydown areas, and at the end of each work day in construction, quarrying and processing/handling areas. No pipes or tubing of sizes or inside diameters ranging from 1 to 10 inches shall be left open either temporarily or permanently.
- No anticoagulant rodenticides, such as Warfarin and related compounds (indandiones and hydroxycoumarins), shall be used within the project sites, on off-site project facilities and activities, or in support of any other project activities.
- Avoid wildlife attractants. All trash and food-related waste shall be placed in self-closing containers and removed regularly from the sites to prevent overflow. Workers shall not feed wildlife. Water applied to dirt roads and construction areas for dust abatement shall use the minimal amount needed to meet safety and air quality standards to prevent the formation of puddles, which could attract wildlife. Pooled rainwater or floodwater within retention basins shall be removed to avoid attracting wildlife to the active work areas.
- To minimize the likelihood for vehicle strikes on wildlife, speed limits shall not exceed 15 miles per hour when driving on access roads. All vehicles required for O&M must remain on designated access/maintenance roads.
- Avoid nighttime construction lighting or if nighttime construction cannot be avoided, use shielded directional lighting pointed downward and towards the interior of the project sites, thereby avoiding illumination of adjacent natural areas and the night sky.
- All construction equipment used for the projects shall be equipped with properly operating and maintained mufflers.
- Hazardous materials and equipment stored overnight, including small amounts of fuel to refuel hand-held equipment, shall be stored within secondary containment when within 50 feet of open water to the fullest extent practicable. Secondary containment shall consist of a ring of sand bags around each piece of stored equipment/structure. A plastic tarp/visqueen lining with no seams shall be placed under the equipment and over the edges of the sandbags, or a plastic hazardous materials secondary containment unit shall be utilized by the Contractor.
- The Contractor will be required to conduct vehicle refueling in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species. Any fuel containers, repair materials, including creosote-treated wood, and/or stockpiled material that is left on site

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overnight, shall be secured in secondary containment within the work area and staging/assembly area and covered with plastic at the end of each work day.

- In the event that no activity is to occur in the work area for the weekend and/or a period of time greater than 48 hours, the Contractor shall ensure that all portable fuel containers are removed from the project sites.
- All equipment shall be maintained in accordance with manufacturer's recommendations and requirements.
- Equipment and containers shall be inspected daily for leaks. Should a leak occur, contaminated soils and surfaces will be cleaned up and disposed of following the guidelines identified in the Stormwater Pollution Prevention Plan or equivalent, Materials Safety Data Sheets, and any specifications required by other permits issued for the projects.
- The Contractor shall utilize off-site maintenance and repair shops as much as possible for maintenance and repair of equipment.
- If maintenance of equipment must occur onsite, fuel/oil pans, absorbent pads, or appropriate containment will be used to capture spills/leaks within all areas. Where feasible, maintenance of equipment shall occur in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species.
- Appropriate BMPs shall be used by the Contractor to control erosion and sedimentation and to capture debris and contaminants from construction to prevent their deposition in waterways.
- Erosion and sediment control devices used for the proposed projects, including fiber rolls and bonded fiber matrix, shall be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.
- Firearms, open fires, and pets shall be prohibited at all work locations and access roads. Smoking shall be prohibited along the project alignment.
- Cross-country vehicle and equipment use outside of approved designated work areas and access roads shall be prohibited to prevent unnecessary ground and vegetation disturbance.
- Any injured or dead wildlife encountered during project-related activities shall be reported to the project biologist, biological monitor, CDFW, or a CDFW-approved veterinary facility as soon as possible to report the observation and determine the best course of action. For special-status species, the Project Biologist shall notify the County, USFWS, and/or CDFW, as appropriate, within 24 hours of the discovery.
- Stockpiling of material shall only be allowed within established work areas.
- The Contractor shall actively manage the spread of noxious weeds by implementing weed control activities. The introduction of exotic, nonnative, weed, and/or invasive plant species will be avoided and controlled wherever possible, and may be achieved through physical or chemical removal and prevention, limiting the size of any vegetation and/or ground disturbance to the absolute minimum, and limiting ingress and egress to defined routes. Preventing exotic plants from entering the sites via

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vehicular sources will include measures such as cleaning vehicles coming into and going from the sites. All equipment will be cleaned and inspected prior to transport to the sites.

- The ground beneath all parked equipment and vehicles shall be inspected for wildlife before moving.

Mitigation Measure BIO-3 Worker Environmental Awareness Program. Prior to project construction, a Worker Environmental Awareness Program shall be developed and implemented by a qualified biologist and shall be available in both English and Spanish. Handouts summarizing potential impacts on special-status biological resources and the potential penalties for impacts on these resources shall be provided to all construction personnel. At a minimum, the education program shall including the following:

- the purpose for resource protection;
- a description of special-status species including representative photographs and general ecology;
- occurrences of USACE, RWQCB, and CDFW regulated features in the project study area;
- regulatory framework for biological resource protection and consequences if violated
- sensitivity of the species to human activities;
- avoidance and minimization measures designed to reduce the impacts on special-status biological resources
- environmentally responsible construction practices;
- reporting requirements;
- the protocol to resolve conflicts that may arise at any time during the construction process; and
- workers sign acknowledgement form indicating that the Environmental Awareness Training and Education Program that has been completed, which shall be kept on record.

7.3.2 VEGA SES 2 and 3 Special-Status Wildlife

A. Potential Impact. The literature review identified 27 special-status wildlife species that have the potential to occur within the VEGA SES 2 and 3 BSA. Fifteen (15) of these species have a low or no potential to occur due to the lack of suitable and/or limited habitat within the BSA. Of the 27 special-status species identified, 10 species have a moderate or high potential to occur on the VEGA SES 2 and 3 project sites: flat-tailed horned lizard, Mojave desert tortoise, northern harrier, California horned lark, merlin, Crissal thrasher, California black rail, Yuma hispid cotton rat, Palm Springs pocket mouse, and burrowing owl. Additionally, two special-status wildlife species were observed onsite during the habitat assessment; loggerhead shrike and black-tailed gnatcatcher were observed in the tamarisk thickets, bush seepweed scrub, blue palo verde-ironwood woodland, and creosote bush scrub on the VEGA SES 2 and 3 project sites. Direct impacts on these species that could occur include injury, mortality, nest failures, and loss of young. Indirect impacts include loss of nesting and foraging habitat and an increase in anthropogenic effects (i.e.,

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noise levels, introduction of invasive and non-native species, increase in human activity, increase in dust). Potential impacts on these special-status wildlife species may be considered significant.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-2, BIO-3, BIO-4, BIO-5, BIO-6a, and BIO-7a of the Final EIR. Mitigation Measure BIO-2 requires the implementation of general impact avoidance and minimization measures. Mitigation Measure BIO-3 requires implementation of a worker environmental awareness program. Mitigation Measure BIO-4 requires pre-construction burrowing owl surveys, and if present implementation of avoidance and minimization measures. Mitigation Measure BIO-5 requires pre-construction nesting bird survey. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist. Mitigation Measure 6a requires a pre-construction survey for special-status wildlife species within all areas of potential permanent and temporary disturbance. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken. Mitigation Measure Bio-7a requires avoidance, to the greatest extent possible, of sensitive habitats on the project sites.

Mitigation Measure BIO-2 General Impact Avoidance and Minimization Measures (as previously described above).

Mitigation Measure BIO-3 Worker Environmental Awareness Program (as previously described above).

Mitigation Measure BIO-4 Burrowing Owl Avoidance and Minimization. Take avoidance (pre-construction) surveys for burrowing owl shall be completed prior to project construction. Surveys shall be conducted as detailed within Appendix D of the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game [CDFG] 2012). If burrowing owl is not detected, construction may proceed.

- If burrowing owl is identified during the non-breeding season (September 1 through January 31), then a 50-meter buffer will be established by the biological monitor. Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until a CDFW-approved exclusion plan has been implemented. The buffer distance may be reduced if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities.
- If burrowing owl is identified during the breeding season (February 1 through August 31), then an appropriate buffer will be established by the biological monitor in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until young have fledged. The buffer distance may be reduced in consultation with

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CDFW if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities.

Mitigation Measure BIO-5 Pre-Construction Nesting Bird Survey. If construction or other project activities are scheduled to occur during the bird breeding season (typically February 1 through August 31 for raptors and February 15 through August 31 for the majority of migratory bird species), a pre-construction nesting-bird survey shall be conducted by a qualified avian biologist to ensure that active bird nests, including those for loggerhead shrike, black-tailed gnatcatcher, and burrowing owl, will not be disturbed or destroyed. The survey shall be completed no more than three days prior to initial ground disturbance. The nesting-bird survey shall include the project site and adjacent areas where project activities have the potential to affect active nests, either directly or indirectly, due to construction activity or noise. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist. If construction activities cease for a period of greater than three days during the bird breeding season, a pre-construction nesting bird survey shall be conducted prior to the commencement of activities. Final construction buffers or setback distances shall be determined by the qualified biologist in coordination with USFWS and CDFW on a case-by-case basis, depending on the species, season in which disturbance shall occur, the type of disturbance, and other factors that could influence susceptibility to disturbance (e.g., topography, vegetation, existing disturbance levels, etc.).

Mitigation Measure BIO-6a Pre-Construction Survey for Special-Status Species. A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 2 and 3 project sites or that were identified as having a high potential to occur on the sites. These species include, but are not limited to, burrowing owl, loggerhead shrike, California black rail, and black-tailed gnatcatcher. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.

Mitigation Measure BIO-7a Sensitive Habitat Avoidance. To the greatest extent possible, plans should avoid impacts on blue palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets habitats within the VEGA SES 2 and 3 project sites to minimize potential impacts on special-status species. Excluding these habitats from the projects should also minimize mitigation and permitting requirements to meet the less-than-significance threshold.

7.3.3 VEGA SES 5 Special-Status Plants

A. **Potential Impact.** The literature review identified 22 special-status plant species that have the potential to occur within the VEGA SES 5 project site. Eleven (11) of these plant species have a low potential to occur due to the limited suitable habitat within the site. There is moderate or high potential for 11 rare plant species to occur on the VEGA SES 5 project site: Salton's milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster. Suitable

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habitat for these species is present within the existing washes and creosote bush scrub habitats. Potential impacts that may occur on these species include loss of individuals, habitat, and seedbank. Depending on the size of the population, potential impacts may be considered significant.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-1b, BIO-2, and BIO-3 of the Final EIR. Mitigation Measure BIO-1b requires rare plants surveys to be conducted within suitable habitat during the appropriate blooming period. If species are determined to be present and project impacts are unavoidable, consultation with CDFW may be required to develop a mitigation plan and/or avoidance measures. Mitigation Measure BIO-2 requires general impact avoidance and minimization measures, and Mitigation Measure BIO-3 requires implementation of a worker environmental awareness program.

Mitigation Measure BIO-1b Rare Plant Surveys. Prior to initiating ground disturbance, rare plant surveys shall be conducted within suitable habitat on the VEGA SES 5 project site during the appropriate blooming period for Salton milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster. The surveys shall be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If project-related impacts to rare plants on the project sites are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements.

Mitigation Measure BIO-2 General Impact Avoidance and Minimization Measures (as previously described above).

Mitigation Measure BIO-3 Worker Environmental Awareness Program (as previously described above).

7.3.4 VEGA SES 5 Special-Status Wildlife

A. **Potential Impact.** The literature review identified 23 special-status wildlife species that have the potential to occur within the VEGA SES 5 project site. Sixteen (16) of these species have a low or no potential to occur due to the lack of suitable and limited habitat on the site. The following four species have a moderate or high potential to occur onsite: mountain plover, merlin, California black rail, and Yuma hispid cotton rat. Additionally, 3 special-status wildlife species were observed onsite during the habitat assessment. Black-tailed gnatcatchers, burrowing owl, and loggerhead strikes

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were observed in the tamarisk thickets and creosote bush scrub in the northern portion of the VEGA SES 5 project site.

Direct impacts on these species that could occur include injury, mortality, nest failures, and loss of young. Indirect impacts include loss of nesting and foraging habitat, increase in anthropogenic effects (i.e., noise levels, introduction of invasive/non-native species, increase in human activity, increase in dust). Potential impacts on these species may be considered significant.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-2, BIO-3, BIO-4, BIO-5, BIO-6b, and BIO-7b of the Final EIR. Mitigation Measure BIO-2 requires the implementation of general impact avoidance and minimization measures and Mitigation Measure BIO-3 requires implementation of a worker environmental awareness program. Mitigation Measure BIO-4 requires pre-construction burrowing owl surveys, and if present implementation of avoidance and minimization measures. Mitigation Measure BIO-5 requires pre-construction nesting bird survey. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist. Mitigation Measure 6b requires a pre-construction survey for special-status wildlife species within all areas of potential permanent and temporary disturbance. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken. Mitigation Measure Bio-7b requires avoidance, to the greatest extent possible, of sensitive habitats.

Mitigation Measure BIO-2 General Impact Avoidance and Minimization Measures (as previously described above).

Mitigation Measure BIO-3 Worker Environmental Awareness Program (as previously described above).

Mitigation Measure BIO-4 Burrowing Owl Avoidance and Minimization (as previously described above).

Mitigation Measure BIO-5 Pre-Construction Nesting Bird Survey (as previously described above).

Mitigation Measure BIO-6b Pre-Construction Survey for Special-Status Species. A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 5 project site or that were identified as having a high potential to occur on the site. These species include, but are not limited to, mountain plover, California black rail, merlin, Yuma hispid cotton rat, burrowing owl, black-tailed gnatcatcher, and loggerhead strike. Should any special-status species be identified during the pre-construction

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survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.

Mitigation Measure BIO-7b Sensitive Habitat Avoidance. To the greatest extent possible, plans should avoid impacts on bush seepweed scrub and tamarisk thicket habitats within the VEGA SES 5 project site to minimize potential impacts to special-status species. Excluding these habitats from the project should also minimize mitigation and permitting requirements to meet the less-than-significance threshold.

7.3.5 VEGA SES 2 and 3 Riparian Habitat or Sensitive Natural Community

A. Potential Impact. Both alkali sinks and riparian habitat are present within the VEGA SES 2 and 3 BSAs. These sensitive natural communities are regulated under Section 1600 of the California FGC. Impacts on features that fall under the definition of streambed and associated riparian habitat would trigger the need for Streambed Alteration Notification and the VEGA SES 2 and 3 projects may need to enter into formal Agreements with CDFW. This is a potentially significant impact.

Blue palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets occur within the VEGA SES 2 and 3 project sites and are considered sensitive natural communities by CDFW. During project construction, sensitive natural communities would be directly impacted by grading activities.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-7a, BIO-8 and BIO-9 of the Final EIR. Mitigation Measure BIO-7a requires avoidance, to the greatest extent possible, of sensitive habitats. Mitigation Measure BIO-8 requires that applicable regulatory permits be obtained for any impacts to aquatic resources that fall under the jurisdiction of USACE, CDFW, or RWQCB and mitigation be implemented as required by the permits. Mitigation Measure BIO-9 requires that impacts to wetlands/riparian habitat be minimized through establishment of buffers during construction and operation.

Mitigation Measure BIO-7a Sensitive Habitat Avoidance (as previously described above).

Mitigation Measure BIO-8 Aquatic Resources Regulatory Permitting. If project-related impacts occur to the riparian areas that may also fall under the jurisdiction of the USACE, CDFW, or RWQCB a regulatory permit with those agencies will be needed prior to the impact occurring. Refer to the ECORP Jurisdiction Delineation Report (2022) for preliminary determination of regulatory limits of areas that may be regulated by the USACE, CDFW, or RWRCB. Permitting includes preparation and submittal of a Pre-Construction Notification under Section 404 of the federal CWA, an Application for Water Quality Certification under Section 401 of the federal CWA, and a Notification of Lake or Streambed Alteration under Section 1600 of the California Fish and Game Code. A completed CEQA document, and Notice of Determination, will be necessary to submit along with the applications. Other items such as finalized project plans, quantities of fill material, supporting technical studies, etc., are also submitted along with the applications. As a part of this process, the projects must also identify and approve mitigation through the respective

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agencies. Mitigation can include onsite or offsite options or could include purchase of credits from an existing mitigation or conservation bank or payment of an in-lieu fee to a conservation organization. Types of mitigation can include restoration, creation, rehabilitation, enhancement, or other types of habitat improvement. Typically, the type of mitigation and acreage of mitigation is negotiated with the regulatory agencies during the permitting process.

Mitigation Measure BIO-9 Minimization of Impacts to Wetland/Riparian Habitat. Solar panels, structures, and new access roads should not be placed within 50 feet of wetland and riparian habitat boundaries. A construction buffer of 300 feet shall be established around the wetlands and riparian habitat during the bird breading season (February 1 – August 31). Prior to construction, fencing should be installed approximately 10 feet from the wetland and riparian habitat boundaries within 50 feet of the projects. Fencing should be easily visible to construction. The extensive alluvial fan systems should not be used as access roads between the projects.

7.3.6 VEGA SES 5 Riparian Habitat or Sensitive Natural Community

A. Potential Impact. Both alkali sinks and riparian habitat are present within the VEGA SES 5 BSA. These sensitive natural communities are regulated under Section 1600 of the California FGC. Impacts on features that fall under the definition of streambed and associated riparian habitat would trigger the need for Streambed Alteration Notification and the VEGA SES 2 and 3 projects may need to enter into formal Agreements with CDFW. This is a potentially significant impact. However, implementation of Mitigation Measures BIO-7b, BIO-8, and BIO-9 would reduce potential impacts on riparian habitat to a level less than significant (see Appendix E1 of this EIR).

Blue palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets occur within the VEGA SES 2 and 3 project sites and are considered sensitive natural communities by CDFW. During project construction, sensitive natural communities would be directly impacted by grading activities. However, the proposed project would comply with mitigation requirements recommended through consultation with CDFW, including the in-kind replacement of palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-7b, BIO-8 and BIO-9. Mitigation Measure BIO-7b requires avoidance, to the greatest extent possible, of sensitive habitats. Mitigation Measure BIO-8 requires that applicable regulatory permits be obtained for any impacts to aquatic resources that fall under the jurisdiction of USACE, CDFW, or RWQCB and mitigation be implemented as required by the permits. Mitigation Measure BIO-9 requires that impacts to wetlands/riparian habitat be minimized through establishment of buffers during construction and operation.

Mitigation Measure BIO-7b Sensitive Habitat Avoidance (as previously described above).

Mitigation Measure BIO-8 Aquatic Resources Regulatory Permitting (as previously described above).

Mitigation Measure BIO-9 Minimization of Impacts to Wetland/Riparian Habitat (as previously described above).

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7.3.7 VEGA SES 2 and 3 State or Federally-Protected Wetlands

A. Potential Impact. The Aquatic Resources Delineation report prepared for the VEGA SES 2 and 3 projects identified numerous aquatic resources on the project site. Construction of the project has the potential to directly impact these resources.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-7a, BIO-8 and BIO-9. Mitigation Measure BIO-7a requires avoidance, to the greatest extent possible, of sensitive habitat. Mitigation Measure BIO-8 requires that applicable regulatory permits be obtained for any impacts to aquatic resources that fall under the jurisdiction of USACE, CDFW, or RWQCB and mitigation be implemented as required by the permits. Mitigation Measure BIO-9 requires that impacts to wetlands/riparian habitat be minimized through establishment of buffers during construction and operation.

Mitigation Measure BIO-7a Sensitive Habitat Avoidance (as previously described above).

Mitigation Measure BIO-8 Aquatic Resources Regulatory Permitting (as previously described above).

Mitigation Measure BIO-9 Minimization of Impacts to Wetland/Riparian Habitat (as previously described above).

7.3.8 VEGA SES 5 State or Federally-Protected Wetlands

A. Potential Impact. The Aquatic Resources Delineation report prepared for the VEGA SES 5 project identified numerous aquatic resources on the project site. Construction of the project has the potential to directly impact these resources.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-7b, BIO-8 and BIO-9. Mitigation Measure BIO-7b requires avoidance, to the greatest extent possible, of sensitive habitats. Mitigation Measure BIO-8 requires that applicable regulatory permits be obtained for any impacts to aquatic resources that fall under the jurisdiction of USACE, CDFW, or RWQCB and mitigation be implemented as required by the permits. Mitigation Measure BIO-9 requires that impacts to wetlands/riparian habitat be minimized through establishment of buffers during construction and operation.

Mitigation Measure BIO-7b Sensitive Habitat Avoidance (as previously described above).

Mitigation Measure BIO-8 Aquatic Resources Regulatory Permitting (as previously described above).

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Mitigation Measure BIO-9 Minimization of Impacts to Wetland/Riparian Habitat (as previously described above).

7.3.9 VEGA SES 2 and 3 Interfere with Migratory Fish and Wildlife Species

A. Potential Impact. The majority of the project sites do not contain suitable vegetation or cover to support wildlife movement and are nestled between agricultural and development; therefore wildlife movement opportunities connecting the project sites to large, undeveloped natural areas is limited. However, the existing riparian corridor could act as potential corridor and nursery site for migrating wildlife species.

Foraging habitat for a number of raptor species and breeding habitat for numerous passerine species that are protected by the MBTA occurs throughout the project sites. The sites provide nesting habitat for ground-nesting species as well as species that nest in riparian scrub habitat. The presence of large ironwood and palo verde trees within the BSA provides suitable nesting habitat for raptor species. Additionally, northern harriers are ground nesters, and the existing tamarisk thickets and other dense habitats provide potential nesting habitat for this species. Project construction has the potential to result in both direct and indirect impacts on nesting birds. Direct impacts on nesting avian species include injury, mortality, loss of young, and nest failure. Indirect impacts include loss of foraging and nesting habitat for passerine and raptors species, increase in noise and human activities, and potential introduction of invasive or non-native species. Impacts on species protected by the MBTA would be potentially significant during project construction.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-2, BIO-4, BIO-5, BIO-6a, and BIO-7a. Mitigation Measure BIO-2 requires implementation of general avoidance and minimization measures. Mitigation Measure BIO-4 requires burrowing owl avoidance and minimization measures. Mitigation Measures BIO-5 requires a pre-construction nesting bird survey and avoidance of active bird nests. Mitigation Measure BIO-6a requires a pre-construction survey for special-status species and development of appropriate avoidance and minimization measures in the event that species are present on-site. Mitigation Measure BIO-7a requires avoidance of sensitive habitat to the extent possible.

Mitigation Measure BIO-2 General Impact Avoidance and Minimization Measures (as previously described above).

Mitigation Measure BIO-4 Burrowing Owl Avoidance and Minimization (as previously described above).

Mitigation Measure BIO-5 Pre-Construction Nesting Bird Survey (as previously described above).

Mitigation Measure BIO-7a Sensitive Habitat Avoidance (as previously described above).

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7.3.10 VEGA SES 5 Interfere with Migratory Fish and Wildlife Species

A. Potential Impact. The majority of the project sites do not contain suitable vegetation or cover to support wildlife movement and are nestled between agricultural and development; therefore wildlife movement opportunities connecting the project sites to large, undeveloped natural areas is limited. However, the existing riparian corridor could act as potential corridor and nursery site for migrating wildlife species.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.5 of the Final EIR, the project's potentially impacts would be mitigated to below a level of significance with implementation of Mitigation Measures BIO-2, BIO-4, BIO-5, BIO-6b and BIO-7b. Mitigation Measure BIO-2 requires implementation of general avoidance and minimization measures. Mitigation Measure BIO-4 requires burrowing owl avoidance and minimization measures. Mitigation Measures BIO-5 requires a pre-construction nesting bird survey and avoidance of active bird nests. Mitigation Measure BIO-6b requires a pre-construction survey for special-status species and development of appropriate avoidance and minimization measures in the event that species are present on-site. Mitigation Measure BIO-7b requires avoidance of sensitive habitat to the extent possible.

Mitigation Measure BIO-2 General Impact Avoidance and Minimization Measures (as previously described above).

Mitigation Measure BIO-4 Burrowing Owl Avoidance and Minimization (as previously described above).

Mitigation Measure BIO-5 Pre-Construction Nesting Bird Survey (as previously described above).

Mitigation Measure BIO-7b Sensitive Habitat Avoidance (as previously described above).

7.4 Cultural Resources

7.4.1 Archaeological Resources

A. Potential Impact. Historical resources are located throughout the project area, which are assumed to be significant and will require further evaluation, and implementation of measures as necessary (e.g., avoidance, data collection and/or recovery, documentation) if determined to be significant. EIR Tables 3.6-4, 3.6-5 and 3.6-6 identify historic resources on each site. While the majority of resources are likely not significant/eligible for NRHP/CRHR, it is assumed that all sites are significant.

Furthermore, construction activities associated with the project as planned will include ground disturbing actions that would impact unevaluated archaeological resources within the project area. In addition, ground disturbing activities have the potential to disturb previously undocumented resources that could qualify as significant archaeological resources pursuant to CEQA.

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B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.6 of the Final EIR, the project's potentially significant impact would be mitigated to below a level of significance with implementation of Mitigation Measures CUL-1 through CUL-4 of the Final EIR. Mitigation Measure CUL-1 requires preparation, approval, and implementation of a Cultural Resources Management Plan that would address appropriate mitigation for any significant cultural resources. Mitigation Measure CUL-2 would involve retaining a Qualified Archaeologist to monitor ground disturbing work and provide WEAP training to construction personnel If ground disturbing activities encounter unanticipated discoveries that are potentially significant historical resources pursuant to CEQA. Mitigation Measures CUL-3 and CUL-4 would require construction to be halted in the area surrounding the discovery so that the Qualified Archaeologist can conduct formal site evaluations to assess whether resource(s) are potentially eligible for listing in the CRHR. At the completion of construction, an Archaeological Resources Monitoring Report will be prepared to summarize all monitoring efforts and observations, as performed, and all prehistoric or historic archaeological finds. Implementation of Mitigation Measures CUL-1 through CUL-4 would reduce potential impacts associated with cultural resources to a level less than significant.

Mitigation Measure CR-1 Cultural Resources Management Plan. Project proponent will develop a cultural resources management plan (CRMP) to outline the process for compliance with applicable cultural resources laws, management of resources during operation, and consideration of the effect of decommissioning. The CRMP shall include the following: identification of California Native American tribes, identification of long and short term management goals for cultural resources within the project area, evaluation of eligibility for the CRHR and NRHP for all resources within the project area as identified on EIR Tables 3.6-3, 3.6-4 and 3.6-5, recommendations for eligibility for the CRHR and NRHP, description of measures to avoid, minimize, and reduce significant impacts to cultural resources (including both historical and archaeological resources), unanticipated discovery procedures, monitoring needs, data recovery of significant cultural resources where avoidance is not possible, curation procedures for recovered artifacts, anticipated personnel requirements and qualifications. The CRMP shall specifically address pre-contact fishing village site Resource P-13-147 and all resources identified in EIR Tables 3.6-3, 3.6-3 and 3.6-5. The draft CRMP shall be prepared by a registered professional archaeologist and reviewed and approved by the County of Imperial Planning and Development Services Department.

Mitigation Measure CR-2 Cultural Resources Training. Project proponent will provide cultural resources training for all project personnel regarding the laws protecting cultural resources, appropriate conduct in the field, and other project-specific issues identified in the CRMP prepared for each site as required by Mitigation Measure CR-1.

Mitigation Measure CR-3 Construction Monitoring. A qualified Archaeologist shall be present on site for ground disturbing activities within 100-feet of all unevaluated or sites eligible for inclusion to the NRHP or CRHR. Ground disturbing activities include grubbing, trenching, and grading. Monitoring will be limited to natural surfaces and undisturbed sediments. Monitoring is not required for previously disturbed areas or fill. Monitors will complete daily monitoring reports documenting activities and results of the day. After construction activities have finished a comprehensive monitoring report shall be prepared.

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Mitigation Measure CR-4 Unanticipated Discovery Procedures. In the event of the discovery of previously unidentified archaeological materials, the contractor shall immediately cease all work activities within approximately 100 feet of the discovery. After cessation of excavation, the contractor shall immediately contact the Imperial County Department of Planning and Development Services. Except in the case of cultural items that fall within the scope of the Native American Grave Protection and Repatriation Act, the discovery of any cultural resource within the project area shall not be grounds for a "stop work" notice or otherwise interfere with the project's continuation except as set forth in this paragraph.

In the event of an unanticipated discovery of archaeological materials during construction, the applicant shall retain the services of a qualified professional archaeologist, meeting the Secretary of the Interior's Standards for a Qualified Archaeologist, to evaluate the significance of the materials prior to resuming any construction related activities in the vicinity of the find. If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA and it cannot be avoided, the applicant shall implement an archaeological data recovery program.

7.4.2 Human Remains

A. Potential Impact. During the construction and operational phases of the proposed project, grading, excavation and trenching will be required. Although the potential for encountering subsurface human remains within the project site is low, there remains a possibility that human remains are present beneath the ground surface, and that such remains could be exposed during project construction. The potential to encounter human remains is considered a significant impact.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.6 of the Final EIR, the project's potential impact to human remains would be mitigated to below a level of significance with implementation of Mitigation Measure CUL-5, provided below from the Final EIR. This measure requires that construction be halted in the area where the remains are found and the procedures set forth in California Health and Safety Code 7050.5, CEQA Section 15064.5, and California Public Resources Code Section 5097.98 (NPS 1983), as applicable.

Mitigation Measure CUL-5 Discovery of Human Remains. If subsurface deposits believed to be human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist who meets the Secretary of the Interior's Standards for prehistoric and historic archaeology and is familiar with the resources of the region, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the find includes human remains, or remains that are potentially human, the professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Imperial County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented.

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- If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC may mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the Imperial County Planning and Development Services Department, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

7.5 Geology and Soils

7.5.1 Seismic Ground Shaking

A. Potential Impact. Even with the integration of building standards, ground shaking within the project sites could cause some structural damage to the facility structures or, at least, cause unsecured objects to fall. During a stronger seismic event, ground shaking could expose employees to injury from structural damage or collapse of electrical distribution facilities. Given the potentially hazardous nature of the project facilities, the potential impact of ground motion during an earthquake is considered a significant impact, as proposed structures, such as the substation and transmission lines could be damaged.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.7 of the Final EIR, the project's potential impact would be mitigated to below a level of significance with implementation of Mitigation Measure GEO-1 of the Final EIR. This measure includes preparing geotechnical reports and implementing required measures.

Mitigation Measure GEO-1 Prepare Geotechnical Report(s) as Part of Final Engineering for the Project and Implement Required Measures. Facility design for all project components shall comply with the site-specific design recommendations as provided by a licensed geotechnical or civil engineer to be retained by the project applicant. The final geotechnical and/or civil engineering report shall address and make recommendations on the following:

- Site preparation
- Soil bearing capacity
- Appropriate sources and types of fill
- Potential need for soil amendments
- Structural foundations

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- Grading practices
- Soil corrosion of concrete and steel
- Erosion/winterization
- Seismic ground shaking
- Liquefaction
- Expansive/unstable soils

In addition to the recommendations for the conditions listed above, the geotechnical investigation shall include subsurface testing of soil and groundwater conditions, and shall determine appropriate foundation designs that are consistent with the version of the CBC that is applicable at the time building and grading permits are applied for. All recommendations contained in the final geotechnical engineering report shall be implemented by the project applicant. The final geotechnical and/or civil engineering report shall be submitted to Imperial County Public Works Department, Engineering Division for review and approval prior to issuance of building permits.

7.5.2 Liquefaction

A. Potential Impact. Liquefaction is most prevalent in loose- to medium-dense, silty, sandy, and gravelly soils below the groundwater table. The project sites have not been mapped for liquefaction potential by CGS. However, given that the project sites are underlain by sand and clay, there is a potential for liquefaction to occur on the project sites. Additional geotechnical investigation would be required in order to assess the risk of liquefaction on the project sites. The potential impact related to liquefaction is considered a significant impact.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.7 of the Final EIR, the project's potential impact would be mitigated to below a level of significance with implementation of Mitigation Measure GEO-1. This measure includes preparing geotechnical reports and implementing recommendations made by a licensed geotechnical engineer in compliance with the CBC prepared as part of a formal geotechnical investigation.

Mitigation Measure GEO-1 (as previously described above).

7.5.3 Construction Related Erosion

A. Potential Impact. During the site grading and construction phases, large areas of unvegetated soil would be exposed to erosive forces by water or wind for extended periods of time. Unvegetated soils are much more likely to erode from precipitation than vegetated areas because plants act to disperse, infiltrate, and retain water. Construction activities involving soil disturbance, excavation, cutting/filling, stockpiling, and grading activities could result in increased erosion and sedimentation to surface waters. Construction could produce sediment-laden stormwater runoff (nonpoint source pollution), a major contributor to the degradation of water quality. If precautions are not taken to contain contaminants, construction-related erosion impacts are considered significant.

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B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.7 of the Final EIR, the project's potential impact would be mitigated to below a level of significance with implementation of Mitigation Measure GEO-1, and Mitigation Measure HYD-1 of the Final EIR (refer to Final EIR Section 3.10 Hydrology/Water Quality). Mitigation Measure HYD-1 requires that soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching) are implemented during the construction phase.

Mitigation Measure GEO-1 (as previously described above).

Mitigation Measure HYD-1 (described below).

7.5.4 Unstable Geologic Unit or Soil

A. **Potential Impact.** The potential for lateral spreading to occur on the project sites has not yet been determined. Additional geotechnical investigation would be required in order to assess the risk of lateral spreading to occur on the project sites. The potential impact associated with lateral spreading is considered a significant impact.

As described above, given that the project sites are underlain by sand and clay, there is a potential for liquefaction to occur on the project sites. Additional geotechnical investigation would be required in order to assess the risk of liquefaction on the project sites. The potential impact related to liquefaction is considered a significant impact.

It is unknown whether collapsible soils are present on the project sites. Additional geotechnical investigation would be required in order to assess the risk of collapsible soils to occur on the project sites. The potential impact associated with collapsible soils is considered a significant impact.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.7 of the Final EIR, the project's potential impact would be mitigated to below a level of significance with implementation of Mitigation Measure GEO-1. This measure includes preparing geotechnical reports and implementing recommendations made by a licensed geotechnical engineer in compliance with the CBC prepared as part of a formal geotechnical investigation.

Mitigation Measure GEO-1 (as previously described above).

7.5.5 Expansive or Corrosive Soils

A. Potential Impact. The project sites are underlain by sand, gravelly sand, and clay/silty clay. Generally, sands are not considered expansive soils. However, clays may exhibit moderate to high expansion potential due to variation in moisture content. Unless properly mitigated, shrink-swell soils could exert additional pressure on buried structures and electrical connections producing shrinkage cracks that could allow water infiltration and compromise the integrity of backfill material. These conditions could be worsened if structural facilities are constructed directly on expansive soil materials. This potential impact would be significant as structures could be damaged by these types of soils. In addition, the on-site soils, particularly clay/silty clay, are known to be corrosive.

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Corrosive soils can damage underground utilities, including pipelines and cables, or weaken roadway structures. A site-specific geotechnical investigation would be required at the project sites to determine the extent and effect of problematic soils.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.7 of the Final EIR, the project's potential impact would be mitigated to below a level of significance with implementation of Mitigation Measure GEO-1. A site-specific geotechnical investigation would be required at the project site to determine the extent and effect of problematic soils which have been identified during preliminary laboratory screenings of near surface on-site soils. Implementation of Mitigation Measure GEO-1, which requires the preparation of a design-level geotechnical report, would reduce potential impacts associated with expansive and corrosive soils to a level less than significant.

Mitigation Measure GEO-1 (as previously described above).

7.5.6 Paleontological Resources

A. Potential Impact. the project sites are in the Salton Basin near the shoreline of ancient Lake Cahuilla. The lake covered much of the Imperial Valley and created an extensive lacustrine environment. Lake Cahuilla experienced several fill recession episodes before it finally dried up about 300 years ago. In 1905, the Colorado River overflowed into the Salton Basin creating the present-day Salton Sea. As previously noted, the project sites are generally underlain by deposits from periodic flooding of the Colorado River and Lake Cahuilla (Appendix H of this EIR). Sediments from this formation have yielded fossilized remains of continental vertebrates, invertebrates, and plants at numerous previously recorded fossil sites in the Imperial Valley. Therefore, the project sites are considered paleontologically sensitive.

Although unlikely, project construction has the potential to unearth and/or potentially destroy previously undiscovered paleontological resources. This potential impact is considered a significant impact. However, implementation of Mitigation Measure GEO-2 would reduce the potential impact on paleontological resources to a level less than significant.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Finding. Based on the analysis provided in Section 3.7 of the Final EIR, Mitigation Measure GEO-2 would reduce the potential impact on paleontological resources to a level less than significant. Mitigation Measure GEO-2 would require that a consulting paleontologist be retained should unanticipated paleontological resources or unique geologic resources be encountered during ground-disturbing activities and a Paleontological Treatment Plan be prepared which would contain recommendations to mitigation impacts to paleontological resources.

Mitigation Measure GEO-2 Paleontological Resources. In the event that unanticipated paleontological resources or unique geologic resources are encountered during ground-disturbing activities, work must cease within 50 feet of the discovery and a paleontologist shall be hired to assess the scientific significance of the find. The consulting paleontologist shall have knowledge

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of local paleontology and the minimum levels of experience and expertise as defined by the Society of Vertebrate Paleontology's Standard Procedures (2010) for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. If any paleontological resources or unique geologic features are found within the project sites, the consulting paleontologist shall prepare a paleontological Treatment and Monitoring Plan to include the methods that will be used to protect paleontological resources that may exist within the project sites, as well as procedures for monitoring, fossil preparation and identification, curation of specimens into an accredited repository, and preparation of a report at the conclusion of the monitoring program.

7.6 Hydrology and Water Quality

7.6.1 Violation of Water Quality Standards during Construction

A. Potential Impact. During the construction phase, sedimentation and erosion can occur because of tracking from earthmoving equipment, erosion and subsequent runoff of soil, and improperly designed stockpiles. The utilization of proper erosion and sediment control BMPs is critical in preventing discharge to surface waters/drains.

In addition to erosion and sedimentation, many different types of hazardous compounds will be used during the construction phase, with proper application, management, and containment being of high importance. Poorly managed construction materials can lead to the possibility for exposure of potential contaminants to precipitation. When this occurs, these visible and/or non-visible constituents become entrained in storm water runoff. If they are not intercepted or are left uncontrolled, the polluted runoff would otherwise freely sheet flow from the project to the IID Imperial Valley Drains and could cause pollution accumulation of these pollutants in the receiving waters. This is considered a potentially significant impact.

A. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

B. Facts in Support of Finding. Based on the analysis provided in Section 3.10 of the Final EIR, the project's potentially significant impact would be mitigated to below a level of significance with implementation of Mitigation Measures HYD-1 of the Final EIR. Prior to construction and grading activities, the project applicant is required to file an NOI with the SWRCB to comply with the General NPDES Construction Permit and prepare a SWPPP, which addresses the measures that would be included during construction or the project to minimize and control construction and post-construction runoff to the "maximum extent practicable." In addition, NPDES permits require the implementation of BMPs that achieve a level of pollution control to the maximum extent practical. With the implementation of Mitigation Measures HYD-1, impacts on surface water quality as attributable to the project would be reduced to a less than significant level through the inclusion of focused BMPs for the protection of surface water resources. Monitoring and contingency response measures would be included to verify compliance with water quality objectives for all surface waters crossed during construction. In addition, given that site decommissioning would result in similar activities as identified for construction, these impacts could also occur in the future during site restoration activities.

Mitigation Measure HYD-1 Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration. The project applicant or its contractor shall prepare a SWPPP specific to the project and be responsible for securing coverage under SWRCB's NPDES stormwater permit for

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general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the appropriate agency, including the County of Imperial Department of Public Works and the Coachella Valley Water District, prior to commencement of work and shall be made conditions of the contract with the contractor selected to build and decommission the project. The SWPPP shall incorporate control measures in the following categories:

- Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching)
- Sediment control practices (e.g., temporary sediment basins, fiber rolls)
- Temporary and post-construction on- and off-site runoff controls
- Special considerations and BMPs for water crossings and drainages
- Monitoring protocols for discharge(s) and receiving waters, with emphasis place on the following water quality objectives: dissolved oxygen, floating material, oil and grease, potential of hydrogen (pH), and turbidity
- Waste management, handling, and disposal control practices
- Corrective action and spill contingency measures
- Agency and responsible party contact information
- Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP

The SWPPP shall be prepared by a Qualified SWPPP Practitioner and/or Qualified SWPPP Developer with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. BMPs for soil stabilization and erosion control practices and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure.

7.6.2 Violation of Water Quality Standards during Operation

A. Potential Impact. As runoff flows over developed surfaces, water can entrain a variety of potential pollutants including, but not limited to, oil and grease, pesticides, trace metals, and nutrients. These pollutants can become suspended in runoff and carried to receiving waters. These effects are commonly referred to as non-point source water quality impacts.

Long-term operation of the solar facility poses a limited threat to surface water quality after the completion of construction. The project would be subject to the County's Grading Regulations as specified in Section 91010.02 of the Ordinance Code. However, since the project site is located in unincorporated Imperial County and not subject to a Municipal Separate Storm Sewer System or

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NPDES General Industrial Permit, there is no regulatory mechanism in place to address post-construction water quality concerns.

B. Finding. Pursuant to CEQA Guidelines §15091 (a)(1), changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

C. Facts in Support of Findings. Based on the analysis provided in Section 3.10 of the Final EIR, the project's potentially significant impact would be mitigated to below a level of significance with implementation of Mitigation Measure HYD-2 of the Final EIR. The study area is located in unincorporated Imperial County and not subject to a Municipal Stormwater (MS4) Permit, which requires the implementation of post-construction stormwater BMPs to achieve pollutant removal to the maximum extent practicable. The implementation of the prescribed mitigation would incorporate post-construction runoff BMPs into the Project Drainage Plan. The proposed project will be designed to include site design, source control, and treatment control BMPs, as described below. The use of source control, site design, and treatment BMPs would result in a decrease potential for storm water pollution.

Mitigation Measure HYD-2 Incorporate Post-Construction Runoff BMPs into Project Drainage Plan. The project Drainage Plan shall adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of stormwater to existing drainage systems. Infiltration basins will be integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary. The Drainage Plan shall be submitted to the County of Imperial Department of Public Works and Coachella Valley Water District for review and approval.

8 Cumulative Impacts

As analyzed in Chapter 5 of the Final EIR, cumulative impacts to agricultural resources, air quality, biological resources, cultural resources, geology and soils, and hydrology/water quality, would be significant prior to implementation of project specific mitigation measures, and mitigation that would be required of other cumulative projects.

Agricultural Resources

As discussed in Section 3.3, Agricultural Resources, the project sites do not contain Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Therefore, the proposed projects would not convert land designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland to non-agricultural uses or incrementally add to the conversion of agricultural land in Imperial County on a temporary or permanent basis. Furthermore, the project sites are located within the Renewable Energy Zone and is, therefore, considered an appropriate use in this area. Additionally, as a condition of project approval (CUP condition), the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of its lifespan.

The VEGA 2 and 3 project sites do not contain agricultural resources and are not mapped as agricultural land. The majority of the VEGA SES 5 project site is designated as Other Land with a portion of the VEGA SES 5 project site is designated as Farmland of Local Importance. It should be

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noted that analysis of Other Land and Farmland of Local Importance is not required under CEQA significance criteria, as these designations are not considered an "agricultural land" per CEQA Statute Section 21060.1(a). However, in terms of preservation of agricultural land Mitigation Measure AG-1 would be implemented to reduce potential impacts related to pests to a less than significant level.

Each individual cumulative project would be or would have been required to provide mitigation for any impacts on agricultural resources in accordance with the County's policies directed at mitigating the impact associated with the conversion of important farmlands, the implementation of which would reduce the impact to less than significant. Because the project would not result in the conversion of farmland, the projects contribution to this impact would be less than cumulatively considerable.

Air Quality

Construction. The proposed projects would generate air emissions due to vehicle and dust emissions associated with construction activities. Similar effects would also be realized upon site decommissioning, which would be carried out in conjunction with the project's restoration plan, and subject to applicable ICAPCD standards. Likewise, the other cumulative projects that are approved, but not yet built (Midway Solar Farm IV and Wilkinson Solar Farm) or pending entitlement (Nider Solar Project and Orni 30) identified in Final EIR Table 5-1 would result in the generation of air emissions during construction activities.

With respect to the proposed projects, during the construction and decommissioning phases, the project would generate PM_{10}, $PM_{2.5}$, ROG, CO, SO_2, and NOx emissions during each active day of construction. As discussed in Section 3.4, Air Quality, the VEGA SES 2 and 3 projects' daily construction emissions daily construction emissions would not exceed the ICAPCD thresholds for ROG, NOx, CO, SO_2, and $PM_{2.5}$. However, the VEGA SES 2 and 3 projects' daily construction emissions would exceed the ICAPCD threshold for PM_{10} and represents a significant air quality impact. The VEGA SES 2 and 3 projects' impact could be cumulatively considerable because the Imperial County portion of the SSAB are nonattainment already for O_3 and PM_{10} under state standards and for O_3 and $PM_{2.5}$ federal standards. Thus, existing O_3 and PM_{10} levels in the SSAB are at unhealthy levels during certain periods. Additionally, the cumulative construction effects could again be experienced in the future during decommissioning and site restoration activities.

Several of the projects listed in Final EIR Table 5-1 are already constructed and in operation. In the event the proposed projects are constructed in conjunction with the Nider Solar Project (pending entitlement), Midway Solar Farm IV and Wilkinson Solar Farm (approved but not built), each project would be subject to mitigation pursuant to ICAPCD's Regulations. Therefore, the cumulative impact would be reduced to a level less than significant through compliance with these measures. Further, because the proposed projects will be required to implement measures consistent with ICAPCD regulations designed to alleviate the cumulative impact associated with fugitive dust (PM_{10}) and NOx, the projects contribution would be rendered less than cumulatively considerable and is therefore, less than significant.

Operation. As the proposed project would have no major stationary emission sources and would require minimal vehicular trips, operation of the proposed solar facilities would result in substantially lower emissions than project construction. The projects' operational emissions would not exceed the Tier I thresholds; therefore, the impact would be less than significant. Operational impacts of other renewable energy facilities identified in Final EIR Table 5-1 would also be similar. Although these cumulative projects generally involve large areas, their operational requirements are very minimal, requiring minimal staff or use of machinery or equipment that generate emissions. Further, alternative

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energy projects, such as the project, would assist attainment of regional air quality standards and improvement of regional air quality by providing clean, renewable energy sources. Consequently, the projects would provide a positive contribution to the implementation of applicable air quality plan policies and compliance with EO S-3-05.

However, from a cumulative air quality standpoint, the potential cumulative impact associated with the generation of O_3, $PM_{2.5}$ and PM_{10} emissions during operation of the cumulative projects is a consideration because existing O_3 and PM_{10} levels in the SSAB are at unhealthy levels during certain periods. Imperial County is classified as non-attainment for $PM_{2.5}$ for the urban areas of Imperial County. However, the projects' operational contribution to O_3, $PM_{2.5}$ and PM_{10} would be below a level of significance. As with the construction phases, the cumulative projects would be required to comply with ICAPCD's Regulation VIII for dust control (Regulation VIII applies to both the construction and operational phases of projects). As a result, the ICAPCD would be required to comply with the various dust control measures and to prepare and implement operational dust control plans as approved by the ICAPCD, which is a component of ICAPCD's overall framework of the AQAP that sets forth a comprehensive program for SSAB's compliance with all federal and state air quality standards. Therefore, the projects would not contribute to long-term cumulatively considerable air quality impacts and the projects would not result in cumulatively significant air quality impacts, and cumulative impacts would be less than significant.

Biological Resources

The geographic scope for considering cumulative impacts on biological resources includes the Imperial Valley and related biological habitats. Table 5-1 of the Final EIR lists the projects considered for the biological resources cumulative impact analysis.

In general terms, in instances where a potential impact could occur, CDFW and USFWS have promulgated a regulatory scheme that limits impacts on these species. The effects of the project would be rendered less than significant through mitigation requiring compliance with all applicable regulations that protect plant, fish, and animal species, as well as waters of the U.S. and state. Other cumulative projects would also be required to avoid impacts on special-status species and/or mitigate to the satisfaction of the CDFW and USFWS for the potential loss of habitat. As described in Section 3.4, Biological Resources, the projects have the potential to result in impacts on biological resources. These impacts are generally associated with the potential construction-related effects to burrowing owl, bird species, and bats (foraging only).

Burrowing Owls are protected by the CDFW mitigation guidelines for burrowing owl (CDFW 2012) and Consortium guidance (1993), which require a suite of mitigation measures to ensure direct effects to burrowing owls during construction activities are avoided and indirect effects through burrow destruction and loss of foraging habitat are mitigated at prescribed ratios. Mitigation measures identified in Section 3.5, Biological Resources, contain these requirements thereby minimizing potential impacts on these species to a less than significant level. Additionally, as provided in Section 3.5, Biological Resources, special-status bird species have a potential to be present. In addition, several common bird species could nest on the project site. As a result of project-related construction activities, one or more of these species could be impacted. However, with the implementation of mitigation as identified in Section 3.5, Biological Resources, these impacts would be reduced to a level of less than significant, primarily through avoidance of direct and indirect impacts to these species via pre-construction surveys and monitoring requirements during construction. Similarly, the cumulative projects within the geographic scope of the project would be required to comply with the legal

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framework as described above, and similar avoidance and minimization measures. Based on these considerations, impacts on biological resources would not be cumulatively considerable.

As with the proposed projects, each of the cumulative projects would be required to provide mitigation for impacts on biological resources. The analysis below is conducted qualitatively and in the context that the cumulative projects would be subject to a variety of statutes and administrative frameworks that require mitigation for impacts on biological resources.

Birds listed at 50 CFR 10.3 are protected by the MBTA (16 USC 703 et seq.), a Federal statute that implements treaties with several countries on the conservation and protection of Birds listed at 50 CFR 10.3 are protected by the MBTA (16 USC 703 et seq.), a Federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The MBTA is enforced by USFWS. This act prohibits the killing of any migratory birds without a valid permit. Any activity which contributes to unnatural migratory bird mortality could be prosecuted under this act. With few exceptions, most birds are considered migratory under this act. Raptors and active raptor nests are protected under California FGCs 3503.5, 3503, and 3513.

The CWA and California's Porter-Cologne Water Quality Control Act provide protection for water-related biological resources by controlling pollution, setting water quality standards, and preventing jurisdictional streams, lakes, and rivers from being filled without a federal permit. Two types of jurisdictional features were documented within the BSA: USACE non-wetland Waters of the U.S. and CDFW State Waters. These drainages ultimately flow into the Salton Sea, which is considered a Traditionally Navigable Water. As such, these drainage features would likely be considered federally and state jurisdictional. Consultation will be initiated with USACE and CDFW to avoid or minimize impacts upon federally and state jurisdictional drainage features.

The proposed projects would comply with these and other laws, regulations and guidelines and therefore would not contribute substantially to a cumulative biological resources impact. Similarly, the cumulative projects within the geographic scope of the proposed projects will be required to comply with the legal frameworks set forth above, as well as others, and will be required to mitigate their impacts to a less than significant level. Therefore, the project would not contribute to a cumulatively considerable impact to biological resources, and cumulative impacts would be less than significant.

Cultural Resources

As discussed in Section 3.6, Cultural Resources, the Old Coachella Canal (P-13-7858) and East Highline Canal (P-13-8333) have been previously evaluated for potential eligibility for listing in the NRHP and CRHR. However, neither the Old Coachella Canal or the East Highline Canal would be impacted by project construction and no impact to historical resources would occur.

As discussed in Section 3.6, Cultural Resources, there are 168 cultural resources within the project area, therefore, there is potential of finding a buried archaeological site during construction. However, like all construction projects in the state, the possibility exists. This potential impact is considered significant. Implementation of Mitigation Measures CR-1 through CR-4 would reduce potential impacts associated with the unanticipated discovery of unknown buried archaeological resources. Implementation of Mitigation Measure CR-5 would reduce potential impacts on human remains to a level less than significant.

Future projects with potentially significant impacts on cultural resources would be required to comply with federal, state, and local regulations and ordinances protecting cultural resources through implementation of similar project-specific mitigation measures during construction. Therefore, through

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compliance with regulatory requirements, standard conditions of approval, and Mitigation Measures CR-1 through CR-5, the proposed projects would have a less than cumulatively considerable contribution to impacts on cultural resources.

During operations and decommissioning of the projects, no additional impacts on archeological resources would be anticipated because the soil disturbance would have already occurred and been mitigated during construction.

Geology and Soils

The Imperial Valley portion of the Salton Trough physiographic province of Southern California is used as the geographic scope for the analysis of cumulative impacts on geology/soils and mineral resources. Cumulative development would result in an increase in population and development that could be exposed to hazardous geological conditions, depending on the location of proposed developments. Geologic and soil conditions are typically site specific and can be addressed through appropriate engineering practices. Cumulative impacts on geologic resources would be considered significant if the project would be impacted by geologic hazard(s) and if the impact could combine with off-site geologic hazards to be cumulatively considerable. None of the projects identified within the geographic scope of potential cumulative impacts would intersect or be additive to the project's site-specific geology and soils impacts; therefore, no cumulatively considerable effects are identified for geology/soils, and cumulative impacts would be less than significant.

Development of the proposed projects, in combination with other projects in the area, has the potential to contribute to a cumulatively significant paleontological resources impact due to the potential loss of paleontological resources unique to the region. However, mitigation is included in this EIR to reduce potentially significant project impacts to paleontological resources during construction of the proposed project. Implementation of Mitigation Measure GEO-2 would ensure that the potential impacts on paleontological resources do not rise to the level of significance. Future projects with potentially significant impacts on paleontological resources would be required to comply with federal, state, and local regulations and ordinances protecting paleontological resources through implementation of similar project-specific mitigation measures during construction. Therefore, through compliance with regulatory requirements, standard conditions of approval, and Mitigation Measure GEO-2, the proposed projects would have a less than cumulatively considerable contribution to impacts on paleontological resources.

Hydrology/Water Quality

Final EIR Table 5-1 lists the projects considered for the hydrology and water quality cumulative impact analysis. The geographic scope for considering cumulative hydrology and water quality impacts is the Imperial Valley Hydrologic Unit as defined by the Colorado Basin RWQCB Basin Plan.

The construction of the projects is expected to result in short-term water quality impacts. Compliance with the SWRCB's NPDES general permit for activities associated with construction (2009-0009-DWQ) per Mitigation Measure HYD-1 would reduce water quality impacts. As with the proposed projects, each of the cumulative projects would be required to comply with the Construction General Permit. The SWRCB has determined that the Construction General Permit protects water quality, is consistent with the CWA, and addresses the cumulative impacts of numerous construction activities throughout the state. This determination in conjunction with the implementation of mitigation would ensure short-term water quality impacts are not cumulatively considerable.

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The projects are not expected to result in long-term operations-related impacts related to water quality. The projects would mitigate potential water quality impacts by implementing site design, source control, and treatment control BMPs. Some cumulative projects would require compliance with the SWRCB's NPDES general permit for industrial activities, as well as rules found in the CWA, Section 402(p)(1) and 40 CFR 122.26, and implemented Order No. 90-42 of the RWQCB. With implementation of SWRCB, Colorado River RWQCB, and County policies, plans, and ordinances governing land use activities that may degrade or contribute to the violation of water quality standards, cumulatively considerable impacts on water quality would be minimized to a less than significant level.

Based on a review of the FEMA Flood Insurance Rate Map FIRM, the majority of the proposed projects are located within Zone X (unshaded). The FEMA Zone X (unshaded) designation is an area determined to be outside the 0.2 percent annual chance floodplain. However, there are ephemeral wash beds that transect the project site parcels and these areas are designated as Zone A or Special Flood Hazard Areas and are subject to "flash flooding." Compliance with County Flood Zone Ordinances, guidelines, and regulations would be required alongside the construction of retention basins to reduce potential impacts. Cumulative projects listed in Final EIR Table 5-1 that are located in similar locations would also comply with County ordinances, guidelines, and regulations therefore, cumulatively considerable impacts on floodplains would be considered less than significant.

Based on these considerations, the projects would not contribute to or result in a significant cumulatively considerable impact to hydrology or water quality, and cumulative impacts would be less than significant.

9 Effects Found Not to Be Significant

CEQA Guidelines §15128 require that an EIR contain a brief statement disclosing the reasons why various possible significant effects of the project were found not to be significant, and therefore would not be discussed in detail in the EIR. The following issues areas that will not be impacted by the project: Forestry Resources, Energy, Mineral Resources, Population and Housing, Public Services (schools, parks, and other facilities), Recreation, Utilities and Service Systems (wastewater, stormwater, and solid waste), and Wildfire.

10 Findings Regarding Feasible Alternatives

Pursuant to CEQA Guidelines §15126.6(a), EIRs must "describe a range of reasonable alternatives to the project, or to the location of this project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."

CEQA establishes no categorical legal imperative as to the scope of alternatives to be analyzed in an EIR. To be legally sufficient, the consideration of project alternatives in an EIR must permit informed agency decision-making and informed public participation. The analysis of alternatives is evaluated against a rule of reason. Alternatives are suitable for study in an EIR if they meet all of the following thresholds: (1) substantially reduce or avoid the project's significant environmental impacts; (2) attain most of the basic project objectives; (3) are potentially feasible; and (4) are reasonable and realistic. (Guidelines §15126.6, Subds. (a), (c).) Candidate alternatives that do not satisfy these requirements may be excluded from further analysis. An EIR need not consider alternatives that would change the

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fundamental nature of the project or that cannot achieve the fundamental goals and purposes of the proposed project.

The alternatives to the project are evaluated in Chapter 7 of the EIR in terms of their ability to meet the basic objectives of the project, and eliminate or further reduce its significant environmental effects. Based on these parameters, the following alternatives were considered and analyzed in the EIR:

1) Alternative 1–No Project/No Development Alternative
2) Alternative 2–Reduced Project Site

10.1 Alternative 1 – No Project/No Development

The State CEQA Guidelines require analysis of the No Project Alternative. According to §15126.6(e)(1) "[t]he specific alternative of 'no project' shall also be evaluated along with its impact." Additionally, according to CEQA Guidelines §15126.6(3)(2), the 'no project' analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on the current plans and consistent with available infrastructure and community services.

Because the solar energy facility would not be constructed on the proposed project site, the Alternative 1-No Project/No Development Alternative would avoid the project impacts associated with agricultural resources; air quality; biological resources; cultural resources; geology and soils; and hydrology and water quality.

A. Finding. Alternative 1 is infeasible. It is found pursuant to Public Resources Code Section 21081(a)(3), that specific economic, legal, social, technological, or other considerations, make Alternative 1 infeasible.

B. Facts in Support of Findings. Alternative 1-No Project/No Development Alternative is rejected as infeasible because it will not meet the primary objectives of the proposed project which include:

- Construct and operate a solar energy facility capable of producing up to 350 megawatt (MW) alternating current (AC) of electricity to assist the State of California in achieving its 60 percent renewable portfolio standard by 2030.
- Provide a 350 MW energy (battery storage) system, that would accommodate and store the power generated by the project so that the facility can continue to provide renewable energy during non-daylight hours.
- Interconnect directly to IID's existing electrical transmission system.
- Help California meet its statutory and regulatory goal of increasing renewable power generation, including greenhouse gas reduction goals of Senate Bill 32.
- Minimize and mitigate any potential impact to sensitive environmental resources within the project area.

For the reasons stated above, the County finds that this alternative is infeasible and less desirable than the proposed project and rejects this alternative.

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10.2 Alternative 2 – Reduced Project Site

The purpose of this alternative is to reduce the size of the project sites to minimize impacts on sensitive vegetation communities and riparian habitat. Iodine bush scrub, bush seepweed scrub, tamarisk thickets, and blue palo verde-ironwood woodland occur within the project sites and are considered sensitive natural communities by CDFW.

In addition, riparian habitat associated with the drainage systems throughout the VEGA SES 2 and 3 project sites consists of blue palo verde-ironwood woodland and tamarisk thickets. Riparian habitat associated with the drainage systems throughout the VEGA SES 5 project site consists of tamarisk thickets.

This alternative would remove the portion of VEGA SES 2 that is located on APN 025-010-006 and remove APN 025-260-019 and a portion of APN 025-260-011 from VEGA SES 5. Therefore, the project site would be reduced by 660 acres from a total of 1,963 acres to 1,303 acres. Final EIR Figure 7-1 depicts this alternative.

This alternative would meet most of the basic objectives of the proposed project. However, this alternative would make it more difficult to achieve the overall objective of providing a total of 350 MW of renewable solar energy, as there would be less area available for the placement of PV structures.

A. Finding. It is found pursuant to Public Resources Code Section 21081(a)(3), that specific economic, legal, social, technological, or other considerations, make Alternative 2 infeasible.

B. Facts in Support of Findings. The purpose of studying alternatives to the proposed project is to identify alternatives that would substantially reduce or avoid the significant environmental impacts of the proposed project. This alternative would result in reduced aesthetics and agricultural resources impacts compared to the proposed project.

This alternative would result in greater impacts for the following environmental issue areas as compared to the proposed project: cultural resources, hydrology and water quality, and tribal cultural resources. Further, the project applicant does not own, or otherwise control this property.

For the reasons stated above, the County finds that this alternative is infeasible and less desirable than the proposed project and rejects this alternative.

10.3 Findings Regarding Range of Alternatives

A. Finding. The EIR considers a reasonable range of alternatives. Substantial evidence supports the conclusion of the EIR regarding alternatives considered and rejected.

B. Facts in Support of Findings. The purpose of studying alternatives to the proposed project is to identify alternatives that would substantially reduce or avoid the significant environmental impacts of the proposed project. Substantial evidence shows that all potentially significant environmental impacts of the proposed project are mitigated below significant levels and that no significant unavoidable significant environmental impacts remain. Consequently, the range of alternatives studied in the EIR is reasonable because it included two alternatives to the proposed project despite there being no significant unavoidable environmental impacts necessitating consideration of alternatives to substantially reduce or avoid such impacts. Although some alternatives would reduce the less-than-significant impacts of the proposed project, CEQA does not require that such alternatives be adopted.

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Findings Regarding Growth Inducing Impacts

The proposed projects are located within the unincorporated area of Imperial County and does not involve the development of permanent residences that would directly result in population growth in the area. The unemployment rate in Imperial County, as of September 2022, was 16.0 percent (State of California Employment Development Department 2022). The applicant expects to utilize construction workers from the local and regional area, a workforce similar to that involved in the development of other utility-scale solar facilities. Based on the unemployment rate, and the availability of the local workforce, construction of the proposed projects would not have a growth-inducing effect related to workers moving into the area and increasing the demand for housing and services.

Once construction is completed, the facilities would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. Security personnel may conduct unscheduled security rounds and would be dispatched to the project sites in response to a fence breach or other alarm. It is anticipated that maintenance of the facilities would require minimal site presence to perform periodic visual inspections and minor repairs. On intermittent occasions, the presence of additional workers may be required for repairs or replacement of equipment and panel cleaning; however, because of the nature of the facilities, such actions would likely occur infrequently. Overall, minimal maintenance requirements are anticipated. The proposed projects would not result in substantial population growth, as the number of employees required to operate and maintain the facility is minimal.

While the proposed projects would contribute to energy supply, which indirectly supports population growth, the proposed projects are a response to the state's need for renewable energy to meet its Renewable Portfolio Standard, and while it would increase the availability of renewable energy, it would also replace existing sources of non-renewable energy. Unlike a gas-fired power plant, the proposed projects are not being developed as a source of base-load power in response to growth in demand for electricity. The power generated would be added to the state's electricity grid with the intent that it would displace fossil fueled power plants and their associated environmental impacts, consistent with the findings and declarations in SB 100 that a benefit of the Renewable Portfolio Standard is displacing fossil fuel consumption within the state. The projects are being proposed in response to state policy and legislation promoting development of renewable energy.

The proposed projects would supply energy to accommodate and support existing demand and projected growth, but the energy provided by the projects would not foster any new growth because (1) the additional energy would be used to ease the burdens of meeting existing statewide energy demands within and beyond the area of the project sites; (2) the energy would be used to support already-projected growth; or, (3) the factors affecting growth are so diverse that any potential connection between additional energy production and growth would necessarily be too speculative and uncertain to merit further analysis.

Under CEQA, an EIR should consider potentially significant energy implications of a project (CEQA Guidelines Appendix F(II); PRC Section 21100(b)(3)). However, the relationship between the proposed projects' increased electrical capacity and the growth-inducing impacts outside the surrounding area is too speculative and uncertain to warrant further analysis. When a project's growth-inducing impacts are speculative, the lead agency should consider 14 CCR §15145, which provides that, if an impact is too speculative for evaluation, the agency should note this conclusion and terminate discussion of the impact. As the court explained in Napa Citizens for Honest Gov't v. Napa County Board of Supervisors, 91 Cal. App.4th 342, 368: "Nothing in the Guidelines, or in the cases, requires more than a general analysis of projected growth" *Napa Citizens, 91* CA4th at 369.

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The problem of uncertainty of the proposed projects' growth-inducing effects cannot be resolved by collection of further data because of the diversity of factors affecting growth.

While this document has considered that the proposed projects, as energy projects, might foster regional growth, the particular growth that could be attributed to the proposed projects are unpredictable, given the multitude of variables at play, including uncertainty about the nature, extent, and location of growth and the effect of other contributors to growth besides the proposed projects. No accurate and reliable data is available that could be used to predict the amount of growth outside the area that would result from the proposed projects' contribution of additional electrical capacity. The County of Imperial has not adopted a threshold of significance for determining when an energy project is growth-inducing. Further evaluation of this impact is not required under CEQA.

Additionally, the projects would not involve the development of any new roadways, new water systems, or sewer; and thus, the projects would not further facilitate additional development into outlying areas. For these reasons, the proposed projects would not be growth-inducing.

Findings Regarding Significant Irreversible Environmental Changes

Energy resources needed for the construction of the proposed projects would contribute to the incremental depletion of renewable and non-renewable resources. Resources, such as timber, used in building construction are generally considered renewable and would ultimately be replenished. Non-renewable resources, such as petrochemical construction materials, steel, copper, lead and other metals, gravel, concrete, and other materials, are typically considered finite and would not be replenished over the lifetime of the project. Thus, the project would irretrievably commit resources over the anticipated 30-year life of the projects.

At the end of the projects' operation term, the applicant may determine that the projects should be decommissioned and deconstructed. Should the projects be decommissioned, the project applicant is required to restore land to its pre-project state. Consequently, some of the resources on the sites could potentially be retrieved after the sites have been decommissioned. Concrete footings, foundations, and pads would be removed and recycled at an off-site location. All remaining components would be removed, and all disturbed areas would be reclaimed and recontoured. The applicant anticipates using the best available recycling measures at the time of decommissioning.

Implementation and operation of the proposed projects would promote the use of renewable energy and contribute incrementally to the reduction in demand for fossil fuel use for electricity-generating purposes. Therefore, the incremental reduction in fossil fuels would be a positive effect of the commitment of nonrenewable resources. Additionally, the projects are consistent with the state's definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California PRC.

1. The County of Imperial (the County), acting through the Board of Supervisors, is the Lead Agency for the project evaluated in the EIR. The County finds that the EIR was prepared in compliance with CEQA and the CEQA Guidelines. The County finds that it has independently reviewed and analyzed the EIR for the project, that the Draft EIR which was circulated for public review reflected its independent judgment and that the Final EIR reflects the independent judgment of the County.
2. The County finds that the EIR provides objective information to assist the decision-makers and the public at large in their consideration of the environmental consequences of the project. The public review period provided all interested jurisdictions, agencies, private organizations, and

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individuals the opportunity to submit comments regarding the Draft EIR. The Final EIR was prepared after the review period and responds to comments made during the public review period.

3. The Planning and Development Services Department evaluated comments on environmental issues received from persons who reviewed the Draft EIR. In accordance with CEQA, the Planning and Development Services Department prepared written responses describing the disposition of significant environmental issues raised. The Final EIR provides adequate, good faith and reasoned responses to the comments. The Planning Department reviewed the comments received and responses thereto and has determined that neither the comments received nor the responses to such comments add significant new information regarding environmental impacts to the Draft EIR. The Lead Agency has based its actions on full appraisal of all viewpoints, including all comments received up to the date of adoption of these findings, concerning the environmental impacts identified and analyzed in the EIR.

4. The EIR evaluated the following potential project and cumulative environmental impacts:

   - Aesthetics
   - Agriculture Resources
   - Air Quality
   - Biological Resources
   - Cultural Resources
   - Geology and Soils
   - Greenhouse Gas Emissions
   - Hazards and Hazardous Materials
   - Hydrology/Water Quality
   - Land Use Planning
   - Noise and Vibration
   - Transportation
   - Tribal Cultural Resources
   - Utilities and Service Systems

   Additionally, the EIR considered, in separate sections, Significant Irreversible Environmental Changes, Growth Inducing Impacts and potential secondary effects of the project. The significant environmental impacts of the project were identified in the Final EIR. The significant environmental impacts of the project and the alternatives were also identified in the Draft and Final EIR.

5. The mitigation measures which have been identified for the project were identified in the Draft and Final EIR. The final mitigation measures are described in the MMRP. Each of the mitigation measures identified in the MMRP, and contained in the Final EIR, is incorporated into the project. The County finds that the impacts of the project have been mitigated to the extent feasible by the mitigation measures identified in the MMRP, and contained in the Final EIR.

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6. Textual refinements and errata were compiled and presented to the decision-makers for review and consideration. The Planning and Development Services Department staff has made every effort to notify the decision-makers and the interested public/agencies of each textual change in the various documents associated with the project review. These textual refinements arose for a variety of reasons. First, it is inevitable that draft documents would contain errors and would require clarifications and corrections. Second, textual clarifications were necessitated in order to describe refinements suggested as part of the public participation process.
7. The responses to the comments on the Draft EIR, which are contained in the Final EIR, clarify and amplify the analysis in the Draft EIR.
8. Having reviewed the information contained in the EIR and in the administrative record as well as the requirements of CEQA and the CEQA Guidelines regarding recirculation of Draft EIRs, the County finds that there is no new significant information in the Final EIR, finds that the additional information provided therein merely clarifies, amplifies and/or makes insignificant modifications to the adequate Draft EIR, and finds that recirculation of the Draft EIR is not required.
9. CEQA requires the Lead Agency approving a project to adopt an MMRP for the changes to the project which it has adopted or made a condition of project approval in order to ensure compliance with the mitigation measures during project implementation. The mitigation measures included in the EIR as certified by the County and included in the MMRP as adopted by the County serves that function. The MMRP includes all of the mitigation measures identified in the EIR and adopted by the County in connection with the approval of the project and has been designed to ensure compliance with such measures during implementation of the project. In accordance with CEQA, the MMRP provides the means to ensure that the mitigation measures are fully enforceable. In accordance with the requirements of Public Resources Code §21081.6, the County hereby adopts the MMRP.
10. In accordance with the requirements of Public Resources Code §21081.6, the County hereby adopts each of the mitigation measures expressly set forth herein as conditions of approval for the project.
11. The custodian of the documents or other material which constitute the record of proceedings upon which the County's decision is based is the Imperial County Planning and Development Services Department, 801 Main Street, El Centro, California, 92243.
12. The County finds and declares that substantial evidence for each and every finding made herein is contained in the EIR, which is incorporated herein by this reference, or is in the record of proceedings in the matter.
13. The County is certifying an EIR for, and is approving and adopting findings for, the entirety of the actions described in these Findings and in the EIR as comprising the project. It is contemplated that there may be a variety of actions undertaken by other State and local agencies (who might be referred to as "responsible agencies" under CEQA). Because the County is the Lead Agency for the project, the EIR is intended to be the basis for compliance with CEQA for each of the possible discretionary actions by other State and local agencies to carry out the project.
14. The EIR is a Project EIR for purposes of environmental analysis of the project. A Project EIR examines the environmental effects of a specific project. The EIR serves as the primary

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environmental compliance document for entitlement decisions regarding the project by the County of Imperial and the other regulatory jurisdictions.

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Final Environmental Impact Report

VEGA SES 2, 3, and 5 Solar Energy Project

SCH No. 2021050013

Imperial County, California

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San Diego, CA 92108

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0.1 Introduction and Summary

This Final Environmental Impact Report (EIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) as amended (Public Resources Code Section 21000 et seq.), and CEQA Guidelines (California Administrative Code Section 15000 et seq.).

According to CEQA Guidelines §15132, the Final EIR shall consist of the following:

a. The Draft EIR or a revision of the Draft;

b. Comments and recommendations received on the Draft EIR, either verbatim or in summary;

c. A list of persons, organizations, and public agencies commenting on the Draft EIR;

d. The responses of the Lead Agency to significant environmental points raised in the review and consultation process; and

e. Any other information added by the Lead Agency.

In accordance with these requirements, the VEGA SES 2, 3, and 5 Solar Energy Project Final EIR is comprised of the following:

- Draft EIR, December 2022 (SCH No. 2021050013); and
- This Final EIR document, dated August 2023, that incorporates the information required by §15132.

Format of the Final EIR

Section 0.1 Introduction

This section describes CEQA requirements and content of this Final EIR.

Section 0.2 Responses to Comment Letters Received on the Draft EIR

This section provides copies of the comment letters received and individual responses to written comments. In accordance with Public Resources Code 21092.5, copies of the written proposed responses to public agencies will be forwarded to the agencies at least 10 days prior to certifying the EIR. The responses conform to CEQA Guideline 15088, providing "… good faith, reasoned analysis in response."

Section 0.3 Errata to the Draft EIR

This section of the Final Environmental Impact Report (EIR) identifies the location of, or contains revisions to, information included in the Draft EIR dated December 2022, based upon additional or revised information required to prepare a response to a specific comment. The information added to the EIR does not meet the requirements for recirculation pursuant to Section 15088.5 of the State *California Environmental Quality Act (CEQA) Guidelines*.

Section 0.4 Mitigation Monitoring and Reporting Program

This section includes the Mitigation Monitoring and Reporting Program (MMRP) which identifies the mitigation measures, timing, and responsibility for implementation of the measures.

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0.2 Response to Comments

This section contains responses to all comment letters received on the Draft EIR. Six letters were received during the comment period, which began on December 14, 2022, and closed on March 3, 2023. A copy of each letter with bracketed comment numbers on the right margin is followed by the response for each comment as indexed in the letter. The comment letters are listed in Table 0.2-1.

Table 0.2-1. VEGA SES 2, 3, & 5 Solar Energy Project Draft EIR Comment Letters

Letter	Commenter	Date
A	Bureau of Land Management	January 31, 2023
B	Bureau of Reclamation	January 31, 2023
C	California Department of Transportation	January 31, 2023
D	Imperial Irrigation District	February 2, 2023
E	Coachella Valley Water District	February 2, 2023
F	Defenders of Wildlife	March 3, 2023

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From: Moore, Amanda J <amoore@blm.gov>
Sent: Thursday, March 2, 2023 2:15 PM
To: David Black <DavidBlack@co.imperial.ca.us>
Cc: Sahagun, Carrie L <csahagun@blm.gov>
Subject: Re: Request to extend Vega 2,3,5 DEIR Comment Period

CAUTION: This email originated outside our organization; please use caution.

Hello David,

Thank you for granting the BLM with a 30 day public comment period extension for the Vega 2, 3 and 5 DEIR. The additional time allowed the BLM to fulfill review requirements of all provided materials. The BLM looks forward to working with Imperial County to best align the NEPA and CEQA processes for this project and to meet shared goals in the most efficient manner possible. A.1

Appreciate your time and help as always,

Amanda Moore
(she/her/hers)
Project Manager
Bureau of Land Management
California Desert District
Department of the Interior, Regions 8 & 10
1201 Bird Center Drive
Palm Springs, CA 92262
503-930-4133
amoore@blm.gov

Letter A

Bureau of Land Management

January 31, 2023

A.1 Comment noted. The County appreciates the Bureau of Land Management (BLM) review of the Draft EIR. No additional comments are provided in this letter; therefore, no specific response is required. The County will continue to work with the BLM and project proponent as it relates to the required BLM approvals and National Environmental Policy Act (NEPA) compliance for construction and operation of the proposed project.

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From: Rodriguez, Luis <lrodriguez@usbr.gov>
Sent: Tuesday, January 31, 2023 12:43 PM
To: David Black <DavidBlack@co.imperial.ca.us>
Cc: Pinnell, Anna M <apinnell@usbr.gov>; Chris Bogan <cbogan@cvwd.org>; Moore, Amanda J <amoore@blm.gov>; Flores, Cynthia (Cindy) <cflores@usbr.gov>
Subject: SCH Number 2021050013 - VEGA SES 2, 3, and 5 Solar Energy Project Draft EIRS Comments

CAUTION: This email originated outside our organization; please use caution.

Good Afternoon Mr. Black,

Bureau of Reclamation Environmental Staff has reviewed the draft EIRS and did not have any comments. In communication with our managing partner Coachella Valley Water District (CVWD), who manages the Coachella Canal on Reclamation's behalf did share a couple of comments for this EIRS. The two comments are as follows: B.1

1. "The Project has been conceptually vetted by Staff. The VEGA 2, 3 and 5 projects avoid the Upper Canal ROW, except for the crossing of the Siphon for access to the east side. However, building solar facilities on the upstream side of the Canal, specifically in 025-010-016, which is contiguous to the USBR Stormwater Training Dike is a concern. That being said, elevated concrete foundations and spacing can mitigate the issue." - CVWD B.2

2. "The document mentions that they intend to allow peak flow runoff from the project sites "to be directed to and infiltrated in designated retention basins and/or percolate into the ground"; meaning some sort of flood control facilities are planned to be installed. If they install fencing, offsite flows could be rerouted in a way that could be an issue. Also, any debris generated from their site during a flood could impact the training dikes and canal." - CVWD B.3

If you have any questions, please let us know. Thank you!

Respectfully,

Luis Rodriguez
Realty Specialist
Bureau of Reclamation
Yuma Area Office
lrodriguez@usbr.gov

Letter B

Bureau of Reclamation

January 31, 2023

B.1 Comment noted.

B.2 Final EIR Figure 2-2 depicts the locations of the training dikes within the project site. Detailed hydrology analysis will be conducted as part of final engineering design and layout of the proposed solar project. As stated on EIR page 3.10-19, construction of the projects would not substantially alter the existing drainage pattern of the sites or area. The majority of the project sites would continue to sheet flow through the pervious native soils. The projects will be designed to meet County of Imperial storage requirements (100 percent of the 100-year storm (3 inches of rain)) (refer to the County's *Engineering Guidelines Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage and Grading Plans within Imperial County* (2008)) for storm water runoff, which will result in an impoundment of runoff in excess of the anticipated volume of runoff to be generated by the 100-year storm event. Additionally, implementation of Mitigation Measure HYD-2 requires that the projects' Drainage Plans adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of storm water to existing drainage systems (including the training dikes as referenced in this comment). As such, infiltration basins will be integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary. Further, drainage characteristics of the site will be considered as part of the design of proposed on-site facilities, including PV arrays. Building methods such as elevated concrete foundations and spacing to address hydrological conditions will be considered as part of final design. No hydrology impact is anticipated

B.3 The potential impacts to drainage as identified in this comment would be considered as part of the final engineering design for the proposed project. Please refer to response to comment B.2.

CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, GOVERNOR

California Department of Transportation

DISTRICT 11
4050 TAYLOR STREET, MS-240
SAN DIEGO, CA 92110
(619) 709-5152 | FAX (619) 688-4299 TTY 711
www.dot.ca.gov

January 31, 2023

11- IMP-111
PM 39.2
VEGA SES 2,3 & 5 Solar Energy Project
DEIR/SCH# 2021050013

Mr. David Black
Planner IV
Imperial County Planning and Development Services
801 Main Street
El Centro, CA 92243

Dear Mr. Black:

Thank you for including the California Department of Transportation (Caltrans) in the review for the Draft Environmental Impact Report (DEIR) of the VEGA SES 2,3 & 5 Solar Energy Project (SCH# 2021050013) located near State Route 111 (SR-111) and McDonald Road in Imperial County. The mission of Caltrans is to provide a safe and reliable transportation network that serves all people and respects the environment. The Local Development Review (LDR) Program reviews land use projects and plans to ensure consistency with Caltrans' mission and state planning priorities.

Safety is one of Caltrans' strategic goals. Caltrans strives to make the year 2050 the first year without a single death or serious injury on California's roads. We are striving for more equitable outcomes for the transportation network's diverse users. To achieve these ambitious goals, we will pursue meaningful collaboration with our partners. We encourage the implementation of new technologies, innovations, and best practices that will enhance the safety on the transportation network. These pursuits are both ambitious and urgent, and their accomplishment involves a focused departure from the status quo as we continue to institutionalize safety in all our work.

Caltrans is committed to prioritizing projects that are equitable and provide meaningful benefits to historically underserved communities, to ultimately improve transportation accessibility and quality of life for people in the communities we serve.

C.1

"Provide a safe and reliable transportation network that serves all people and respects the environment"

We look forward to working with the County of Imperial in areas where the County and Caltrans have joint jurisdiction to improve the transportation network and connections between various modes of travel, with the goal of improving the experience of those who use the transportation system. C.1 cont'd

Caltrans has the following comments:

Traffic Management Plan/Hauling

Caltrans has discretionary authority with respect to highways under its jurisdiction and may, upon application and if good cause appears, issue a special permit to operate or move a vehicle or combination of vehicles or special mobile equipment of a size or weight of vehicle or load exceeding the maximum limitations specified in the California Vehicle Code. The Caltrans Transportation Permits Issuance Branch is responsible for the issuance of these special transportation permits for oversize/overweight vehicles on the State Highway network. Additional information is provided online at: http://www.dot.ca.gov/trafficops/permits/index.html C.2

A Traffic Management Plan is to be submitted to Caltrans District 11, including the intersections at SR- 111 and McDonald Road, at least 30 days prior to the start of any construction. Traffic shall not be unreasonably delayed. The plan shall also outline suggested detours to use, including routes and signage. C.3

Potential impacts to the highway facilities (SR-111) and traveling public from the detour, demolition and other construction activities should be discussed and addressed before work begins. C.4

Please see the following chapters in the Caltrans' manuals:

- Chapter 600 of the Encroachment Permits Manual for requirements regarding utilities and state R/W: https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/encroachment-permits/chapter-6-ada.pdf.

Additional information regarding encroachment permits may be obtained by contacting the Caltrans Permits Office at (619) 688-6158 or emailing D11.Permits@dot.ca.gov or by visiting the website at https://dot.ca.gov/programs/traffic-operations/ep. Early coordination with Caltrans is strongly advised for all encroachment permits. C.5

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If you have any questions, please contact Mark McCumsey at (619) 985-4957 or by email at mark.mccumsey@dot.ca.gov. C.6

Sincerely,

Maurice A. Eaton

MAURICE EATON
Branch Chief
Local Development Review

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Letter C

California Department of Transportation

January 31, 2023

C.1 This is an introductory comment that provides a general summary of the project characteristics and states the mission of the California Department of Transportation (Caltrans). This comment does not raise a specific issue related to the adequacy of the Draft EIR; therefore, no further response is required, and the comment is noted for the record.

C.2 Comment noted. EIR Figure 3.13-1 VEGA SES 2 and 3 Access Route, depicts the proposed construction access route associated with the VEGA SES 2 and 3 sites. As shown, access is proposed via SR 111, a Caltrans facility. EIR Figure 3.13-2 VEGA SES 5 Access Route, depicts the proposed construction access route associated with the VEGA SES 5 facility. As shown, access is proposed via SR 111, a Caltrans facility. Because oversize vehicles may utilize this facility (i.e., SR 111), as a condition of the Conditional Use Permit, the project applicant will be required to obtain all applicable Caltrans permits required for construction of the project, including special transportation permits (if applicable) for oversize construction vehicles.

C.3 As a condition of the Conditional Use Permit, the applicant will be required to prepare and submit for approval a traffic management plan to Caltrans as specified in this comment. Please also refer to response to comment C.2.

C.4 Please refer to response to comment C.3.

C.5 As currently proposed, the project would not require an encroachment permit as no work or improvements are proposed within Caltrans right-of-way. However, as a condition of the Conditional Use Permit, the applicant will be required to obtain necessary permits from Caltrans. This includes encroachment permits if applicable.

C.6 The contact information for Caltrans is received and acknowledged.

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February 2, 2023

Mr. David Black
Planner IV
Planning & Development Services Department
County of Imperial
801 Main Street
El Centro, CA 92243

SUBJECT: NOA of DEIR for the VEGA SES 2, 3 & 5 Solar Energy and Storage Projects; CUP Application Nos. 20-0021, 20-0022 and 20-0023

Dear Mr. Black:

On December 11, 2022, the Imperial County Planning & Development Services Department published the Notice of Availability of Draft EIR for the VEGA SES 2, 3 & 5 Solar Energy and Storage Projects; Conditional Use Permit application nos. 20-0021, 20-0022 and 20-0023, respectively. The applicant proposes to develop CUP20-0021/VEGA SES 2 Solar Energy and Storage Project: A 240MW PV solar energy generation/energy storage facility located at 1103 Flowing Wells Road, Calipatria, CA (APNs 025-260-011, -010-006 and -270-023) that intends to interconnect to one of the 230kV "KN/KS" transmission lines; CUP20-0022/VEGA SES 3 Solar Energy and Storage Project: A 60MW PV solar energy generation/energy storage facility located northeast of the Flowing Wells Road and Coachella Canal Road intersection, Calipatria, CA (APN 025-010-006) that intends to interconnect to the 161kV "L" transmission line; and CUP20-0023/VEGA SES 5 Solar Energy and Storage Project: A 50MW PV solar energy generation/energy storage facility located in at Wiest Road and McDonald Road, Calipatria CA (APNs 025-260-019, -022) that intends to interconnect to the 92kV "L" Midway Substation. D.1

The IID has reviewed the project information and in addition to the comments provided in the June 3, 2021 district letter (see attached letter), has the following observations:

1. For temporary construction or permanent electrical service at the distribution level, the applicant should be advised to contact Gabriel Ramirez, IID Project Development Coordinator at (760) 339-9257 or e-mail Mr. Romo at gramirez@iid.com to initiate the customer service application process. D.2
2. ICP&DSD should be aware that the projects could require electrical service at the distribution level and should consider such service before finalizing the DEIR document. D.3

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3. Dividing a project into two or more pieces and evaluating each piece in a separate environmental document (Piecemealing or Segmenting), rather than evaluating the whole of the project in one environmental document, is explicitly forbidden by CEQA, because dividing a project into a number of pieces would allow a Lead Agency to minimize the apparent environmental impacts of a project by evaluating individual pieces separately, each of which may have a less-than-significant impact on the environment, but which together may result in a significant impact. Segmenting a project may also hinder developing comprehensive mitigation strategies. In general, if an activity or facility is necessary for the operation of a project, or necessary to achieve the project objectives, or a reasonably foreseeable consequence of approving the project, then it should be considered an integral project component that should be analyzed within the environmental analysis. The project description should include all project components, including those that will have to be approved by responsible agencies. The State CEQA Guidelines define a project under CEQA as "the whole of the action" that may result either directly or indirectly in physical changes to the environment. This broad definition is intended to provide the maximum protection of the environment. CEQA case law has established general principles on project segmentation for different project types. For a project requiring construction of offsite infrastructure, the offsite infrastructure must be included in the project description. *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App. 4th 713.

D.4

Should you have any questions, please do not hesitate to contact me at 760-482-3609 or at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

D.5

Respectfully,

Donald Vargas
Compliance Administrator II

Enrique B. Martinez – General Manager
Mike Pacheco – Manager, Water Dept.
Jamie Asbury – Manager, Energy Dept.
Matthew H Smelser – Deputy Mgr. Energy Dept.
Constance Bergmark – Deputy Mgr. Energy Dept.
Geoffrey Holbrook – General Counsel
Michael P. Kemp – Superintendent, Regulatory & Environmental Compliance
Laura Cervantes. – Supervisor, Real Estate
Jessica Humes – Environmental Project Mgr. Sr., Water Dept.

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June 3, 2021

Ms. Patricia Valenzuela
Planner IV
Planning & Development Services Department
County of Imperial
801 Main Street
El Centro, CA 92243

SUBJECT: NOP of DEIR for the VEGA SES 2, 3 & 5 Solar Energy and Storage Projects; CUP Application Nos. 20-0021, 20-0022 and 20-0023

Dear Ms. Valenzuela:

On May 6, 2021, the Imperial Irrigation District received from the Imperial County Planning & Development Services Department, a Notice of Preparation of Draft EIR for the VEGA SES 2, 3 & 5 Solar Energy and Storage Projects; Conditional Use Permit application nos. 20-0021, 20-0022 and 20-0023, respectively. The applicant, Apex Energy Solutions, LLC; proposes to develop CUP20-0021/VEGA SES 2 Solar Energy and Storage Project: A 240MW PV solar energy generation/energy storage facility located at 1103 Flowing Wells Road, Calipatria, CA (APNs 025-260-011, -010-006 and -270-023) that intends to interconnect to one of the 230kV "KN/KS" transmission lines; CUP20-0022/VEGA SES 3 Solar Energy and Storage Project: A 60MW PV solar energy generation/energy storage facility located northeast of the Flowing Wells Road and Coachella Canal Road intersection, Calipatria, CA (APN 025-010-006) that intends to interconnect to the 161kV "L" transmission line; and CUP20-0023/VEGA SES 5 Solar Energy and Storage Project: A 50MW PV solar energy generation/energy storage facility located in at Wiest Road and McDonald Road, Calipatria CA (APNs 025-260-019, -022) that intends to interconnect to the 92kV "L" Midway Substation.

The IID has reviewed the project information and found that the comments provided in the April 20, 2021 district letter (see attached letter) continue to apply.

Should you have any questions, please do not hesitate to contact me at 760-482-3609 or at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

Respectfully,

Donald Vargas
Compliance Administrator II

Enrique B. Martinez – General Manager
Mike Pacheco – Manager, Water Dept.
Marilyn Del Bosque Gilbert – Manager, Energy Dept.
Constance Bergmark – Mgr. of Planning & Eng./Chief Elect. Engineer, Energy Dept.
Enrique De Leon – Asst. Mgr., Energy Dept., Distr., Planning, Eng. & Customer Service
Jamie Asbury – Assoc. General Counsel
Vance Taylor – Asst. General Counsel
Michael P. Kemp – Superintendent, Regulatory & Environmental Compliance
Laura Cervantes – Supervisor, Real Estate

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April 20, 2021

Ms. Patricia Valenzuela
Planner IV
Planning & Development Services Department
County of Imperial
801 Main Street
El Centro, CA 92243

SUBJECT: VEGA SES 2, 3 & 5 Solar Energy and Storage Projects; CUP Application Nos. 20-0021, 20-0022 and 20-0023

Dear Ms. Valenzuela:

On April 8, 2021, the Imperial Irrigation District received from the Imperial County Planning & Development Services Department, a request for agency comments on Conditional Use Permit application nos. 20-0021, 20-0022 and 20-0023 for the VEGA SES 2, 3 & 5 Solar Energy and Storage Projects, respectively. The applicant, Apex Energy Solutions, LLC; proposes to develop the following projects:

- CUP20-0021: VEGA SES 2 Solar Energy and Storage Project: A 240MW PV solar energy generation/energy storage facility project located at 1103 Flowing Wells Road, Calipatria, CA (APNs 025-260-011, -010-006 and -270-023) that intends to interconnect to one of the 230kV "KN/KS" transmission lines.

- CUP20-0022: VEGA SES 3 Solar Energy and Storage Project: A 60MW PV solar energy generation/energy storage facility project located northeast of the Flowing Wells Road and Coachella Canal Road intersection, Calipatria, CA (APN 025-010-006) that intends to interconnect to the 161kV "L" transmission line.

- CUP20-0023: VEGA SES 5 Solar Energy and Storage Project: A 50MW PV solar energy generation/energy storage facility project located in at Wiest Road and McDonald Road, Calipatria CA (APNs 025-260-019, -022) that intends to interconnect to the 92kV "L" Midway Substation.

The IID has reviewed the information and has the following comments applicable to all three projects unless otherwise noted:

1. If the projects require temporary construction or permanent electrical service at the distribution level, the applicant should be advised to contact Ignacio Romo, IID Customer Project Development Planner, at (760) 482-3300, (760) 482-3426 or e-mail Mr. Romo at igromo@iid.com to initiate the customer service application process. In addition to submitting a formal application (available for download at the district website http://www.iid.com/home/showdocument?id=12923), the applicant will be required submit a complete set of plans approved by the County of Imperial (in hardcopy and AutoCad formats) including site plan, plan & profile drawings, one-line diagrams, and electrical

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loads, panel size, voltage requirements, project schedule, and the estimated in-service date. In addition, the applicant must provide the IID with the applicable fees, permits, easements and right-of-way grants and environmental compliance documentation pertaining to the provision of electrical service to the projects. The applicant shall be responsible for all costs and mitigation measures related to providing electrical service to the projects.

2. Distribution-rated electrical service is limited in the project areas. A circuit study may be required. Any improvements or mitigation identified in the circuit study to enable the provision of electrical service shall be the financial responsibility of the applicant.

3. To insure there are no impacts to IID facilities, applicant should submit project plans, including grading & drainage and fencing plans, to IID Water Department Engineering Services for review and comment prior to final project design and CUP approval. IID WDES can be contacted at (760) 339-9265 for further information on this matter.

4. The projects may impact IID drains with project site runoff flows draining into IID drains. To mitigate impacts, the project may require a comprehensive IID hydraulic drainage system analysis. IID's hydraulic drainage system analysis includes an associated drain impact fee.

5. A construction storm water permit from the California Regional Water Quality Control Board is required before commencing construction and an industrial storm water permit from CRWQCB is required for the operation of the proposed facilities. The project's Storm Water Pollution Prevention Plan and storm water permits from CRWQCB should be submitted to IID for review.

6. The VEGA SES 2 project's properties identified as APNs 025-260-011, 025-010-006 and 025-270-023 are not located within IID's Imperial Unit water service area. The property related to APN 025-260-011 is within the East Mesa Unit service area where water is only available for agricultural uses. A very small portion of APN 025-010-006 is located within the East Mesa Unit service area and has the same water use restrictions noted, while the majority of the site is entirely outside of the IID's water service boundary, thus unable to receive water service from IID for any purpose. Approximately half of APN 025-270-023 is within the East Mesa Unit water service area and has the same aforementioned restrictions as APN 025-260-011; the remaining half is completely outside of the district water service area and unable to receive IID water for any purpose.

7. The VEGA SES 3 project's property identified as APN 025-010-006 is not located within IID's Imperial Unit water service area and has a very small portion of land located within the East Mesa Unit service area, where water is only available for agricultural uses. The majority of this parcel is entirely outside of the district boundary and IID's water service boundary thus unable to receive water service from IID for any purpose.

8. The VEGA SES 5 project's property identified as APN 025-260-019 is not located within IID's Imperial Unit water service area and only a small portion of APN 025-260-022 is within the Imperial Unit. The property related to APN 025-260-019 is within the East Mesa

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Unit service area where water is only available for agricultural uses. The section of APN 025-260-022 located east of the East Highline Canal is entirely outside of IID's water service boundary thus unable to receive water service from IID for any purpose. The portion of this parcel located west of the East Highline Canal is within our district's Imperial Unit and primary water service area.

9. For future reference, a general map of the IID service area can be accessed at the district website https://www.iid.com/home/showdocument?id=4680. While all specific water service inquiries should be directed to Justina Gamboa-Arce, IID Water Resources Planner at (760) 339-9085 or jgamboaarce@iid.com, a quick rule of thumb is that projects within the Imperial Unit (designated by the darker green area/hash marks on the referenced service area map) are usually eligible to receive water.

10. Any construction or operation on IID property or within its existing and proposed right of way or easements including but not limited to: surface improvements such as proposed new streets, driveways, parking lots, landscape; and all water, sewer, storm water, or any other above ground or underground utilities; will require an encroachment permit, or encroachment agreement (depending on the circumstances). A copy of the IID encroachment permit application and instructions for its completion are available at https://www.iid.com/about-iid/department-directory/real-estate. The IID Real Estate Section should be contacted at (760) 339-9239 for additional information regarding encroachment permits or agreements.

11. In addition to IID's recorded easements, IID claims, at a minimum, a prescriptive right of way to the toe of slope of all existing canals and drains. Where space is limited and depending upon the specifics of adjacent modifications, the IID may claim additional secondary easements/prescriptive rights of ways to ensure operation and maintenance of IID's facilities can be maintained and are not impacted and if impacted mitigated. Thus, IID should be consulted prior to the installation of any facilities adjacent to IID's facilities. Certain conditions may be placed on adjacent facilities to mitigate or avoid impacts to IID's facilities

12. The applicant may not use IID's canal or drain banks to access the project sites. Any abandonment of easements or facilities shall be approved by IID based on systems (Irrigation, Drainage, Power, etc.) needs.

13. An IID encroachment permit is required to utilize existing surface-water drainpipe connections to drains and receive drainage service from the district. Surface-water drainpipe connections are to be modified in accordance with IID Water Department Standards.

14. For the VEGA SES 2 and VEGA SES 3 projects, an encroachment permit will be required from IID to cross the East Highline Canal. The Coachella Valley Water District may also require an encroachment permit to cross the Coachella Canal; however, CVWD is not listed under the "Permit Requirements" section of the VEGA SES and VEGA SES 3 Solar Project Description (page 8). For APN 025-270-023 the project location overlaps Niland Pegleg Well Road and Ted Klpf Road requiring the project outline or fencing be modified, or the county roads be adjusted.

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15. For the VEGA SES 5 project, regarding the "Site Construction" section of the VEGA SES 5 Solar Project Description (page 5), the IID requires clarification on how the project site will be accessed from Drew Road. Encroachment permits will be required from IID for any improvements crossing or paralleling the East Highline Canal or any other IID water facility, as well as for construction and operation water.

16. Any new, relocated, modified or reconstructed IID facilities required for and by the projects (which can include but is not limited to electrical utility substations, electrical transmission and distribution lines, water deliveries, canals, drains, etc.) need to be included as part of the project's CEQA and/or NEPA documentation, environmental impact analysis and mitigation. Failure to do so will result in postponement of any construction and/or modification of IID facilities until such time as the environmental documentation is amended and environmental impacts are fully analyzed. **Any and all mitigation necessary as a result of the construction, relocation and/or upgrade of IID facilities is the responsibility of the project proponent.**

Should you have any questions, please do not hesitate to contact me at 760-482-3609 or at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

Respectfully,

Donald Vargas
Compliance Administrator II

Enrique B. Martinez – General Manager
Mike Pacheco – Manager, Water Dept.
Marilyn Del Bosque Gilbert – Manager, Energy Dept.
Constance Belgmark – Mgr. of Planning & Eng./Chief Elect. Engineer, Energy Dept.
Enrique De Leon – Asst. Mgr., Energy Dept., Distr., Planning, Eng. & Customer Service
Jamie Asbury – Assoc. General Counsel
Vance Taylor – Asst. General Counsel
Michael P. Kemp – Superintendent, Regulatory & Environmental Compliance
Laura Cervantes – Supervisor, Real Estate

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Letter D

Imperial Irrigation District

February 2, 2023

D.1 This comment is an introductory comment and generally summarizes the proposed project characteristics. No additional response is required.

D.2 Comment noted. The project applicant will be referred to the contact listed in this comment as necessary to initiate the customer service application process.

D.3 This comment is noted. The County and the project applicant recognize that development of approved and planned utility-scale solar projects may involve upgrades to IID's electrical distribution system. The applicant would be required to work with IID with respect to connections into the distribution system. In order to avoid piecemealing as identified in this comment, the Draft EIR analyzes together three Conditional Use Permit applications (VEGA SES 2, VEGA SES 3 and VEGA SES 5) in one document. Although technically not required (as no significant, unmitigated impact has been identified), an EIR was prepared to evaluate the three proposed CUP applications in a comprehensive manner. Additionally, proposed off-site connections are considered together as part of the VEGA 2, 3 and 5 CUPs. The Draft EIR depicts locations of the proposed point of connection to existing IID transmission facilities associated with the project (e.g., see EIR Figure 2-3). As shown, VEGA 2 would connect to the existing 230 kV KN&KS Line located immediately west of the VEGA 2 site. VEGA 3 would connect to the existing 161 kV F Line located immediately north of the site. No improvements to these off-site transmission lines have been identified as required for project implementation. Additionally, EIR Figure 2-5 depicts the point of connection to IID facilities associated with the VEGA 5 site. This line would be constructed in disturbed areas (adjacent to dirt roads) and no environmental impact is anticipated associated with the construction of this off-site gen-tie line.

Based on project applicant consultations with IID, existing transmission lines where the project would connect into have capacity to accommodate the proposed project. However, the IID has recently identified that upgrades to the Ramon Substation will be required in order to accommodate several planned utility scale projects, including the proposed project. Upgrades to the Ramon Substation would involve expansion of an approximately 4-acre area immediately adjacent to the existing substation. Based on biological and cultural resources surveys conducted for the expansion area no sensitive resources are present and no significant environmental impacts are identified. Ramon Substation Improvements are more specially being evaluated as part of the VEGA 6 Solar Project EIR currently in process.

D.4 Please refer to response to comment D.3.

D.5 Comment noted.

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From: William Patterson <WPatterson@cvwd.org>
Sent: Thursday, February 2, 2023 4:37 PM
To: David Black <DavidBlack@co.imperial.ca.us>
Cc: David Wilson <DWilson@cvwd.org>; Dan Charlton <DCharlton@cvwd.org>; Steve Bigley <SBigley@cvwd.org>; Carrie Oliphant <COliphant@cvwd.org>; Jim Barrett <JBarrett@cvwd.org>
Subject: CVWD Comments on the DEIR for the Vega 2,3,& 5 Project

CAUTION: This email originated outside our organization; please use caution.

Mr. Black,

CVWD has received notice of the Draft Environmental Impact Report (DEIR) for the Vega 2,3, & 5 Solar Project and opportunity to provide comments. As you are aware CVWD serves as the operator and purveyor of the United States Bureau of Reclamation's (USBR) Coachella Canal and Protective Works in the vicinity of the project and also has responsibilities for regional stormwater control in the Coachella Valley, as well as in Imperial County as it relates to the Coachella Canal. CVWD has several concerns for the project design and approvals and would like to offer information that can be included in the Final EIR. E.1

Comment 1: CVWD has a concern the project will build solar facilities on the upslope side of the Canal, specifically in APN 025-270-023 and APN 025-010-006 which is contiguous to a US Bureau of Reclamation (USBR) Stormwater Training Dike constructed as a part of the Protective Works. CVWD recommends that adequate elevated concrete foundations and appropriate spacing be included in the project to mitigate the potential for any stormwater flow impacts on the project site, ensure compliance with California Drainage Law, and avoid potential damage or an increase in required maintenance to the USBR Protective Works or the Coachella Canal. E.2

Comment 2: CVWD has a concern that peak runoff flow from the project sites is "to be directed to and infiltrated in designated retention basins and/or percolate into the ground." CVWD recommends California Drainage Law and any rerouting of stormwater flows, including that of which is directly or indirectly associated with fencing of the site, be taken into consideration for adequate protection of the existing USBR Coachella Canal and Protective Works. E.3

Comment 3: CVWD has concerns that any debris generated from these sites during a flood could impact the USBR Training Dikes and/ or Coachella Canal. CVWD recommends that the project site be regularly maintained free of any unnecessary debris that may contribute to impacts from stormwater flows on existing USBR facilities. The Project site should be properly maintained and inspected during construction and operation to reduce and eliminate any unnecessary project site debris such as staging materials, spoils, stockpiles, wastes, failing equipment, construction and maintenance materials, etc. E.4

Comment 4: CVWD has concerns that certain USBR Protective Works (i.e., Training Dikes) located upslope and to the east of the Coachella Canal have not been fully considered in the analysis of hydrology across the project Site. CVWD recommends that inclusion of these facilities be included in DEIR text and depicted in project site figures. E.5

Comment 5: CVWD has concern that the project may be overdeveloped in the northernmost parcel (APN 025-010-006) in regard to stormwater flow. Development of the project on APN 025-270-023 avoids prominent wash and stormwater flow areas, while development on APN E.6

025-010-006 does not. CVWD recommends the project consider development relief in area of prominent stormwater flow on this parcel to reduce the potential for a violation of California Drainage Law by way of stormwater flow diversion, additional debris creation, and or potential impacts to existing USBR facilities.

E.6 cont'd

Comment 6: CVWD has concern Hazardous Materials generated and transported by the project have the potential to contaminate the Coachella Canal in event of an accidental release. To the extent feasible CVWD recommends identifying the volumes and transport frequency of Hazardous Materials on the project site. CVWD recommends all Hazardous Materials storage and any facility containing Hazardous Materials be located downslope of the canal, similar to the Battery Energy Storage System. If transport of Hazardous Materials across the canal is foreseen under special circumstances, CVWD recommends adequate planning for the Coachella Canal be included in a spill response plan such as emergency notification to CVWD, coordination with CVWD for emergency canal access, and spill response measures for both uplands and surface waters.

E.7

Comment 7: CVWD has concern that CVWD was not identified in the Mitigation Measures HYD-1, and HYD-2 as a responsible party with appropriate agency approval prior to commencement of work. Language from the Draft EIR has been excerpted below with the related text highlighted. CVWD recommends CVWD be included in the approval process identified in these mitigation measures to ensure project planning incorporates the previous mentioned concerns and any that may arise in the future.

E.8

HYD-1 Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration. The project applicant or its contractor shall prepare a SWPPP specific to the projects and be responsible for securing coverage under SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the appropriate agency prior to commencement of work and shall be made conditions of the contract with the contractor selected to build and decommission the projects. The SWPPP shall incorporate control measures in the following categories:

- Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching)
- Sediment control practices (e.g., temporary sediment basins, fiber rolls)
- Temporary and post-construction on- and off-site runoff controls
- Special considerations and BMPs for water crossings and drainages
- Monitoring protocols for discharge(s) and receiving waters, with emphasis place on the following water quality objectives: dissolved oxygen, floating material, oil and grease, potential of hydrogen (pH), and turbidity
- Waste management, handling, and disposal control practices
- Corrective action and spill contingency measures
- Agency and responsible party contact information

E.9

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- Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP

The SWPPP shall be prepared by a Qualified SWPPP Practitioner and/or Qualified SWPPP Developer with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. BMPs for soil stabilization and erosion control practices and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure.

HYD-2 Incorporate Post-Construction Runoff BMPs into Project Drainage Plan. The project Drainage Plan shall adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of stormwater to existing drainage systems. Infiltration basins will be integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary.

E.9 cont'd

Please contact me should you need any clarification or have any questions. Thank you.

E.10

Sincerely,

William Patterson
Environmental Supervisor
Environmental Services Department
Coachella Valley Water District
75-519 Hovley Lane East
Palm Desert, CA 92211
(760) 398-2651

Letter E

Coachella Valley Water District

February 2, 2023

E.1 This is an introductory comment. No further response is necessary. Please refer to responses to comments E.2 through E.9.

E.2 Comment noted. Recommendations regarding adequate elevated concrete foundations and appropriate spacing provided in this comment will be evaluated and addressed as part of the final site plan engineering design. Detailed hydrology analysis will be conducted as part of final site plan engineering design and layout of the proposed solar project. As stated on EIR page 3.10-19, iimplementation of the projects would not substantially alter the existing drainage pattern of the sites or area. The majority of the project sites would continue to sheet flow through the pervious native soils. The projects will be designed to meet County of Imperial storage requirements (100 percent of the 100-year storm (3 inches of rain)) (refer to the County's *Engineering Guidelines Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage and Grading Plans within Imperial County* (2008)) for storm water runoff, which will result in an impoundment of runoff in excess of the anticipated volume of runoff to be generated by the 100-year storm event. Additionally, implementation of Mitigation Measure HYD-2 requires that the projects' Drainage Plans adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of storm water to existing drainage systems. As such, infiltration basins will be integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary. Further, drainage characteristics of the site will be considered as part of the design of proposed on-site facilities, including PV arrays. Building methods such as elevated concrete foundations and spacing to address hydrological conditions will be considered as part of final design. No hydrology impact is anticipated.

E.3 Please refer to response to comment E.2.

E.4 As discussed on EIR pages 3.10-13 through 3.10-14, during the construction phase, sedimentation and erosion can occur as a result of tracking from earthmoving equipment, erosion and subsequent runoff of soil. The utilization of proper erosion and sediment control BMPs is critical in preventing discharge to surface waters/drains. The proposed projects would employ proper SWPPP practices to minimize any discharges in order to meet the Best Available Technology/Best Conventional Technology standard set forth in the Construction General Permit. Prior to construction and grading activities, the project applicant is required to file an NOI with the SWRCB to comply with the General NPDES Construction Permit and prepare an SWPPP, which addresses the measures that would be included during construction of the projects to minimize and control construction and post-construction runoff to the "maximum extent practicable." In addition, NPDES permits require the implementation of BMPs that achieve a level of pollution control to the maximum extent practical. With the implementation of Mitigation Measure HYD-1, impacts on surface water quality as attributable to the projects would be reduced to a level less than significant through the inclusion of focused BMPs for the protection of surface water resources. Monitoring and contingency response

measures would be included to verify compliance with water quality objectives for all surface waters crossed during construction. Additionally, Mitigation Measure HYD-2 addresses post-construction runoff and BMPs.

E.5 The location of the existing training dikes in the context of the project sites is depicted on EIR Figure 2.2 Project Sites. Additionally, EIR page 2-26 provides a description of the training dikes, and indicates that any modifications to these tikes will require appropriate authorization from Bureau of Reclamation. The USBR Protective Works located upslope and to the east of the Coachella Canal, as noted in this comment will be considered as part of the final site plan design and supporting detailed hydrology analysis required by Mitigation Measure HYD-1. Please also refer to response to comment E.2.

E.6 Please refer to responses to comment E.2 and E.5.

E.7 EIR Section 3.9 Hazards and Hazardous Materials addresses potential transport and storage of hazardous materials on-site. As described on EIR page 3.9-9, all materials contained on project sites will be stored in appropriate containers (not to exceed a 55-gallon drum) protected from environmental conditions, including rain, wind, and direct heat and physical hazards such as vehicle traffic and sources of heat and impact. In addition, if the on-site storage of hazardous materials necessitate, at any time during construction and/or operations and long-term maintenance, quantities in excess of 55-gallons, a hazardous material management program (HMMP) would be required. The HMMP developed for the projects will include, at a minimum, procedures for:

- Hazardous materials handling, use and storage
- Emergency response
- Spill control and prevention
- Employee training
- Record keeping and reporting

Spill response plans would be developed prior to project construction and operation or prior to the storage on-site of an excess of 55 gallons of hazardous materials, and personnel would be made aware of the procedures for spill cleanup and the procedures to report a spill. Spill cleanup materials and equipment appropriate to the type and quantity of chemicals and petroleum products expected would be located onsite and personnel shall be made aware of their location.

Additionally, hazardous material storage and management will be conducted in accordance with requirements set forth by the ICFD, Imperial County Office of Emergency Services, DTSC, and CUPA for storage and handling of hazardous materials.

The U.S. Department of Transportation (DOT) regulates transport of lithium-ion batteries under the DOT's Hazardous Materials Regulations (HMR; 49 C.F.R., Parts 171-180). The HMR apply to any material DOT determines is capable of posing an unreasonable risk to health, safety, and property when transported in commerce.

E.8 Mitigation Measure HYD-1 has been modified to include the CVWD as an approving agency as follows:

> … The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the appropriate agency, including the County of Imperial Department of Public Works and the Coachella Valley Water District, prior to commencement of work and shall be made conditions of the contract with the contractor selected to build and decommission the projects.

E.9 Mitigation Measure HYD-2 has been modified to include the CVWS as an approving agency as follows:

> The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary. The Drainage Plan shall be submitted to the County of Imperial Department of Public Works and Coachella Valley Water District for review and approval.

E.10 Comment noted.

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California Program Office
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www.defenders.org

March 3, 2023

David Black, Planner IV
County of Imperial, Planning and Development Services Department
801 Main Street
El Centro, California 92243
Delivered via email to: Davidblack@co.imperial.ca.us

RE: Draft Environmental Impact Report – VEGA SES 2, 3, and 5 Solar Energy Project (SCH 2021050013)

Dear Mr. Black,

Thank you for the opportunity to provide comments in response to the Draft Environmental Impact Report (DEIR) for the proposed VEGA SES 2, 3, and 5 Solar Energy Project (Project). Defenders of Wildlife (Defenders) is dedicated to protecting all wild animals and plants in their natural communities and has nearly 2.2 million members and supporters in the United States, 323,000 of which reside in California. We strongly support renewable energy development that will help meet California's emission reduction goals and avoids destruction of important wildlife habitat and loss of at-risk species. Achieving a low-carbon energy future is critical for protecting California's internationally treasured wildlife, landscapes, productive farmlands and diverse habitats. F.1

Project Description

The proposed Project is comprised of three PV solar energy facilities and associated infrastructure: VEGA SES 2, VEGA SES 3 and VEGA SES 5. These collectively would generate up to 350 MW of renewable energy and include a 350 MW battery storage system (not to exceed 700 MW). The Project is located on 1,963 acres of privately-owned land in Imperial County. It is located east of the Salton Sea, south and west of the Chocolate Mountains and approximately 5.67 miles southeast of the unincorporated community of Niland. Right-of-Way (ROW) grants from the Bureau of Land Management (BLM) are required for site access and for interconnection. A ROW is also required from the Bureau of Reclamation for site access crossing the Coachella Canal. F.2

Existing site conditions include undeveloped land with scattered vegetation, with a portion of VEGA SES5 containing an agricultural field. The undeveloped land is covered by an extensive alluvial fan system and riparian habitat. The Project is located within a Renewable Energy Overlay Zone (RE Overlay Zone), which identified land within Imperial County suitable for development and operations of renewable energy projects.

The Project site may provide habitat to numerous special-status wildlife species, including but not limited to the following:[1]

F.2 cont'd

Common Name	Scientific Name	Status
Burrowing owl	*Athene cunicularia*	State Species of Special Concern
Flat-tailed horned lizard	*Phrynosoma mcallii*	State Species of Special Concern
Loggerhead shrike	*Lanius ludovicianus*	State Species of Special Concern
Mountain plover	*Charadrius montanus*	State Species of Special Concern
Pallid bat	*Athene cunicularia*	State Species of Special Concern

Comments

As we transition toward a clean energy future, it is imperative that we consider the near-term impact of solar development on our biodiversity, fish and wildlife habitat, and natural landscapes while addressing the long-term impacts of climate change. Renewable energy projects must be planned, sited, developed and operated to avoid, minimize and mitigate adverse impacts to wildlife and lands with known high-resource values.

F.3

We offer the following comments on the DEIR for the Project:

1. **RE Overlay Zone**

   As previously mentioned, the Project is located within a RE Overlay Zone, which identified land within Imperial County suitable for development and operation of renewable energy projects with the approval of a CUP. This RE Overlay Zone was included as a part of the larger Imperial County Renewable Energy and Transmission Element Update (RET Update) that sought to determine suitable areas while minimizing the impact of renewable projects on other established uses.[2] Defenders' staff was engaged in the proceedings for

F.4

[1] California Natural Diversity Database. Accessed 1/27/2023. https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data
[2] Imperial County Planning & Development Services. July 2015. Final Programmatic Environmental Impact Report

this plan and supported Imperial County's efforts to proactively plan for renewable energy development while simultaneously protecting biological resources. We also previously provided recommendations on the RET Update that included urging the County to incorporate the biological information used to develop the Desert Renewable Energy Conservation Plan's conservation strategy for species and habitat into the RET Update. The County responded and stated the RE Overlay Zone preserved the areas designated for conservation in the Draft 2014 DRECP.[3]

F.4 cont'd

Defenders supports the development and operation of renewable energy projects on sites that have been specifically identified for renewables and is pleased the County continues to ensure renewable projects are thoughtfully planned, sited and developed. Defenders encourages the County to continue its commitment to avoiding lands with conservation value for the development of renewable energy projects.

F.5

2. Biological Resources Inadequately Analyzed

The completion of protocol level surveys that adhere to species-specific guidelines is vital to accurately document the status of species on a project site. A project that is located within an area designated for renewable energy development does not mean that the project can forgo typical species-specific protocol level surveys. The DEIR for the Project states biological reconnaissance surveys were conducted in September and November 2020 for the three project sites but fails to mention if any species-specific protocol-level surveys were conducted.

During these reconnaissance surveys, both the loggerheaded shrike and burrowing owl were observed as present on the site; however, a variety of bat species and the flat-tailed horned lizard (FTHL) were not observed and were listed as having a potential to occur. Despite these special-status species having the potential to occur, state and federal protocol survey methodologies were not implemented. With inadequate Project level analysis and information on special-status species, it is impossible to determine the appropriate avoidance, minimization and mitigation measures accurately and confidently. This results in decision-makers and the public not having the necessary information to provide robust and informed analysis and review of the Project. Defenders recommends species-specific protocol level surveys are conducted and the associated

F.6

Renewable Energy & Transmission Element Update.
[3] Ibid.

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reports be included in the Final EIR. For the FTHL surveys, Defenders recommends adhering to survey protocols within the Flat-tailed Horned Lizard Rangewide Management Strategy.[4] These survey recommendations are for FTHL habitat on federal lands outside of Management Areas (MAs), and although the Project site is located on private land, it is located within potential FTHL habitat and the historical distribution range. It is therefore pertinent to apply these survey protocols for the Project as species-specific surveys are necessary to ensure appropriate mitigation measures are applied.

F.6 cont'd

Defenders recommends consultation with CDFW for the appropriate protocols for species-specific surveys. If additional surveys are not conducted, then species presence must be assumed. Additionally, CDFW should be consulted for the appropriate take permit and to comply with standard avoidance, minimization and mitigation requirements including compensatory mitigation.

F.7

3. Habitat Management Lands

The Project site provides habitat for burrowing owl, and according to the DEIR they were observed during reconnaissance surveys. Burrowing owls are listed as a Species of Special Concern by CDFW and it is estimated that there are fewer than 10,000 breeding pairs of burrowing owls in the state and most exist on privately owned land.[5] This Project will result in the permanent conversion of burrowing owl habitat, as once the land is developed, the habitat will not return to its current state. This warrants permanent protection of habitat and foraging lands. Defenders recommends consultation with CDFW for establishing permanent habitat protection for unavoidable impacts to the burrowing owl. This habitat must be permanently protected and include similar vegetation communities to provide for burrowing owl nesting and foraging. These lands shall be managed in perpetuity by a qualified conservation organization as defined by CA Civil Code Section 815.3. Alternatively, credits could be purchased in a CDFW approved mitigation bank. The current habitat must not be altered or destroyed until mitigation lands have been legally secured and managed for the benefit of the species.

F.8

[4] Flat-tailed Horned Lizard Interagency Coordinating Committee. 2003. Flat-tailed Horned Lizard Rangewide Management Strategy.
[5] California Department of Fish and Wildlife, 2012. Staff Report on Burrowing Owl Mitigation.

4. Cumulative Impacts

The cumulative impacts analysis within the DEIR is severely lacking; a robust cumulative effects analysis of projects that will adversely impact at-risk biological resources is vital for decision-makers and the public to properly analyze the Project. The increasing development of solar energy projects in the region presents barriers and deterrents to wildlife. Cumulative impacts to these special-status species accrue over time and increase when impacts from individual projects are not fully mitigated or offset as required under the California Environmental Quality Act. The DEIR considers many solar energy projects within the area that have contributed to an ongoing cumulative loss and fragmentation of wildlife and habitat but fails to consider all types of projects causing related impacts, fully reveal the condition of the biological resources in the region and analyze thoroughly how the species and their habitats are cumulatively being impacted by these various projects in total. F.9

Defenders recommends including a cumulative impacts analysis within the FEIR that contains an adequate analysis of the status of sensitive species within the area and thoroughly addresses all cumulative impacts of all projects on these species. Furthermore, Defenders requests the FEIR include a detailed map of the cumulative projects with the remaining burrowing owl and flat-tailed horned lizard habitat within the map of cumulative projects. F.10

Conclusion

Thank you once again for the opportunity to provide comments on the DEIR for the VEGA SES 2, 3, and 5 Solar Energy Project and for considering our comments. We look forward to reviewing the Final EIR and request to be notified when it is available. If you have any questions, please contact me at 408-603-4694 or via email at smarkowska@defenders.org. F.11

Respectfully submitted,

Sophia Markowska

Sophia Markowska
Senior California Representative

E.5

Letter F

Defenders of Wildlife

March 3, 2023

F.1 Comment noted. This comment does not raise an issue regarding the adequacy of the EIR, as such no further response is necessary.

F.2 This comment provides an overall summary of the proposed project as provided in Section 2 Project Description of the EIR. Additionally, this comment identifies that the project site contains potential habitat for certain special-status wildlife species including burrowing owl, flat-tailed horned lizard, loggerhead shrike, mountain plover, and pallid bat. This is consistent with potential species occurring on-site as identified in EIR Section 3.5 Biological Resources.

Specifically, EIR page 3.5-10 identifies that black-tailed gnatcatcher and loggerhead shrike were observed to be present on the VEGA 2 and 3 sites during biological reconnaissance surveys. Also, burrowing owl, flat-tailed horned lizard, desert tortoise, mountain plover, and pallid bat (among other species as listed on EIR page 3.5-10 and 3.5-11) were identified as potentially present on the VEGA 2-3-5 site. EIR page 3.5-11 identifies that burrowing owl, black-tailed gnatcatcher, and loggerhead shrike were observed to be present on the VEGA 5 site during biological reconnaissance surveys. Additionally, mountain plover, flat-tailed horned lizard, pallid bat (among other species as listed on EIR page 3.5-11) were identified as potentially present on the VEGA 2-3-5 site.

F.3 Comment noted. The biological resources surveys and corresponding analysis as provided in EIR Section 3.5 Biological Resources provides a description of the potential biological impacts associated with the project. Mitigation Measures BIO-1 through BIO-9 are proposed, and include avoidance and minimization measures to address potential impacts to biological resources. Implementation of these measures will mitigate potential impacts to a level less than significant.

F.4 Comment noted. This comment does not raise an issue related to the adequacy of the EIR; therefore, no further response is necessary.

F.5 Comment noted. This comment does not raise an issue related to the adequacy of the EIR; therefore, no further response is necessary.

F.6 Protocol-level, species-specific surveys were not conducted, as they have either been observed on-site during reconnaissance surveys or have been identified as potentially occurring on the project site. Mitigation measures are proposed based on the species observed or identified as potentially present on-site including, but not limited to, burrowing owl, loggerhead shrike, California black rail, and black-tailed gnatcatcher.

Focused surveys for flat-tailed horned lizard are not recommended unless the project site is located within a range-wide management and research area, according to the Flat-tailed Horned Lizard Rangewide Management Strategy prepared by the Flat-tailed Horned Lizard Working Group of Interagency Coordinating Committee (May 1997). The Vega 2-3-5 Projects are not within this area. However, this species would be detected during special-status species

preconstruction surveys and biological monitoring as required by Mitigation Measures BIO-1a, BIO-1b, BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-6a, and BIO-6b.

Desert tortoise surveys were not recommended based on the following:

1. There were and are no recorded observations of either desert tortoise species within 5 miles of the project site (CDFW's CNDDB and USFWS IPaC searches from 2020 and 2023). Although a focused desert tortoise survey was not performed at the project site, the reconnaissance surveys were performed by biologists who are experienced in surveying for and identifying desert tortoise and their sign. The biologists did not incidentally observe any desert tortoise or their sign during the reconnaissance-level surveys.
2. The project location is approximately 450 meters below the known elevation range of the Mojave desert tortoise.
3. Referencing the USFWS known range of the Mojave and Sonoran desert tortoises (USFWS 2023), the project locations are outside the species range and are in areas presented as "Low: 0" for habitat potential.

F.7 Because sensitive species have been detected, it has been assumed that species are present, and pre-construction mitigation measures are proposed accordingly. As stated on EIR pages 3.5-22, "The literature review identified 18 special-status plant species that have the potential to occur within the VEGA SES 2 and 3 project sites… Depending on the size of the population, impacts on special-status plant species within the project impact area may be considered significant. Implementation of Mitigation Measures BIO-1a, BIO-2, and BIO-3 would reduce potential impacts on special-status plant species to a level less than significant." Additionally, "The literature review identified 27 special-status wildlife species that have the potential to occur within the VEGA SES 2 and 3 BSA. Fifteen (15) of these species have a low or no potential to occur due to the lack of suitable and/or limited habitat within the BSA … Potential impacts on these special-status wildlife species may be considered significant. Implementation of Mitigation Measures BIO-2, BIO-3, BIO-4, BIO-5, BIO-6a, and BIO-7a would reduce potential impacts on special-status wildlife species to a level less than significant."

F.8 The mitigation measures required for implementation of the proposed project have been determined to be necessary to reduce potential impacts to special-status species, including burrowing owl, to a level less than significant. However, should a California Department of Fish and Wildlife (CDFW) Incidental Take Permit (ITP) be required, the applicant would be required to consult with CDFW for mitigation requirements or in-lieu fee credits for any direct unavoidable impacts to burrowing owl. The County acknowledges that mitigation preserves are located and available in Imperial County, and that the project may be required to contribute through purchase of credits (or preservation of lands elswhere) should an ITP for burrowing owl be required.

F.9 No significant, unmitigated biological resources impacts have been identified associated with any of the cumulative projects identified in EIR Section 5 Cumulative Impacts. Similar to the proposed project, implementation of project-specific mitigation measures would reduce potential impacts to a level less than significant. As shown on Figure 5-1, with the exception

of project #14 (Wister Solar), cumulative projects are located on active agricultural lands, and do not contain native habitats. Further, none of these projects are identified as components of a wildlife corridor. The cumulative analysis assumptions focuses on utility-scale solar projects, as there are no other large-scale discretionary projects identified within the cumulative project study area for biological resources.

F.10 As indicated in response to comment F.9, EIR Table 5-1 lists the projects considered in the cumulative impact analysis. EIR Figure 5-1 depicts the locations of cumulative projects considered in the cumulative impact analysis. As shown, the majority of cumulative projects (projects #1 through #13, #14 and #15), are located on existing, active agricultural lands. These lands generally do not support sensitive species as they do not contain natural habitats, and active farming involves regular ground disturbing activities, generally precluding the establishment of sensitive species. However, with respect to burrowing owl, the presence, or potential presence of this species is identified associated with these projects. Burrowing owl largely den within the canals and areas immediately adjacent to the canals that are not impacted by the development of solar projects. However, burrowing owl do also occur in the agricultural fields that are impacted by solar project development. As stated on EIR page 5-9, "Additionally, as provided in Section 3.5, Biological Resources, special-status bird species have a potential to be present. In addition, several common bird species could nest on the project site. As a result of project-related construction activities, one or more of these species could be impacted. However, with the implementation of mitigation as identified in Section 3.5, Biological Resources, these impacts would be reduced to a level of less than significant, primarily through avoidance of direct and indirect impacts to these species via pre-construction surveys and monitoring requirements during construction. Similarly, the cumulative projects within the geographic scope of the project would be required to comply with the legal framework as described above, and similar avoidance and minimization measures. Based on these considerations, impacts on biological resources would not be cumulatively considerable."

With respect to flat-tailed horned lizard, due to its location generally outside of active agricultural lands, one cumulative project (#14 – Wister Solar) could potentially support flat-tailed horned lizard, although the presence of this species was not identified as part of the EIR for that project. As indicated in the Wister Solar Draft EIR, "Per guidance provided by Magdalena Rodriguez, CDFW Senior Environmental Scientist (Specialist) from the Ontario, California field office, focused surveys for flat-tailed horned lizard were conducted for the entire 640-acre parcel on August 31, 2018. Surveys were conducted by Barrett's Biological Surveys in accordance with the survey protocol provided in the Flat-tailed Horned Lizard Rangewide Management Strategy (Flat-tailed Horned Lizard Interagency Coordinating Committee 2003)." No flat-tailed horned lizard were detected on-site. Therefore, cumulative impacts related to flat-tailed horned lizard are considered less than significant.

F.11 Comment noted. The County has provided the Final EIR to all entities that submitted written comments on the Draft EIR, include Defenders of Wildlife.

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0.3 Errata to the Draft EIR

A. Introduction

This section of the Final Environmental Impact Report (EIR) identifies the location of, or contains revisions to, information included in the Draft EIR dated December 2022, based upon additional or revised information required to prepare a response to a specific comment. The information added to the EIR does not meet the requirements for recirculation pursuant to Section 15088.5 of the State *California Environmental Quality Act (CEQA) Guidelines*.

The new information simply clarifies information presented in the Draft EIR. Text that has been added to the document appears in an underline format. Text that has been deleted appears with strikeout.

This Errata, in conjunction with the Final EIR, will be used by the County of Imperial in its evaluation and analysis of the proposed project and in the adoption of any findings required by law. Substantial evidence in support of findings may be found anywhere in the administrative record. (14CCR 15091(b)(e). The County of Imperial is designated the Lead Agency for California Environmental Quality Act (CEQA) compliance.

B. Corrections and Additions

Executive Summary

Page ES-1:

The VEGA SES 2, 3 & 5 Solar Energy Projects are located on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA. The project area is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City (Figure ES-1). The project area is transected by the Coachella and East Highline Canals and the Union Pacific Railway.

Three separate Conditional Use Permits (CUPs) have been filed with the County, which together define the project sites. The three CUP applications or individual site locations consist of the following and are shown in Figure ES-2:

- CUP 20-0021: VEGA SES 2
- CUP 20-0022: VEGA SES 3
- CUP 20-0023: VEGA SES 5

Page ES-2:

Added Figure ES-1 Regional Location.

Page ES-3:

Added Figure ES-2 Project Sites.

Pages ES-4 through ES-6:

Right-of-Way Grants

The proposed projects would require Rights-of-Ways (ROW) grants from the Bureau of Land Management (BLM) and Bureau of Reclamation (BOR) for site access and for interconnection to the IID system that are located on federal lands managed by the BLM and BOR. The project applicant's ROW requests are summarized below and depicted on Figure ES-3 and Figure ES-4s. A detailed description of the project's ROW requests is provided in Chapter 2, Project Description.

Bureau of Land Management

The following is a summary of the project applicant's ROW requests from the BLM:

1. A triangular aerial crossing ROW would be required at the southeastern corner of APN 025-010-006 to the northwestern corner of APN 025-270-023. The triangular ROW would be required for overhead powerlines that would span the two corners of these parcels. No power poles would be set within this ROW. The total land area would be approximately 0.02 acres.
2. A triangular aerial crossing ROW would be required at the northeastern corner of APN 025-260-035 to APN 025-010-006. This triangular ROW would be required for overhead powerlines that would span the two corners of these parcels. No power poles would be set within this ROW. The total land area would be approximately 0.02 acres.
3. The electrical energy produced by the VEGA SES 3 project would be connected to the existing utility approved point of interconnection at the northeastern corner of the site to the IID's 161 kV "F" Line. Because the "F" Line is located on BLM land, the project applicant is requesting a 140-foot-wide ROW from BLM for the proposed interconnection road to IID and along the IID's 161 kV "F" Line for approximately 200 feet in length and the width of the existing IID ROW. There would be two new H Frame poles installed in the corridor of the "F" Line. The total area would be approximately 0.25 acres.
4. BLM approval of one triangular aerial crossing ROW would be required. At the northeast corner of APN 025-260-022 to APN 025-260-019, a triangular aerial crossing ROW would be required for the overhead power line that would span the two-corner intersection of the parcel. No power poles would be set within this area. The total land area would be approximately 0.02 acres.
5. The only motorized access to the VEGA SES 2 and 3 project sites, and corresponding Imperial IID utilities is Flowing Wells Road, which is a County maintained road situated on BLM public lands. The VEGA SES 2 and 3 projects intend to use Flowing Wells Road for access during construction of the facilities which upon being permitted will take approximately one year of actual construction. The projects propose a ROW for the existing 24-foot wide access road for construction, maintenance, and general project site access. The approximate area for this road is 24 feet x 5941 feet for a total acreage of 3.28 acres. The VEGA SES 2 and 3 projects would not require changes to Flowing Wells Road either in terms of alignment, cross section, width or length. The project applicant is requesting a 24-foot-wide ROW given that the road currently has no designated width. The VEGA SES 2 and 3 projects, if required as part of the permitting or ROW approval, would grade and maintain Flowing Wells Road during construction as required by the BLM, County and/or Air District, including future years maintenance for safe access to the sites. A maintenance agreement with the County/BLM will be included in the conditions of approval. All chemicals used for stabilization of Flowing Wells Road must be approved by BLM.

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The use of Flowing Wells Road for construction is considered temporary as it would be used primarily during construction of the VEGA SES 2 and 3 projects. During operation, the sites will be controlled remotely and will not have any on site employees. The solar facilities would require occasional onsite maintenance. Therefore, Flowing Wells Road could require occasional maintenance. Either the County or applicant could perform the maintenance of Flowing Wells Road under an agreement.

6. The project applicant is requesting a 30-foot-wide ROW from BLM for an access road to connect the northwest corner of the VEGA SES 2 site (APN 025-0260-011) to Flowing Wells Road. The total area for this ROW would be approximately 0.29 acres.

~~The only motorized access to the VEGA SES 2 and 3 project sites, and corresponding Imperial IID utilities is Flowing Wells Road, which is a County maintained road situated on Bureau of Land Management (BLM) public lands. Rights-of-Ways (ROW) grants from the BLM would be required for site access and for interconnection to the IID system. No portion of the VEGA SES 2 and 3 projects, other than access road(s), power lines, and access to IID infrastructure would be located on BLM public lands.~~

Bureau of Reclamation

1. The following is a summary of the project applicant's ROW requests from the BOR: There is a portion of the VEGA SES 2 gen-tie line, from the southwest corner of APN 025-010-006 to the northeast corner of APN 025-260-011, that would traverse BOR land. The project applicant is requesting a 60-foot-wide ROW for a single power pole structure from BOR to construct a portion of the gen-tie line on BOR land. This ROW would be 1,200-foot-long X 60-foot wide for an area of approximately 1.82 acres.
2. BOR approval of one triangular aerial crossing ROW would be required. At the southeast corner of APN 025-260-022 to APN 025-260-017, a triangular aerial crossing ROW would be required for the overhead power line that would span the two-corner intersection of the parcel. No power poles would be set within this area. The total land area would be approximately 0.02 acres.
3. Access will be needed across BOR land for VEGA SES 3, crossing the Coachella Canal. Applications for this ROW have been filed directly with the BOR office.

~~Access would also be required across Bureau of Reclamation (BREC) land for the VEGA SES 3 project, crossing the Coachella Canal. Applications for this ROW have been filed directly with the BREC office.~~

Page ES-7:

Added Figure ES-3 Overview of Right-of-Way Requests.

Page ES-9:

Added Figure ES-4 BLM and BOR Right-of-Way Requests.

Page ES-19:

AQ-3 **Dust Suppression.** The project applicant shall employ a method of dust suppression (such as water or chemical stabilization) approved by ICAPCD. The project applicant shall apply chemical stabilization as directed by the product manufacturer to control dust between the panels as approved by ICAPCD, and other non-used areas (exceptions will be the paved entrance and parking area, and

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Fire Department access/emergency entry/exit points as approved by Fire/Office of Emergency Services [OES] Department). All chemicals used for stabilization of Flowing Wells Road must be approved by BLM.

Page ES-22:

- The project proponent shall designate a Project Biologist who shall be responsible for overseeing compliance with protective measures for biological resources during vegetation clearing and work activities within and adjacent to areas of native habitat. The Project Biologist shall be familiar with the local habitats, plants, and wildlife. The Project Biologist shall also maintain communications with the Contractor to ensure that issues relating to biological resources are appropriately and lawfully managed and shall monitor construction. The Project Biologist shall monitor activities within construction areas during ~~critical times~~ nesting bird season (generally February 1 to September 15), such as vegetation removal, the implementation of Best Management Practices (BMPs), and installation of security fencing to protect native species. The Project Biologist shall ensure that all wildlife and regulatory agency permit requirements, conservation measures, and general avoidance and minimization measures are properly implemented and followed.

Page ES-26:

- The Contractor shall actively manage the spread of noxious weeds by implementing weed control activities, including, but not limited to, cleaning equipment and inspecting equipment prior to transport to the sites and cleaning of tires and equipment prior to leaving the sites. The introduction of exotic, nonnative, weed, and/or invasive plant species will be avoided and controlled wherever possible, and may be achieved through physical or chemical removal and prevention, limiting the size of any vegetation and/or ground disturbance to the absolute minimum, and limiting ingress and egress to defined routes. Preventing exotic plants from entering the sites via vehicular sources will include measures such as cleaning vehicles coming into and going from the sites.

Page ES-28:

BIO-5 **Pre-Construction Nesting Bird Survey.** If construction or other project activities are scheduled to occur during the bird breeding season (typically February 1 through August 31 for raptors and ~~March~~ February 15 through August 31 for the majority of migratory bird species), a pre-construction nesting-bird survey shall be conducted by a qualified avian biologist to ensure that active bird nests, including those for loggerhead shrike, black-tailed gnatcatcher, and burrowing owl, will not be disturbed or destroyed.

Page ES-29:

BIO-6a **Pre-Construction Survey for Special-Status Species.** A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 2 and 3 project sites or that were identified as having a high potential to occur on the sites. These species include, but are not limited to, burrowing owl, loggerhead shrike, California black rail, and black-tailed gnatcatcher.

Pages ES-32 and ES-33:

CR-1 **Cultural Resources Management Plan.** Project proponent will develop a cultural resources management plan (CRMP) to outline the process for compliance with applicable cultural resources laws, management of resources during operation, and consideration of the effect of decommissioning. ~~t~~The CRMP ~~should~~ shall include the following: identification of California Native American tribes, identification of long and short term management goals for cultural resources within the project area, evaluation of eligibility for the CRHR and NRHP for all resources within the project area as identified on EIR Tables 3.6-4, 3.6-5 and 3.6-6, recommendations for eligibility for the CRHR and NRHP, description of measures to avoid, minimize, ~~or~~ and reduce significant impacts to ~~historical~~ cultural resources (including both historical and archaeological resources) ~~and historic properties~~, unanticipated discovery procedures, monitoring needs, data recovery of significant cultural resources where avoidance is not possible, curation procedures for recovered artifacts, anticipated personnel requirements and qualifications. The CRMP shall specifically address pre-contact fishing village site Resource P-13-147 and all resources identified in EIR Tables 3.6-3, 3.6-4 and 3.6-5. The draft CRMP ~~should~~ shall be prepared by a registered professional archaeologist and reviewed and approved by the County of Imperial Planning and Development Services Department ~~lead agency~~.

CR-2 **Cultural Resources Training.** Project proponent will provide cultural resources training for all project personnel regarding the laws protecting cultural resources, appropriate conduct in the field, and other project-specific issues identified in the CRMP prepared for each site as required by Mitigation Measure CR-1.

Page ES-34:

CR-5 **Discovery of Human Remains.**

Page ES-38:

HYD-1 **Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration.** The project applicant or its contractor shall prepare an SWPPP specific to the projects and be responsible for securing coverage under SWRCB's NPDES storm water permit for general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of storm water pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the appropriate agency, including the County of Imperial Department of Public Works and the Coachella Valley Water District, prior to commencement of work and shall be made conditions of the contract with the contractor selected to build and decommission the projects. The SWPPP shall incorporate control measures in the following categories:

Page ES-40:

The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary. The Drainage Plan shall be submitted to the County of Imperial Department of Public Works and Coachella Valley Water District for review and approval.

Section 1 Introduction

Page 1-2:

The proposed projects would require Rights-of-Ways (ROW) grants from the Bureau of Land Management (BLM) and Bureau of Reclamation (BOR) for site access and for interconnection to the IID system that are located on federal lands managed by the BLM and BOR. A detailed description of the project's ROW requests is provided in Chapter 2, Project Description.

~~The only motorized access to the VEGA SES 2 and 3 project sites, and corresponding Imperial IID utilities is Flowing Wells Road, which is a County maintained road situated on Bureau of Land Management (BLM) public lands. Rights-of-Ways (ROW) grants from the BLM would be required for site access and for interconnection to the IID system. No portion of the VEGA SES 2 and 3 projects, other than access road(s), power lines, and access to IID infrastructure would be located on BLM public lands.~~

~~Access would also be required across Bureau of Reclamation (BREC) land for the VEGA SES 3 project, crossing the Coachella Canal. Applications for this ROW have been filed directly with the BREC office.~~

Page 1-4:

Approval of CUPs (CUP 22-0025, ~~and~~ -0026, and -0027) – Groundwater Wells. Pursuant to Title 9 Division 21: Water Well Regulations, §92102.00, the Applicant will be required to obtain a CUP for each proposed on-site groundwater well. As required by §92102.00, no person shall (1) drill a new well, (2) activate a previously drilled but unused well, (unused shall mean a well or wells that have not been used for a 12 month) period by installing pumps, motors, pressure tanks, piping, or other equipment necessary or intended to make the well operational, (3) increase the pumping capacity of a well, or (4) change the use of a well, without first obtaining a CUP through the County Planning & Development Services Department.

Page 1-5:

BUREAU OF RECLAMATION

- Right-of-way easement to cross the Coachella Canal to access the project site (APN 025-010-006)
- Right-of-way grant for the off-site gen-tie line to be located on federal lands under the jurisdiction of the BOR
- Aerial easement to allow gen-tie connections between the facilities
- There are two training dikes within the project area. The locations of these dikes are depicted on EIR Figure 2.2 Project Sites. As shown, one dike extends northerly from the Coachella Canal through APN #025-010-006 (VEGA SES 2) and a portion of APN #025-010-006 (VEGA SES 3). Any modifications to these dikes will require appropriate authorization from BOR.

COACHELLA VALLEY WATER DISTRICT

- Drainage Plan

Page 1-8:

Federal Land Policy and Management Act

The Federal Land Policy and Management Act (FLPMA) is a federal law that governs the way in which the public lands administered by the BLM are managed. The act set out a multiple use management policy for the BLM in which the agency would balance its management of the land to meet diverse needs, including recreation, grazing, timber and mineral production, fish and wildlife protection, and oil and gas production.

BLM is authorized to grant, issue or renew rights-of-way (ROW) over, upon, under, or through public lands. A ROW grant is an authorization to use a specific piece of public land for a certain project, such as roads, pipelines, transmission lines, and communication sites. A ROW grant authorizes rights and privileges for a specific use of the land for a specific period of time. The proposed right-of-way requests associated with the projects are subject to review and approval by the BLM.

California Desert Conservation Area Plan

Section 601 of the FLMPA required preparation of a long-range plan for the California Desert Conservation Area (CDCA). The CDCA Plan was adopted in 1980 to provide for the use of public lands and resources of the CDCA in a manner which enhances wherever possible and, which does not diminish, on balance, the environmental, cultural, and aesthetic values of the Desert and its productivity. The CDCA Plan is a comprehensive, long-range plan covering 25 million-acres. Approximately 12 million acres of this total are public lands administered by the BLM on behalf of the CDCA. These public lands are dispersed throughout the California Desert which includes the Mojave Desert, the Sonoran Desert and a small portion of the Great Basin Desert. The 12 million acres of public lands administered by the BLM make-up approximately half of the CDCA. The CDCA is applicable to the federal (i.e., BLM) actions associated with implementation of the proposed projects (those portions of the projects not otherwise located on private lands).

Desert Renewable Energy Conservation Plan

The Desert Renewable Energy Conservation Plan (DRECP) created a Land Use Plan Amendment to the CDCA Plan. The DRECP has been developed as an interagency plan by the BLM, the U.S. Fish and Wildlife Service (USFWS), the California Energy Commission (CEC), and the California Department of Fish and Wildlife (CDFW) to (1) advance federal and state natural resource conservation goals and other federal land management goals; (2) meet the requirements of the federal Endangered Species Act, California Endangered Species Act, Natural Community Conservation Planning Act, and FLPMA; and (3) facilitate the timely and streamlined permitting of renewable energy projects, all in the Mojave and Colorado/Sonoran desert regions of Southern California.

Page 1-9:

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the kill or transport of native migratory birds, or any part, nest, or egg of any such bird unless allowed by another regulation adopted in accordance with the MBTA. The prohibition applies to birds included in the respective international conventions between the U.S. and Great Britain, the U.S. and Mexico, the U.S. and Japan, and the U.S. and Russia. Disturbances that cause nest abandonment and/or loss of reproductive effort or the loss of

habitats upon which these birds depend may be a violation of the MBTA. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

Page 1-10:

Availability of Reports

~~This~~ The Draft EIR ~~has been~~ was distributed to various federal, state, regional, local agencies and interested parties for a 45-day public review period, from December 27, 2021 through February 10, 2022, in accordance with Section 15087 of the CEQA Guidelines. ~~This~~ The Draft EIR and documents incorporated by reference ~~are~~ were made available for public review at the County of Imperial Planning and Development Services Department, 801 Main Street, El Centro, California 92243. Documents ~~may be reviewed~~ were available for review during regular business hours.

Comments received during the public review period of the Draft EIR ~~will be~~ have been reviewed and responded to in ~~the~~ this Final EIR. The Final EIR will ~~then~~ be reviewed by the Imperial County Planning Commission and Board of Supervisors as a part of the procedure to adopt the EIR. Additional information on this process may be obtained by contacting the County of Imperial Planning and Development Services Department at (442) 265-1736.

Page 1-12:

Document Organization

The structure of the ~~Draft~~ Final EIR is identified below. The ~~Draft~~ Final EIR is organized into ~~10~~ 14 chapters, including the Executive Summary.

- **Chapter 0.1 Introduction and Summary** describes the CEQA requirements and content of the Final EIR.
- **Chapter 0.2 Responses to Comment Letters Received on the Draft EIR** provides copies of the comment letters received and individual responses to written comments.
- **Chapter 0.3 Errata to the Draft EIR** identifies the location of, or contains revisions to, information included in the Draft EIR dated December 2022, based upon additional or revised information required to prepare a response to a specific comment.
- **Chapter 0.4 Mitigation Monitoring and Reporting Program** identifies the mitigation measures, timing, and responsibility for implementation of the measures.

Section 2 Project Description

Page 2-1:

Project Location

PC ORIGINAL PKG

The project applicant, Apex Energy Solutions, LLC, proposes to construct and operate an expansive photovoltaic (PV) solar energy facility, battery energy storage system (BESS), and associated infrastructure on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA. The project area is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City (Figure 2-1). The project area is transected by the Coachella and East Highline Canals and the Union Pacific Railway.

Three separate Conditional Use Permits (CUPs) have been filed with the County for the construction and operation of the solar facilities, which together define the project sites. The three CUP applications or individual site locations consist of the following and are shown in Figure 2-2:

Page 2-4:

Revised Figure 2-2 to show training dikes.

Page 2-8:

As shown in Figure 2-3, two new substations would be constructed on the VEGA SES 2 project site. The first substation would be constructed in the northwestern corner of APN 025-260-011 on approximately two acres. The substation would take the delivery of up to 60 kV electricity and increase the voltage of the electricity to 230 kV, where it would feed into the interconnection switching station for metering and delivery to the IID KN/KS Line, and ultimately delivery to IID's Ramon Substation. The substation would include two transformers, circuit breakers, disconnect switches, microwave or other communication facilities, and an electrical control building.

Page 2-10:

Bureau of Reclamation Right-of-Way Request – VEGA SES 2

60-Foot-Wide ROW for Gen-Tie Interconnection

As shown in Figure 2-4 and Figure 2-5, there is a portion of the VEGA SES 2 gen-tie line, from the southwest corner of APN 025-010-006 to the northeast corner of APN 025-260-011, that would traverse ~~BLM~~ Bureau of Reclamation (BOR) land. The project applicant is requesting a 60-foot-wide ROW for a single power pole structure from ~~BLM~~ BOR to construct a portion of the gen-tie line on ~~BLM~~ BOR land. This ROW would be 1,200-foot-long X 60-foot wide for an area of approximately 1.82 acres.

BLM Right-of-Way Request – VEGA SES 2

Aerial Crossing ROWs for Overhead Powerlines

As shown in Figure 2-4 and Figure 2-5, ~~A~~a triangular aerial crossing ROW would be required at the southeastern corner of APN 025-010-006 to the northwestern corner of APN 025-270-023. The triangular ROW would be required for overhead powerlines that would span the two corners of these parcels. No power poles would be set within this ROW. The total land area would be approximately 0.02 acres.

Additionally, as shown in Figure 2-4 and Figure 2-5, a triangular aerial crossing ROW would be required at the northeastern corner of APN 025-260-035 to APN 025-010-006. This triangular ROW would be required for overhead powerlines that would span the two corners of these parcels. No power poles would be set within this ROW. The total land area would be approximately 0.02 acres.

~~Additionally, BLM approval of two aerial easements would also be required to allow gen-tie connections between the facilities. No ground disturbance would occur associated with the aerial easements.~~

Page 2-11:

… interconnection at the northeast corner of the site to the IID's 161 kV "F" Line, and ultimately delivery to IID's Ramon Substation.

BLM Right-of-Way Request – VEGA SES 3

140-Foot-Wide ROW for Gen-Tie Interconnection

As shown in Figure 2-3, the electrical energy produced by the VEGA SES 3 project would be connected to the existing utility approved point of interconnection at the northeastern corner of the site to the IID's 161 kV "F" Line. Because the "F" Line is located on BLM land, the project applicant is requesting a 140-foot-wide ROW from BLM for the proposed interconnection road to IID and along the IID's 161 kV "F" Line for approximately 200 feet in length and the width of the existing IID ROW. There would be two new H Frame poles installed in the corridor of the "F" Line. The total area would be approximately 0.25 acres ~~to construct a gen-tie line from the northeastern corner of the site to IID's 161 kV "F" Line to the north~~ (Figure 2-4 and Figure 2-5).

Page 2-12:

Figure 2-1. Overview of Right-of-Way Requests

Revised figure to correct proposed ROW requests from BLM and BOR.

Page 2-15:

Added new figure, Figure 2-5 BLM and BOR Right-of-Way Requests.

Page 2-17:

Interconnection

The proposed gen-tie line alignment for VEGA SES 5 is depicted on Figure 2-6 ~~Figure 2-5~~. The substation would include a transformer, circuit breakers, meters, disconnect switches, and microwave or other communication facilities. The medium voltage power electricity generated from the project would be conveyed underground, or above ground where necessary, to cross over any sensitive site features, to connect to the projects' interconnection facilities.

BLM Right-of-Way Request – VEGA SES 5

Aerial Crossing ROW for Overhead Powerline

As shown in Figure 2-4 and Figure 2-5, BLM approval of ~~two~~ one triangular aerial crossing ROW ~~easements~~ would be required ~~to allow the proposed gen-tie to cross BLM land~~. At the northeast corner of APN 025-260-022 to APN 025-260-019, a triangular aerial crossing ROW would be required for the overhead power line that would span the two-corner intersection of the parcel. No power poles would be set within this area. The total land area would be approximately 0.02 acres.

Bureau of Reclamation Right-of-Way Request – VEGA SES 5

Aerial Crossing ROW for Overhead Powerline

As shown in Figure 2-4 and Figure 2-5, BOR approval of one triangular aerial crossing ROW would be required. At the southeast corner of APN 025-260-022 to APN 025-260-017, a triangular aerial crossing ROW would be required for the overhead power line that would span the two-corner intersection of the parcel. No power poles would be set within this area. The total land area would be approximately 0.02 acres.

No ground disturbance would occur associated with the aerial ~~easements~~ crossing ROWs.

Page 2-18:

Figure 2-6~~5~~. VEGA SES 5 Site Plan

Revised to show correct VEGA SES 5 gen-tie alignment and groundwater well location.

Page 2-20:

Figure 2-7 ~~Figure 2-6~~depicts representative examples of a typical BESS.

Figure 2-7~~2-6~~. VEGA SES 5 Site Plan

Page 2-21:

24-Foot-Wide ROW for Access Road

The VEGA SES 2 and 3 projects intend to use Flowing Wells Road for access during construction of the facilities which upon being permitted will take approximately one year of actual construction. As shown in Figure 2-4 and Figure 2-5, the projects propose a ROW for the existing 24-foot wide access road for construction, maintenance, and general project site access. The approximate area for this road is 24 feet x 5941 feet for a total acreage of 3.28 acres. ~~To obtain a 24-foot wide ROW for the length of Flowing Wells Road starting approximately 575 feet north of the northwest corner of APN 025-260-011 to APN 025-010-006.~~

The VEGA SES 2 and 3 projects would not require changes to Flowing Wells Road either in terms of alignment, cross section, width or length. The project applicant is requesting a 24-foot-wide ROW given that the road currently has no designated width. The VEGA SES 2 and 3 projects, if required as part of the permitting or ROW approval, would grade and maintain Flowing Wells Road during construction as required by the BLM, County and/or Air District, including future years maintenance for safe access to the sites. A maintenance agreement with the County/BLM will be included in the conditions of approval. All chemicals used for stabilization of Flowing Wells Road must be approved by BLM.

The use of Flowing Wells Road for construction is considered temporary as it would be used primarily during construction of the VEGA SES 2 and 3 projects. During operation, the sites will be controlled remotely and will not have any on site employees. The solar facilities would require occasional onsite maintenance. Therefore, Flowing Wells Road could require occasional maintenance. Either the County or applicant could perform the maintenance of Flowing Wells Road under an agreement.

30-Foot-Wide ROW for Access Road

The project applicant is requesting a 30-foot-wide ROW from BLM for an access road to connect the northwest corner of the VEGA SES 2 site (APN 025-0260-011) to Flowing Wells Road (Figure 2-4 and Figure 2-5). The total area for this ROW would be approximately 0.29 acres.

Page 2-22:

Access will be needed across Bureau of Reclamation (~~BREC~~BOR) land for VEGA SES 3, crossing the Coachella Canal (Figure 2-4). Applications for this ROW have been filed directly with the ~~BREC~~BOR office.

Page 2-23:

As shown in Figure 2-8 ~~Figure 2-7~~, primary access to the VEGA SES 2 and 3 project sites will be from SR-111 along McDonald Road to Weist Road. Construction-related traffic would cross the East Highline Canal at Noffsinger Road. Weist Road continues to Flowing Wells Road. The crossing of the Union Pacific (UP) Railroad tracks is at an unsignalized crossing on Weist Road. The VEGA SES 2 and 3 project sites will be accessed from Flowing Wells Road. Weist Road, Noffsinger Road and Flowing Well Roads are unpaved roadways.

For the VEGA SES 5 project, access to and from the site will be from SR-111 along McDonald Road (Figure 2-9 ~~Figure 2-8~~). A portion of the site construction traffic will travel to the east side of the East Highline Canal, by using Weist Road and Noffsinger Road. To access the portion of the site east of the UP Railroad tracks, access across the tracks will be made at Flowing Wells Road, and access to the property will be made via an easement that will be acquired. The easement will be a direct vertical south from Flowing Wells Road at the western boundary of APN 025-260-011.

The abovementioned roads will provide full access to the project sites and associated facilities. The project applicant is requesting a 30-foot-wide ROW from BLM for an access road to connect the northwest corner of the VEGA SES 2 site (APN 025-0260-011) to Flowing Wells Road (Figure 2-4 and Figure 2-5). No additional new roads will be constructed.

Page 2-24:

Table 2-3. Construction Water Use

Project	Construction Water Use (acre feet)
VEGA SES 2 & 3	~~630~~775 AF
VEGA SES 5	~~365~~205 AF
Total	**~~995~~980 AF**

Page 2-25:

Figure 2-8~~7~~. VEGA SES 2 and 3 Access Route

Page 2-26:

Figure 2-9~~8~~ VEGA SES 5 Access Route

Revised to show correct VEGA SES 5 gen-tie alignment.

PC ORIGINAL PKG

Page 2-28:

Table 2-4. Operational Water Use

Project	Operational Water Use (acre feet per year)
VEGA SES 2	~~10~~24 AF
VEGA SES 3	~~2~~6 AFY
VEGA SES 5	~~20~~5 AFY
Total	**~~32~~35 AFY**

Page 2-31:

Approval of CUPs (CUP 22-0025, ~~and~~ -0026, and -0027) – Groundwater Wells. Pursuant to Title 9 Division 21: Water Well Regulations, §92102.00, the Applicant will be required to obtain a CUP for each proposed on-site groundwater well. As required by §92102.00, no person shall (1) drill a new well, (2) activate a previously drilled but unused well, (unused shall mean a well or wells that have not been used for a 12 month) period by installing pumps, motors, pressure tanks, piping, or other equipment necessary or intended to make the well operational, (3) increase the pumping capacity of a well, or (4) change the use of a well, without first obtaining a CUP through the County Planning & Development Services Department.

Page 2-32:

- Bureau of Reclamation
    - Right-of-way easement to cross the Coachella Canal to access the project site (APN 025-010-006)
    - Right-of-way grant for the off-site gen-tie line to be located on federal lands under the jurisdiction of the BOR
    - Aerial easement to allow gen-tie connections between the facilities
    - There are two training dikes within the project area. The locations of these dikes are depicted on EIR Figure 2.2 Project Sites. As shown, one dike extends northerly from the Coachella Canal through APN #025-010-006 (VEGA SES 2) and a portion of APN #025-010-006 (VEGA SES 3). Any modifications to these dikes will require appropriate authorization from Bureau of Reclamation.
- Coachella Valley Water District
    - Drainage Plan

Section 3.4 Air Quality

Page 3.4-21:

AQ-3 **Dust Suppression.** The project applicant shall employ a method of dust suppression (such as water or chemical stabilization) approved by ICAPCD. The project applicant shall apply chemical stabilization as directed by the product manufacturer to control

dust between the panels as approved by ICAPCD, and other non-used areas (exceptions will be the paved entrance and parking area, and Fire Department access/ emergency entry/exit points as approved by Fire/Office of Emergency Services [OES] Department). All chemicals used for stabilization of Flowing Wells Road must be approved by BLM.

Section 3.5 Biological Resources

Page 3.5-5:

Revised Figure 3.5-2 to show correct VEGA SES 5 gen-tie alignment.

Pages 3.5-25 through 3.5-26:

BIO-2 **General Impact Avoidance and Minimization Measures.** The following measures will be applicable throughout the life of the projects:

- To reduce the potential indirect impact on migratory birds, bats and raptors, the project shall comply with the APLIC 2012 Guidelines for overhead utilities, as appropriate, to minimize avian collisions with transmission facilities (APLIC 2012)
- All electrical components on the project sites shall be either undergrounded or protected so that there will be no exposure to wildlife and therefore no potential for electrocution.
- The project proponent shall designate a Project Biologist who shall be responsible for overseeing compliance with protective measures for biological resources during vegetation clearing and work activities within and adjacent to areas of native habitat. The Project Biologist shall be familiar with the local habitats, plants, and wildlife. The Project Biologist shall also maintain communications with the Contractor to ensure that issues relating to biological resources are appropriately and lawfully managed and shall monitor construction. The Project Biologist shall monitor activities within construction areas during ~~critical times~~ nesting bird season (generally February 1 to September 15), such as vegetation removal, the implementation of Best Management Practices (BMPs), and installation of security fencing to protect native species. The Project Biologist shall ensure that all wildlife and regulatory agency permit requirements, conservation measures, and general avoidance and minimization measures are properly implemented and followed.

Page 3.5-28:

- The Contractor shall actively manage the spread of noxious weeds by implementing weed control activities, including, but not limited to, cleaning equipment and inspecting equipment prior to transport to the sites and cleaning of tires and equipment prior to leaving the sites. The introduction of exotic, nonnative, weed, and/or invasive plant species will be avoided and controlled wherever possible, and may be achieved through physical or chemical removal and prevention, limiting the size of any vegetation and/or ground disturbance to the absolute minimum, and limiting ingress and egress to defined routes. Preventing exotic plants from entering the sites via vehicular sources will include measures such as cleaning vehicles coming into and going from the sites.

Page 3.5-29:

BIO-5 **Pre-Construction Nesting Bird Survey.** If construction or other project activities are scheduled to occur during the bird breeding season (typically February 1 through August 31 for raptors and ~~March~~ February 15 through August 31 for the majority of migratory bird species), a pre-construction nesting-bird survey shall be conducted by a qualified avian biologist to ensure that active bird nests, including those for loggerhead shrike, black-tailed gnatcatcher, and burrowing owl, will not be disturbed or destroyed. The survey shall be completed no more than three days prior to initial ground disturbance. The nesting-bird survey shall include the project site and adjacent areas where project activities have the potential to affect active nests, either directly or indirectly, due to construction activity or noise. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist. If construction activities cease for a period of greater than three days during the bird breeding season, a pre-construction nesting bird survey shall be conducted prior to the commencement of activities. Final construction buffers or setback distances shall be determined by the qualified biologist in coordination with USFWS and CDFW on a case-by-case basis, depending on the species, season in which disturbance shall occur, the type of disturbance, and other factors that could influence susceptibility to disturbance (e.g., topography, vegetation, existing disturbance levels, etc.).

BIO-6a **Pre-Construction Survey for Special-Status Species.** A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 2 and 3 project sites or that were identified as having a high potential to occur on the sites. These species include, but are not limited to, burrowing owl, loggerhead shrike, California black rail, and black-tailed gnatcatcher. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.

Section 3.6 Cultural Resources

Page 3.6-14:

Of the 168 resources within the VEGA SES 2 and 5 project area, the pre-contact fishing village (P-13-147) (discussed below under Impact 3.6-2), Old Coachella Canal (P-13-7858) and East Highline Canal (P-13-8333) have been previously evaluated for potential eligibility for listing in the NRHP and CRHR.

~~**PRE-CONTACT FISHING VILLAGE: P-13-147**~~

~~Resource P-13-147 was originally recorded prior to 1960 as a fishing village on the relict shoreline of Lake Cahuilla. The original record notes the presence of manos and metates, hearths, modified pumice, arrowheads, shell beads and pendants, ceramics, and two~~

~~cremations with associated goods. In 1981, this site was recommended as eligible for inclusion in the NRHP.~~

~~During the current survey, the site description appears to be accurate, though portions of the site have eroded. A modern vehicle trail cuts through the site from Siphon 5 Wash heading north. Historic and modern refuse is visible in scattered areas. Portions of the site may have been destroyed as a result of gravel operations. Although mentioned in original site records, no pendants or cremations were seen during the revisit. Two possible house pits were observed and recorded as well. Hearths/thermal features, groundstone, flakedstone, ceramics (sherds), faunal remains (fish and mammal) were observed and recorded during the survey. The majority of resources observed were located closer to the 40-foot elevation shoreline of Lake Cahuilla, which has partially been removed during gravel operations.~~

Pages 3.6-15 through 3.6-18:

This includes 48 historic-period archaeological sites (the majority of which are described as trash scatters), 3 pre-contact archaeological sites, and 117 isolated finds. There are 51 sites that have not been evaluated for the National Register of Historic Places or the California Register of Historical Resources under any criteria. The 117 isolated finds by their nature are not considered eligible for either the NHRP or CRHR. Table 3.6-3, Table 3.6-4, and Table 3.6-5 identify the archaeology and built environment resources located within the VEGA 2, VEGA 3, and VEGA 5 sites, respectively. While the majority of resources are likely not significant/eligible for NRHP/CRHR, it assumed that all sites are significant, and Mitigation Measures CR-1 through CR-4 are required in order to reduce potential impacts to a level less than significant.

Table 3.6-3. Archaeological and Built Environment Resources Within the VEGA 2[1]

Field Number 2020-*	Primary Number P-13-	Age/Period	Site Description	NRHP/CRHR Eligibility
-	147	Pre-contact	Village – house pits, milling, pumice, hearths, lithics, cremation, shell beads and pendants	Recommended eligible for NRHP (von Werlhof 1981:14)
-	4934	Pre-contact	Seasonal camp – milling, hearths, ceramics. All surface artifacts collected; site destroyed by gravel operations.	To be determined
144-01	-	Historic	GLO survey marker	To be determined
144-04	-	Pre-contact	Ceramic and lithic scatter	To be determined
144-19	-	Historic	Trash scatter	To be determined
144-20	-	Pre-contact	Lithic scatter	To be determined
199-03	-	Pre-contact	Lithic scatter	To be determined
199-12	-	Historic	.50 BMG cartridge case	To be determined
199-15		Historic	.30-06 cartridge case	To be determined
199-17	-	Historic	Levee	To be determined
199-18	-	Historic	GLO survey marker	To be determined
199-19	-	Historic	GLO survey marker	To be determined
199-22	-	Historic	Trash scatter	To be determined
199-28	-	Historic	Trash scatter	To be determined
199-29	-	Historic	Trash scatter	To be determined
199-32	-	Historic	Trash scatter	To be determined
209-01	-	Historic	GLO survey marker	To be determined
209-07	-	Historic	GLO survey marker and glass jar	To be determined
209-18	-	Historic	Trash scatter	To be determined
209-24	-	Historic	Trash scatter	To be determined
209-25	-	Historic	GLO survey marker	To be determined
209-30	-	Historic	Trash scatter	To be determined
209-32	-	Historic	Trash scatter	To be determined

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Table 3.6-3. Archaeological and Built Environment Resources Within the VEGA 2[1]

Field Number 2020-*	Primary Number P-13-	Age/Period	Site Description	NRHP/CRHR Eligibility
209-36	-	Historic	GLO survey marker	To be determined
209-39	-	Historic	Trash scatter	To be determined
209-40	-	Historic	GLO survey marker	To be determined
209-41	-	Historic	Trash scatter	To be determined
209-46	-	Historic	Trash scatter	To be determined
209-51	-	Historic	Trash scatter	To be determined
209-53	-	Historic	Trash scatter	To be determined
209-55	-	Historic	Trash scatter	To be determined
209-62	-	Historic	Trash scatter	To be determined
209-64	-	Historic	Trash scatter	To be determined
209-65	-	Historic	Trash scatter	To be determined
209-88	-	Historic	Trash scatter	To be determined
209-91	-	Historic	Trash scatter	To be determined
209-93	-	Historic	Trash scatter	To be determined
209-95	-	Historic	Trash scatter	To be determined
209-96	-	Historic	Road	To be determined
209-99	-	Historic	Trash scatter	To be determined
209-101	-	Historic	Trash scatter	To be determined
209-103	-	Historic	Trash scatter	To be determined

Notes:

[1] Does not include resources determined to be not eligible as identified on Table 7 of the Archaeological and Built Environment Resources Inventory Report (Appendix G of this EIR).

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Table 3.6-4. Archaeological and Built Environment Resources Within the VEGA 3 Site[1]

Field Number 2020-*	Primary Number P-13-	Age/Period	Site Description	NRHP/CRHR Eligibility
199-05	-	Historic	Two military fighting positions and associated refuse	Not evaluated
199-07	-	Historic	Transmission line foundation	Not evaluated
199-10	-	Historic	Circular depression and metal refuse scatter	Not evaluated
199-11	-	Historic	Section marker	Not evaluated
199-17	-	Historic	Earthen levee	Not evaluated

Notes:

1 Does not include resources determined to be not eligible as identified on Table 8 of the Archaeological and Built Environment Resources Inventory Report (Appendix G of this EIR).

Table 3.6-5. Archaeological and Built Environment Resources Within the VEGA 5 Site[1]

Field Number 2020-*	Primary Number P-13-	Age/Period	Site Description	NRHP/CRHR Eligibility
-	147	Pre-contact	Village – house pits, milling, pumice, hearths, lithics, cremation, shell beads and pendants	Recommended eligible for NRHP (von Werlhof 1981:14)
-	4934	Pre-contact	Seasonal camp	Not evaluated
-	5487	Historic	Refuse scatter	Not evaluated
-	5488	Historic	Refuse scatter	Not evaluated
-	8333	Historic	East Highline Canal	Not evaluated
-	8735	Historic	Refuse scatter	Not evaluated
-	11377	Historic	GLO survey marker, one glass shard, one plate	To be determined
144-V5-01	-	Historic	GLO survey marker	Not evaluated
144-V5-02	-	Historic	Refuse scatter	Not evaluated
144-V5-07	-	Historic	Refuse scatter	Not evaluated
144-V5-08	-	Historic	Refuse scatter	Not evaluated
144-V5-09	-	Historic	Noffsinger Road	Not evaluated
144-11	-	Historic	Refuse scatter	Not evaluated
144-12	-	Historic	Refuse scatter	Not evaluated
144-14	-	Historic	Refuse scatter	Not evaluated

Notes:

[1] Does not include resources determined to be not eligible as identified on Table 9 of the Archaeological and Built Environment Resources Inventory Report (Appendix G of this EIR).

Page 3.6-19:

PRE-CONTACT FISHING VILLAGE: P-13-147

Resource P-13-147 was originally recorded prior to 1960 as a fishing village on the relict shoreline of Lake Cahuilla. The original record notes the presence of manos and metates, hearths, modified pumice, arrowheads, shell beads and pendants, ceramics, and two cremations with associated goods. In 1981, this site was recommended as eligible for inclusion in the NRHP.

During the current survey, the site description appears to be accurate, though portions of the site have eroded. A modern vehicle trail cuts through the site from Siphon 5 Wash heading north. Historic and modern refuse is visible in scattered areas. Portions of the site may have been destroyed as a result of gravel operations. Although mentioned in original site records, no pendants or cremations were seen during the revisit. Two possible house pits were observed and recorded as well. Hearths/thermal features, groundstone, flakedstone, ceramics (sherds), faunal remains (fish and mammal) were observed and recorded during the survey. The majority of resources observed were located closer to the 40-foot elevation shoreline of Lake Cahuilla, which has partially been removed during gravel operations.

CR-1 Cultural Resources Management Plan

Project proponent will develop a cultural resources management plan (CRMP) to outline the process for compliance with applicable cultural resources laws, management of resources during operation, and consideration of the effect of decommissioning. ~~t~~The CRMP ~~should~~ shall include the following: identification of California Native American tribes, identification of long and short term management goals for cultural resources within the project area, evaluation of eligibility for the CRHR and NRHP for all resources within the project area as identified on EIR Tables 3.6-4, 3.6-5 and 3.6-6, recommendations for eligibility for the CRHR and NRHP, description of measures to avoid, minimize, ~~or~~ and reduce significant impacts to ~~historical~~ cultural resources (including both historical and archaeological resources) ~~and historic properties~~, unanticipated discovery procedures, monitoring needs, data recovery of significant cultural resources where avoidance is not possible, curation procedures for recovered artifacts, anticipated personnel requirements and qualifications. The CRMP shall specifically address pre-contact fishing village site Resource P-13-147 and all resources identified in EIR Tables 3.6-3, 3.6-4 and 3.6-5. The draft CRMP ~~should~~ shall be prepared by a registered professional archaeologist and reviewed and approved by the County of Imperial Planning and Development Services Department ~~lead agency~~.

Page 3.6-20:

CR-2 Cultural Resources Training

Project proponent will provide cultural resources training for all project personnel regarding the laws protecting cultural resources, appropriate conduct in the field, and other project-specific issues identified in the CRMP prepared for each site as required by Mitigation Measure CR-1.

Page 3.6-21:

CR-5 Discovery of Human Remains

Section 3.7 Geology and Soils

Page 3.7-12:

However, given that the project sites are underlain by sand and clay, there is a potential for liquefaction to occur on the project sites. Liquefied soil loses its density and the ability to support heavy objects such as roads and structures. Unless properly mitigated, the project facilities (solar panels, substations, BESS, and gen-tie line) could be damaged by these types of soils.

Section 3.9 Hazards and Hazardous Materials

Page 3.9-4:

The concentrations of these pesticides found on other Imperial Valley agricultural sites are typically less than 25 percent of the current regulatory threshold limits and are not considered a significant environmental hazard. This is considered a de minimis condition. A de minimis condition is a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis conditions are not recognized environmental conditions nor controlled recognized environmental conditions. The presence and concentration of near surface pesticides at the VEGA SES 5 project site can be accurately characterized only by site-specific sampling and testing.

Page 3.9-11:

According to the historical records search, the VEGA SES 5 project site has been in agricultural use intermittently and/or vacant since the 1960s. Typical agricultural practices in the Imperial Valley consist of aerial and ground application of pesticides and the application of chemical fertilizers to both ground and irrigation water. GS Lyon professionals have reported that concentrations of pesticides are limited and typically less than 25 percent of the current regulatory threshold limits of EPA preliminary remediation goals. This is considered a de minimis condition.

Section 3.10 Hydrology/Water Quality

Page 3.10-2:

The East Highline Canal supplies water to the Imperial Valley via smaller lateral canals and drains that ultimately drain to the Salton Sea (Appendix F1 of this EIR). Additional hydrologic features include the presence of two training dikes located primarily within the VEGA SES 2 site. The locations of these dikes are depicted on Figure 2-2. As shown, one dike extends northerly from the Coachella Canal through APN #025-010-006 (VEGA SES 2) and a portion of APN #025-010-006 (VEGA SES 3).

Page 3.10-16:

HYD-1 **Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration.** The project applicant or its contractor shall prepare an SWPPP specific to the projects and be responsible for securing coverage under SWRCB's NPDES

storm water permit for general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of storm water pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the appropriate agency, including the County of Imperial Department of Public Works and the Coachella Valley Water District, prior to commencement of work and shall be made conditions of the contract with the contractor selected to build and decommission the projects. The SWPPP shall incorporate control measures in the following categories:

Pages 3.10-16 through 3.10-17:

HYD-2 **Incorporate Post-Construction Runoff BMPs into Project Drainage Plan.** The project Drainage Plan shall adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of storm water to existing drainage systems. Infiltration basins will be integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary. The Drainage Plan shall be submitted to the County of Imperial Department of Public Works and Coachella Valley Water District for review and approval.

Page 3.10-19:

Additionally, implementation of Mitigation Measure HYD-2 requires that the projects' Drainage Plans adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of storm water to existing drainage systems. All hydrologic features would be considered as part of the preparation of detailed drainage plans prepared as part of final engineering for the project. This would include existing drainage facilities, such as the existing training dikes located within VEGA 2 and VEGA 3. ~~As such,~~ ~~i~~Infiltration basins will be integrated into the Drainage Plan to the maximum extent practical.

Section 3.11 Land Use Planning

Page 3.11-3:

Revised Figure 3.11-1 to show correct VEGA SES 5 gen-tie alignment.

Page 3.11-5:

Revised Figure 3.11-2 to show correct VEGA SES 5 gen-tie alignment.

Pages 3.11-8 through 3.11-9:

Desert Renewable Energy Conservation Plan

The Desert Renewable Energy Conservation Plan (DRECP) is a collaborative, interagency landscape-scale planning effort covering 22.5 million acres of the Mojave and Colorado/Sonoran desert regions

within seven California counties including Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego. The plan was developed through a collaborative effort by the Renewable Energy Action Team Agencies (REAT Agencies; also known as the DRECP partner agencies), which consists of the BLM, U.S. Fish and Wildlife Service (USFWS), California Energy Commission (CEC), and California Department of Fish and Wildlife (CDFW). The vision for the DRECP is to (US Bureau of Land Management 2016):

1. Advance federal and state natural resource conservation goals and other federal land management goals.
2. Meet the requirements of the federal Endangered Species Act (ESA) and Federal Land Policy and Management Act (FLPMA).
3. Facilitate the timely and streamlined permitting of renewable energy projects.

The DRECP Area contains both federal and non-federal California desert land. Some of these lands are designated as California Desert Conservation Areas. The federal portion of the plan area was released by the BLM as a Land Use Plan Amendment. The DRECP Land Use Plan Amendment supports the conservation goals of the DRECP and organizes land into ecoregions and subregions with specific management goals, objectives, allowable uses, and management actions for biological and cultural resources. The BLM designates Areas of Critical Environmental Concern where special management attention is needed to protect important historical, cultural, and scenic values, or fish and wildlife or other natural resources. The BLM also designates Renewable Energy Development Focus Areas which are on BLM-administered lands within which solar, wind, and geothermal renewable energy development and associated activities are allowable uses and that have been determined to be of low or lower resource conflict. The intent is to incentivize and streamline such development in these areas.

Section 3.13 Transportation

Page 3.13-6:

Revised Figure 3.13-2 to show correct VEGA SES 5 gen-tie alignment.

Section 3.15 Utilities and Service Systems

Pages 3.15-7 through 3.15-8:

Table 3.15-1 provides the estimated water needs for construction and operation of the projects. The construction water demand is primarily for dust control. Thus, the water needs are proportional to the size of the disturbed area and the local climate. The construction water needs are typically in the range of 0.5 acre-feet of water per project acre. Construction of the VEGA SES 2 and 3 projects is expected to occur simultaneously, and the combined construction water demand is approximately ~~630~~775 acre-feet. Construction is anticipated to require 12 to 18 months to complete. Thus, the monthly water demand during that period may range from ~~35~~43 acre-feet to ~~52~~65 acre-feet, on average (Appendix L1 of this EIR).

Table 3.15-1. Project Water Demand

Site	Area (acres)	Output (megawatts)	Construction Water (acre-feet)	Operational Water (acre-feet per year)
VEGA SES 2	1,323	240	~~630~~775 (Total combined)	~~10~~24
VEGA SES 3	230	60		~~2~~6
VEGA SES 5	410	50	~~365~~205	~~20~~5

Source: Appendix L1 and L2 of this EIR

Construction of the VEGA SES 5 project would have a construction water demand of approximately ~~365~~205 acre-feet. Construction is anticipated to require 12 months to complete. Thus, the monthly water demand during that period will average about ~~30~~17 acre-feet (Appendix L2 of this EIR).

The operational water demand for panel washing and other maintenance needs is based primarily on the number of panels, which relates to the energy production or output, in megawatts alternative current (MW-AC). The operational water needs are typically in the range of 0.1 acre-feet of water per MW-AC. The operational water demand is anticipated to range from ~~10~~24 acre-feet per year for VEGA SES 2 to ~~two~~6 acre-feet per year for VEGA SES 3. The operational water demand is anticipated to be 5 acre-feet per year for VEGA SES 5. The maintenance activities for each system are anticipated to be conducted up to twice a year over a one-to-two-week period each event, so the maintenance water demand is intermittent and not spread throughout the year. The operational water demand will occur throughout the life of the projects.

Page 3.15-9:

The total groundwater storage capacity of the Basin is estimated to be 360,000 acre-feet and the groundwater level decline from 1979 to 2018 decreased groundwater storage by approximately six percent. Thus, the current storage in the Basin may be in the range of 335,000 to 340,000 acre-feet. The VEGA SES 2 and 3 projects' single year combined construction water demand of ~~630~~775 acre-feet and the annual combined operational water needs of ~~12~~30 acre-feet are miniscule (0.25 percent and 0.~~00~~4009 percent, respectively) compared to the available groundwater in storage (Appendix L1 of this EIR). The VEGA SES 5 project's single year construction water demand of ~~365~~205 acre-feet and the annual combined operational water needs of ~~20~~5 acre-feet are miniscule (~~0.1~~0.06 percent and ~~0.0060~~0.0015 percent, respectively) compared to the available groundwater in storage (Appendix L1 and L2 of this EIR). Furthermore, the long term annual operational water needs are much less than the estimated annual recharge of 200 acre-feet per year. Overall, there is adequate water available to supply the projects' water needs during single dry, and multiple dry year periods.

Page 3.15-10:

The VEGA SES 2 and 3 projects have a maximum estimated cumulative one-year total water demand of ~~630~~775 AF over 12 to 18 months, primarily for dust control. The operational demand is anticipated to be a combined total of ~~12~~30 acre-feet per year for panel washing and other maintenance activities. The annual operational water needs are equivalent to ~~six~~15 percent of the average annual recharge and 0.~~00~~4009 percent of the estimated current storage volume of the Basin (Appendix L1 of this EIR).

The VEGA SES 5 project has a maximum estimated cumulative one-year total water demand of ~~365~~205 AF over 12 months, primarily for dust control. The operational demand is anticipated to be ~~20~~5 acre-feet per year for panel washing and other maintenance activities. The annual operational water

needs are equivalent to ~~10~~2.5 percent of the average annual recharge and ~~0.006~~0.0015 percent of the estimated current storage volume of the Basin (Appendix L2 of this EIR).

The construction water demand exceeds the reported average annual recharge to the Basin of 200 acre-feet per year. However, the construction water needs are short-term and temporary. This temporary water use is not anticipated to cause persistent and long-term lowering of groundwater levels. Therefore, the construction water demand will not cause or contribute to overdraft, exhaustion of water supplies, lowering of groundwater levels to depths that would be uneconomic for pumping, land subsidence, or significant alteration of groundwater quality.

The annual operational water needs of the projects combined would be ~~16~~17.5 percent of the annual recharge and ~~0.0010~~0.0105 percent of the estimated current storage volume of the Basin. Therefore, the long-term operation and maintenance of the projects would not have any measurable effect or impact on groundwater resources in the Basin.

Section 9 EIR Preparers and Persons and Organizations Contacted

Page 9-2:

The following persons and organizations were contacted in preparation of this document:

- Imperial Irrigation District
- Bureau of Land Management
- Bureau of Reclamation
- Coachella Valley Water District

Technical Appendices

The VEGA SES 2 and 3 Water Supply Assessment (Appendix L1 of the Final EIR) and the VEGA SES 5 Water Supply Assessment (Appendix L2 of the Final EIR) were revised to include water demand factors that are consistent with other solar photovoltaic projects in Imperial County.

C. California Environmental Quality Act Requirements and Findings Supporting Decision Not To Recirculate

CEQA Section 15088.5(e) requires that an EIR which has been made available for public review, but not yet certified, be recirculated whenever significant new information has been added to the EIR. The entire document need not be recirculated, if revisions are limited to specific portions of the document. The recirculated portions or document must be sent to responsible and trustee agencies for consultation and fresh public notice must be given in the manner provided for a draft EIR. However, new information is not presumed to be significant simply because it is new. Indeed, pursuant to State CEQA Guidelines Section 15088.5:

> New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect . . . that the project's proponents have declined to implement. State CEQA Guidelines, § 15088.5(a):

> In order to be "significant," the new information requiring recirculation includes, for example, a disclosure showing that:
>
> > (1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
> >
> > (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
> >
> > (3) A feasible project alternative or mitigation measure considerably different from other previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponent decline to adopt it.
> >
> > (4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. (State CEQA Guidelines, §15088.5(a)(1)-(4); *Laurel Heights II*, 6 Cal.4th at 1120.)

It is common, and in most cases necessary, to amplify and elaborate on the analysis of an EIR. CEQA anticipates this and such amplification does not constitute significant new "information" unless it triggers one of the four categories described in State CEQA Guidelines Section 15088.5(a). State CEQA Guidelines Section 15088.5(b) provides that "recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR."

Based upon review of the minor corrections and additions identified in Section B above, the minor corrections and additions do not result in any new or substantially increased significant impacts. Therefore, the County has concluded that recirculation of the Draft EIR is not required.

0.4 Mitigation Monitoring and Reporting Program

The County of Imperial will adopt this Mitigation Monitoring and Reporting Program (MMRP) in accordance with Public Resources Code (PRC) Section 21081.6 and Section 15097 of the California Environmental Quality Act (CEQA) Guidelines. The purpose of the MMRP is to ensure that the VEGA SES 2, 3, and 5 Solar Energy Project, which is the subject of the Environmental Impact Report (EIR), complies with all applicable environmental mitigation requirements. The mitigation measures for the project will be adopted by the County of Imperial, in conjunction with the certification of the Final EIR. The mitigation measures have been integrated into this MMRP.

The mitigation measures are provided in Table 0.4-1. The specific mitigation measures are identified, as well as the monitoring method, responsible monitoring party, monitoring phase, verification/approval party, date mitigation measure verified or implemented, location of documents (monitoring record), and completion requirement for each mitigation measure.

The mitigation measures applicable to the project include avoiding certain impacts altogether, minimizing impacts by limiting the degree or magnitude of the action and its implementation, and/or reducing or eliminating impacts over time by maintenance operations during the life of the action.

Public Resources Code Section 21081.6 requires the Lead Agency, for each project that is subject to CEQA, to monitor performance of the mitigation measures included in any environmental document to ensure that implementation does, in fact, take place. The County of Imperial is the designated CEQA lead agency for the Mitigation Monitoring and Reporting Program. The County of Imperial is responsible for review of all monitoring reports, enforcement actions, and document disposition as it relates to impacts within the County's jurisdiction. The County of Imperial will rely on information provided by the monitor as accurate and up to date and will field check mitigation measure status as required.

A record of the MMRP will be maintained at County of Imperial, Department of Planning and Development Services, 801 Main Street, El Centro, CA 92243. All mitigation measures contained in the EIR shall be made conditions of the project as may be further described below.

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
Agricultural Resources								
AG-1	Prior to the issuance of a grading permit or building permit (whichever occurs first), a Pest Management Plan shall be developed by the project applicant and approved by the County of Imperial Agricultural Commissioner. The project applicant shall maintain a Pest Management Plan until reclamation is complete. The plan shall provide the following: 1. Monitoring, preventative, and management strategies for weed and pest control during construction activities at any portion of the project (e.g., transmission line); 2. Control and management of weeds and pests in areas temporarily disturbed during construction where native seed will aid in site revegetation as follows: • Monitor for all pests including insects, vertebrates, weeds, and pathogens. Promptly control or eradicate pests when found, or when notified by the Agricultural Commissioner's office that a pest problem is present on the project site. The assistance of a licensed pest control advisor is recommended. All treatments must be performed by a qualified applicator or a licensed pest control business. • All treatments must be performed by a qualified applicator or a licensed pest control operator. • "Control" means to reduce the population of common pests below economically damaging levels, and includes attempts to exclude pests before infestation, and effective control methods after infestation. Effective control methods may include physical/mechanical removal, bio control, cultural control, or chemical treatments. • Use of "permanent" soil sterilants to control weeds or other pests is prohibited because this would interfere with reclamation.	The Department of Planning and Development Services shall verify that a Pest Management Plan has been reviewed and approved by the Imperial County Agricultural Commissioner.	Department of Planning and Development Services and Imperial County Agricultural Commissioner	Prior to the issuance of a grading permit or building permit, during construction	Department of Planning and Development Services and Imperial County Agricultural Commissioner			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of Food Agriculture and the U.S. Department of Agriculture. Request a sample be taken by the Agricultural Commissioner's Office of a suspected invasive species. Eradication of exotic pests shall be done under the direction of the Agricultural Commissioner's Office and/or California Department of Food and Agriculture. • Obey all pesticide use laws, regulations, and permit conditions. • Allow access by Agricultural Commissioner staff for routine visual and trap pest surveys, compliance inspections, eradication of exotic pests, and other official duties. • Ensure all project employees that handle pest control issues are appropriately trained and certified, all required records are maintained and made available for inspection, and all required permits and other required legal documents are current. • Maintain records of pests found and treatments or pest management methods used. Records should include the date, location/block, project name (current and previous if changed), and methods used. For pesticides include the chemical(s) used, EPA Registration numbers, application rates, etc. A pesticide use report may be used for this.							

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• Submit a report of monitoring, pest finds, and treatments, or other pest management methods to the Agricultural Commissioner quarterly within 15 days after the end of the previous quarter, and upon request. The report is required even if no pests were found or treatment occurred. It may consist of a copy of all records for the previous quarter, or may be a summary letter/report as long as the original detailed records are available upon request. 3. A long-term strategy for weed and pest control and management during the operation of the proposed project. Such strategies may include, but are not limited to: • Use of specific types of herbicides and pesticides on a scheduled basis. 4. Maintenance and management of project site conditions to reduce the potential for a significant increase in pest-related nuisance conditions on surrounding agricultural lands. 5. The project shall reimburse the Agricultural Commissioner's office for the actual cost of investigations, inspections, or other required non-routine responses to the site that are not funded by other sources.							
Air Quality								
AQ-1	**Fugitive Dust Control.** During construction activities, the constructor contractor shall employ the following PM_{10} reducing measures: • All unpaved roads associated with construction shall be effectively stabilized of dust emissions using Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant before the commencement of construction, and every 30 days thereafter until the end of all construction activities. Unpaved roads associated with construction include: • The 1.65 miles of unpaved road on Weist Road and Flowing Wells Road to the VEGA SES 2 and	Prior to construction, a dust control plan shall be prepared and approved by ICAPCD and ICPDS.	Department of Planning and Development Services and ICAPCD	Prior to and during construction	Department of Planning and Development Services and ICAPCD			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	3 project sites. Monthly application of Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant shall be applied at a rate of 0.1 gallon/square yard of chemical dust suppressant. • Prior to any earthmoving activity, the applicant shall submit a construction dust control plan and obtain Imperial County Air Pollution Control District and Imperial County Planning and Development Services Department (ICPDS) approval. • Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII – Fugitive Dust Control Measures. Whereas these Regulation VIII measures are mandatory and are not considered project environmental mitigation measures, the ICAPCD CEQA Handbook's required additional standard and enhanced mitigation measures listed below shall be implemented prior to and during construction. ICAPCD will verify implementation and compliance with these measures as part of the grading permit review/approval process. ***ICAPCD Standard Measures for Fugitive Dust (PM_{10}) Control*** • All disturbed areas, including bulk material storage, which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material, such as vegetative ground cover. • All on-site and offsite unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering. • All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity							

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering. • The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material. • All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area. • Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line. • The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants, and/or watering. ***ICAPCD "Discretionary" Measures for Fugitive Dust (PM_{10}) Control*** • Water exposed soil only in those areas where active grading and vehicle movement occurs with adequate frequency to control dust. • Replace ground cover in disturbed areas as quickly as possible. • Automatic sprinkler system installed on all soil piles. • Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site. • Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees.							

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• Implement a shuttle service to and from retail services and food establishments during lunch hours. ***Standard Mitigation Measures for Construction Combustion Equipment*** • Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum. • Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use. • Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set). ***Enhanced Mitigation Measures for Construction Equipment*** To help provide a greater degree of reduction of PM emissions from construction combustion equipment, ICAPCD recommends the following enhanced measures. • Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways. • Implement activity management (e.g., rescheduling activities to reduce short-term impacts).							

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
AQ-2	**Construction Equipment.** Construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at the project sites by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit. The equipment list shall be submitted periodically to ICAPCD to perform a NO_x analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds. The Planning and Development Services Department and ICAPCD shall verify implementation of this measure.	Prior to the issuance of a grading permit, ICAPCD shall verify that construction equipment are equipped with an engine designation of EPA Tier 2 or better. The equipment list shall be submitted periodically to ICAPCD to perform a NOx analysis.	Department of Planning and Development Services and ICAPCD	Prior to the issuance of a grading permit and during construction	Department of Planning and Development Services and ICAPCD			
AQ-3	**Dust Suppression.** The project applicant shall employ a method of dust suppression (such as water or chemical stabilization) approved by ICAPCD. The project applicant shall apply chemical stabilization as directed by the product manufacturer to control dust between the panels as approved by ICAPCD, and other non-used areas (exceptions will be the paved entrance and parking area, and Fire Department access/emergency entry/exit points as approved by Fire/ Office of Emergency Services [OES] Department). All chemicals used for stabilization of Flowing Wells Road must be approved by BLM.	During construction, the Department of Planning and Development Services shall verify that the project applicant is employing a method of dust suppression approved by ICAPCD.	Department of Planning and Development Services	During construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
APM AQ-4	**Operational Dust Control Plan.** Prior to issuance of a Certificate of Occupancy, the applicant shall submit an operations dust control plan and obtain ICAPCD and ICPDS approval. ICAPCD Rule 301 Operational Fees apply to any project applying for a building permit. At the time that building permits are submitted for the proposed project, the ICAPCD shall review the project to determine if Rule 310 fees are applicable to the project.	Prior to the issuance of a Certificate of Occupancy, the applicant shall submit an operations dust control plan and obtain ICAPCD and ICPDS approval.	Department of Planning and Development Services	Prior to the issuance of a Certificate of Occupancy	Department of Planning and Development Services and ICAPCD			
Biological Resources								
BIO-1a	**Rare Plant Surveys.** Prior to initiating ground disturbance, rare plant surveys shall be conducted within suitable habitat on the VEGA SES 2 and 3 project sites during the appropriate blooming period for gravel milk-vetch, Wiggins' croton, glandular ditaxis, sand food, and Munz's cholla. The surveys shall be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If project-related impacts to rare plants on the project sites are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements.	Prior to initiating ground disturbance, rare plant surveys shall be conducted.	Department of Planning and Development Services	Prior to construction, during construction, and post-construction	Department of Planning and Development Services			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
BIO-1b	**Rare Plant Surveys.** Prior to initiating ground disturbance, rare plant surveys shall be conducted within suitable habitat on the VEGA SES 5 project site during the appropriate blooming period for Salton milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster. The surveys shall be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If project-related impacts to rare plants on the project sites are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements.	Prior to initiating ground disturbance, rare plant surveys shall be conducted.	Department of Planning and Development Services	Prior to construction, during construction, and post-construction	Department of Planning and Development Services			
BIO-2	**pact Avoidance and Minimization Measures.** The following measures will be applicable throughout the life of the projects: • To reduce the potential indirect impact on migratory birds, bats and raptors, the project shall comply with the APLIC 2012 Guidelines for overhead utilities, as appropriate, to minimize avian collisions with transmission facilities (APLIC 2012) • All electrical components on the project sites shall be either undergrounded or protected so that there will be no exposure to wildlife and therefore no potential for electrocution.	Prior to and during construction a Project Biologist shall be designated and responsible for overseeing compliance with avoidance and minimization measures	Department of Planning and Development Services	Prior to construction, during construction	Department of Planning and Development Services			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• The project proponent shall designate a Project Biologist who shall be responsible for overseeing compliance with protective measures for biological resources during vegetation clearing and work activities within and adjacent to areas of native habitat. The Project Biologist shall be familiar with the local habitats, plants, and wildlife. The Project Biologist shall also maintain communications with the Contractor to ensure that issues relating to biological resources are appropriately and lawfully managed and shall monitor construction. The Project Biologist shall monitor activities within construction areas during nesting bird season (generally February 1 to September 15), such as vegetation removal, the implementation of Best Management Practices (BMPs), and installation of security fencing to protect native species. The Project Biologist shall ensure that all wildlife and regulatory agency permit requirements, conservation measures, and general avoidance and minimization measures are properly implemented and followed. • The boundaries of all areas to be newly disturbed (including solar facility areas, staging areas, access roads, and sites for temporary placement of construction materials and spoils) shall be delineated with stakes and flagging prior to disturbance. All disturbances, vehicles, and equipment shall be confined to the flagged areas. • No potential wildlife entrapments (e.g., trenches, bores) shall be left uncovered overnight. Any uncovered pitfalls will be excavated to 3:1 slopes at the ends to provide wildlife escape ramps. Alternatively, man-made ramps may be installed. Covered pitfalls will be covered completely to prevent access by small mammals or reptiles. • To avoid wildlife entrapment (including birds), all pipes or other construction materials or supplies shall be covered or capped in storage or laydown areas, and at the end of each work day in construction, quarrying and							

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	processing/handling areas. No pipes or tubing of sizes or inside diameters ranging from 1 to 10 inches shall be left open either temporarily or permanently. • No anticoagulant rodenticides, such as Warfarin and related compounds (indandiones and hydroxycoumarins), shall be used within the project sites, on off-site project facilities and activities, or in support of any other project activities. • Avoid wildlife attractants. All trash and food-related waste shall be placed in self-closing containers and removed regularly from the sites to prevent overflow. Workers shall not feed wildlife. Water applied to dirt roads and construction areas for dust abatement shall use the minimal amount needed to meet safety and air quality standards to prevent the formation of puddles, which could attract wildlife. Pooled rainwater or floodwater within retention basins shall be removed to avoid attracting wildlife to the active work areas. • To minimize the likelihood for vehicle strikes on wildlife, speed limits shall not exceed 15 miles per hour when driving on access roads. All vehicles required for O&M must remain on designated access/maintenance roads. • Avoid nighttime construction lighting or if nighttime construction cannot be avoided, use shielded directional lighting pointed downward and towards the interior of the project sites, thereby avoiding illumination of adjacent natural areas and the night sky. • All construction equipment used for the projects shall be equipped with properly operating and maintained mufflers. • Hazardous materials and equipment stored overnight, including small amounts of fuel to refuel hand-held equipment, shall be stored within secondary containment when within 50 feet of open water to the fullest extent practicable. Secondary containment shall consist of a ring of sand bags around each piece of stored equipment/structure. A plastic							

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	tarp/visqueen lining with no seams shall be placed under the equipment and over the edges of the sandbags, or a plastic hazardous materials secondary containment unit shall be utilized by the Contractor. • The Contractor will be required to conduct vehicle refueling in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species. Any fuel containers, repair materials, including creosote-treated wood, and/or stockpiled material that is left on site overnight, shall be secured in secondary containment within the work area and staging/assembly area and covered with plastic at the end of each work day. • In the event that no activity is to occur in the work area for the weekend and/or a period of time greater than 48 hours, the Contractor shall ensure that all portable fuel containers are removed from the project sites. • All equipment shall be maintained in accordance with manufacturer's recommendations and requirements. • Equipment and containers shall be inspected daily for leaks. Should a leak occur, contaminated soils and surfaces will be cleaned up and disposed of following the guidelines identified in the Stormwater Pollution Prevention Plan or equivalent, Materials Safety Data Sheets, and any specifications required by other permits issued for the projects. • The Contractor shall utilize off-site maintenance and repair shops as much as possible for maintenance and repair of equipment. • If maintenance of equipment must occur onsite, fuel/oil pans, absorbent pads, or appropriate containment will be used to capture spills/leaks within all areas. Where feasible, maintenance of equipment shall occur in upland areas where fuel cannot enter waters of the U.S. and in areas that do not							

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	have potential to support federally threatened or endangered species. • Appropriate BMPs shall be used by the Contractor to control erosion and sedimentation and to capture debris and contaminants from construction to prevent their deposition in waterways. • Erosion and sediment control devices used for the proposed projects, including fiber rolls and bonded fiber matrix, shall be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard. • Firearms, open fires, and pets shall be prohibited at all work locations and access roads. Smoking shall be prohibited along the project alignment. • Cross-country vehicle and equipment use outside of approved designated work areas and access roads shall be prohibited to prevent unnecessary ground and vegetation disturbance. • Any injured or dead wildlife encountered during project-related activities shall be reported to the project biologist, biological monitor, CDFW, or a CDFW-approved veterinary facility as soon as possible to report the observation and determine the best course of action. For special-status species, the Project Biologist shall notify the County, USFWS, and/or CDFW, as appropriate, within 24 hours of the discovery. • Stockpiling of material shall only be allowed within established work areas. • The Contractor shall actively manage the spread of noxious weeds by implementing weed control activities. The introduction of exotic, nonnative, weed, and/or invasive plant species will be avoided and controlled wherever possible, and may be achieved through physical or chemical removal and prevention, limiting the size of any vegetation and/or ground disturbance to the absolute minimum, and limiting ingress and egress to							

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	defined routes. Preventing exotic plants from entering the sites via vehicular sources will include measures such as cleaning vehicles coming into and going from the sites. All equipment will be cleaned and inspected prior to transport to the sites. • The ground beneath all parked equipment and vehicles shall be inspected for wildlife before moving.							
BIO-3	**Worker Environmental Awareness Program.** Prior to project construction, a Worker Environmental Awareness Program shall be developed and implemented by a qualified biologist and shall be available in both English and Spanish. Handouts summarizing potential impacts on special-status biological resources and the potential penalties for impacts on these resources shall be provided to all construction personnel. At a minimum, the education program shall including the following: • the purpose for resource protection; • a description of special-status species including representative photographs and general ecology; • occurrences of USACE, RWQCB, and CDFW regulated features in the project study area; • regulatory framework for biological resource protection and consequences if violated • sensitivity of the species to human activities; • avoidance and minimization measures designed to reduce the impacts on special-status biological resources • environmentally responsible construction practices; • reporting requirements; • the protocol to resolve conflicts that may arise at any time during the construction process; and • workers sign acknowledgement form indicating that the Environmental Awareness Training and Education	Prior to construction, the Department of Planning and Development Services shall verify that a Worker Environmental Awareness Program has been implemented by a qualified biologist. The Department of Planning and Development Services shall verify the completion of the Worker Environmental Awareness Program by obtaining signed acknowledgements forms from workers.	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	Program that has been completed, which shall be kept on record.							
BIO-4	**Burrowing Owl Avoidance and Minimization.** Take avoidance (pre-construction) surveys for burrowing owl shall be completed prior to project construction. Surveys shall be conducted as detailed within Appendix D of the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game [CDFG] 2012). If burrowing owl is not detected, construction may proceed. • If burrowing owl is identified during the non-breeding season (September 1 through January 31), then a 50-meter buffer will be established by the biological monitor. Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until a CDFW-approved exclusion plan has been implemented. The buffer distance may be reduced if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities. • If burrowing owl is identified during the breeding season (February 1 through August 31), then an appropriate buffer will be established by the biological monitor in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012). Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until young have fledged. The buffer distance may be reduced in consultation with CDFW if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities.	Prior to construction, the Department of Planning and Development Services shall verify that pre-construction surveys for burrowing owl were conducted. If burrowing owl are present, the measures as listed in Mitigation Measure BIO-4 shall be implemented.	Department of Planning and Development Services	During construction	Department of Planning and Development Services			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
BIO-5	**Pre-Construction Nesting Bird Survey.** If construction or other project activities are scheduled to occur during the bird breeding season (typically February 1 through August 31 for raptors and February 15 through August 31 for the majority of migratory bird species), a pre-construction nesting-bird survey shall be conducted by a qualified avian biologist to ensure that active bird nests, including those for loggerhead shrike, black-tailed gnatcatcher, and burrowing owl, will not be disturbed or destroyed. The survey shall be completed no more than three days prior to initial ground disturbance. The nesting-bird survey shall include the project site and adjacent areas where project activities have the potential to affect active nests, either directly or indirectly, due to construction activity or noise. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist. If construction activities cease for a period of greater than three days during the bird breeding season, a pre-construction nesting bird survey shall be conducted prior to the commencement of activities. Final construction buffers or setback distances shall be determined by the qualified biologist in coordination with USFWS and CDFW on a case-by-case basis, depending on the species, season in which disturbance shall occur, the type of disturbance, and other factors that could influence susceptibility to disturbance (e.g., topography, vegetation, existing disturbance levels, etc.).	Prior to construction, the Department of Planning and Development Services shall verify that a pre-construction nesting bird survey was conducted. If nesting birds are present, the measures as listed in Mitigation Measure BIO-5 shall be implemented.	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
BIO-6a	**Pre-Construction Survey for Special-Status Species.** A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 2 and 3 project sites or that were identified as having a high potential to occur on the sites. These species include, but are not limited to, burrowing owl, loggerhead shrike, California black rail, and black-tailed gnatcatcher. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.	Prior to construction, the Department of Planning and Development Services shall verify that a pre-construction survey for special-status species was conducted. If special status species are present, the measures as listed in Mitigation Measure BIO-6a shall be implemented.	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			
BIO-6b	**Pre-Construction Survey for Special-Status Species.** A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 5 project site or that were identified as having a high potential to occur on the site. These species include, but are not limited to, mountain plover, California black rail, merlin, Yuma hispid cotton rat, burrowing owl, black-tailed gnatcatcher, and loggerhead strike. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.	Prior to construction, the Department of Planning and Development Services shall verify that a pre-construction survey for special-status species was conducted. If special status species are present, the measures as listed in Mitigation Measure BIO-6b shall be implemented.	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
BIO-7a	**Sensitive Habitat Avoidance.** To the greatest extent possible, plans should avoid impacts on blue palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets habitats within the VEGA SES 2 and 3 project sites to minimize potential impacts on special-status species. Excluding these habitats from the projects should also minimize mitigation and permitting requirements to meet the less-than-significance threshold.	Prior to construction as part of final engineering plans	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			
BIO-7b	**Sensitive Habitat Avoidance.** To the greatest extent possible, plans should avoid impacts on bush seepweed scrub and tamarisk thicket habitats within the VEGA SES 5 project site to minimize potential impacts to special-status species. Excluding these habitats from the project should also minimize mitigation and permitting requirements to meet the less-than-significance threshold.	Prior to construction as part of final engineering plans	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
BIO-8	**Aquatic Resources Regulatory Permitting.** If project-related impacts occur to the riparian areas that may also fall under the jurisdiction of the USACE, CDFW, or RWQCB a regulatory permit with those agencies will be needed prior to the impact occurring. Refer to the ECORP Jurisdiction Delineation Report (2022) for preliminary determination of regulatory limits of areas that may be regulated by the USACE, CDFW, or RWRCB. Permitting includes preparation and submittal of a Pre-Construction Notification under Section 404 of the federal CWA, an Application for Water Quality Certification under Section 401 of the federal CWA, and a Notification of Lake or Streambed Alteration under Section 1600 of the California Fish and Game Code. A completed CEQA document, and Notice of Determination, will be necessary to submit along with the applications. Other items such as finalized project plans, quantities of fill material, supporting technical studies, etc., are also submitted along with the applications. As a part of this process, the projects must also identify and approve mitigation through the respective agencies. Mitigation can include onsite or offsite options or could include purchase of credits from an existing mitigation or conservation bank or payment of an in-lieu fee to a conservation organization. Types of mitigation can include restoration, creation, rehabilitation, enhancement, or other types of habitat improvement. Typically, the type of mitigation and acreage of mitigation is negotiated with the regulatory agencies during the permitting process.	Prior to construction	Department of Planning and Development Services, USACE, CDFW, RWQCB (as applicable)	Prior to construction	Department of Planning and Development Services, USACE, CDFW, RWQCB (as applicable)			
BIO-9	**Minimization of Impacts to Wetland/Riparian Habitat.** Solar panels, structures, and new access roads should not be placed within 50 feet of wetland and riparian habitat boundaries. A construction buffer of 300 feet shall be established around the wetlands and riparian habitat during the bird breading season (February 1 – August 31). Prior to construction, fencing should be installed approximately 10 feet from the wetland and riparian habitat boundaries within 50 feet of the projects. Fencing should be easily visible to construction. The extensive alluvial fan systems should not be used as access roads between the projects.	Prior to construction as part of final engineering plans	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
Cultural Resources								
CR-1	**Cultural Resources Management Plan.** Project proponent will develop a cultural resources management plan (CRMP) to outline the process for compliance with applicable cultural resources laws, management of resources during operation, and consideration of the effect of decommissioning. The CRMP shall include the following: identification of California Native American tribes, identification of long and short term management goals for cultural resources within the project area, evaluation of eligibility for the CRHR and NRHP for all resources within the project area as identified on EIR Tables 3.6-3, 3.6-4 and 3.6-5, recommendations for eligibility for the CRHR and NRHP, description of measures to avoid, minimize, and reduce significant impacts to cultural resources (including both historical and archaeological resources), unanticipated discovery procedures, monitoring needs, data recovery of significant cultural resources where avoidance is not possible, curation procedures for recovered artifacts, anticipated personnel requirements and qualifications. The CRMP shall specifically address pre-contact fishing village site Resource P-13-147 and all resources identified in EIR Tables 3.6-3, 3.6-4 and 3.6-5. The draft CRMP shall be prepared by a registered professional archaeologist and reviewed and approved by the County of Imperial Planning and Development Services Department.	Prior to construction, approval of the CRMP by the Department of Planning and Development Services.	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			
CR-2	**Cultural Resources Training.** Project proponent will provide cultural resources training for all project personnel regarding the laws protecting cultural resources, appropriate conduct in the field, and other project-specific issues identified in the CRMP prepared for each site as required by Mitigation Measure CR-1.	Prior to grading and during any ground-disturbing phases of the project	Department of Planning and Development Services	Prior to grading and during ground-disturbing phases of the project	Department of Planning and Development Services			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
CR-3	**Construction Monitoring.** A qualified Archaeologist shall be present on site for ground disturbing activities within 100-feet of all unevaluated or sites eligible for inclusion to the NRHP or CRHR. Ground disturbing activities include grubbing, trenching, and grading. Monitoring will be limited to natural surfaces and undisturbed sediments. Monitoring is not required for previously disturbed areas or fill. Monitors will complete daily monitoring reports documenting activities and results of the day. After construction activities have finished a comprehensive monitoring report shall be prepared.	During ground disturbing activities including grubbing, trenching, and grading.	Ground disturbing activities include grubbing, trenching, and grading.	During ground disturbing activities including grubbing, trenching, and grading.	Department of Planning and Development Services			
CR-4	**Unanticipated Discovery Procedures.** In the event of the discovery of previously unidentified archaeological materials, the contractor shall immediately cease all work activities within approximately 100 feet of the discovery. After cessation of excavation, the contractor shall immediately contact the Imperial County Department of Planning and Development Services. Except in the case of cultural items that fall within the scope of the Native American Grave Protection and Repatriation Act, the discovery of any cultural resource within the project area shall not be grounds for a “stop work” notice or otherwise interfere with the project’s continuation except as set forth in this paragraph. In the event of an unanticipated discovery of archaeological materials during construction, the applicant shall retain the services of a qualified professional archaeologist, meeting the Secretary of the Interior’s Standards for a Qualified Archaeologist, to evaluate the significance of the materials prior to resuming any construction related activities in the vicinity of the find. If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA and it cannot be avoided, the applicant shall implement an archaeological data recovery program.	During grading and construction, discovery of human remains shall result in work stoppage in that area until the coroner and the Native American Heritage Commission are contacted.	Department of Planning and Development Services	During grading and construction	Department of Planning and Development Services			

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CR-5	**Discovery of Human Remains.** If subsurface deposits believed to be human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist who meets the Secretary of the Interior's Standards for prehistoric and historic archaeology and is familiar with the resources of the region, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find: • If the find includes human remains, or remains that are potentially human, the professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Imperial County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. • If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC may mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the Imperial County Planning and Development Services Department, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.	During ground disturbing activities	Department of Planning and Development Services, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.	During ground disturbing activities	Department of Planning and Development Services. County Coroner			
Geology and Soils								

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
GEO-1	**Prepare Geotechnical Report(s) as Part of Final Engineering for the Project and Implement Required Measures.** Facility design for all project components shall comply with the site-specific design recommendations as provided by a licensed geotechnical or civil engineer to be retained by the project applicant. The final geotechnical and/or civil engineering report shall address and make recommendations on the following: • Site preparation • Soil bearing capacity • Appropriate sources and types of fill • Potential need for soil amendments • Structural foundations • Grading practices • Soil corrosion of concrete and steel • Erosion/winterization • Seismic ground shaking • Liquefaction • Expansive/unstable soils In addition to the recommendations for the conditions listed above, the geotechnical investigation shall include subsurface testing of soil and groundwater conditions, and shall determine appropriate foundation designs that are consistent with the version of the CBC that is applicable at the time building and grading permits are applied for. All recommendations contained in the final geotechnical engineering report shall be implemented by the project applicant. The final geotechnical and/or civil engineering report shall be submitted to Imperial County Public Works Department, Engineering Division for review and approval prior to issuance of building permits.	Prior to the issuance of a grading permit, the Imperial County Public Works Department, Engineering Division shall review and approve a Final Geotechnical Report and/or Civil Engineering Report.	Department of Planning and Development Services and Imperial County Public Works Department, Engineering Division	Prior to issuance of a grading permit	Department of Planning and Development Services and Imperial County Public Works Department, Engineering Division			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
GEO-2	**Paleontological Resources.** In the event that unanticipated paleontological resources or unique geologic resources are encountered during ground-disturbing activities, work must cease within 50 feet of the discovery and a paleontologist shall be hired to assess the scientific significance of the find. The consulting paleontologist shall have knowledge of local paleontology and the minimum levels of experience and expertise as defined by the Society of Vertebrate Paleontology's Standard Procedures (2010) for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. If any paleontological resources or unique geologic features are found within the project sites, the consulting paleontologist shall prepare a paleontological Treatment and Monitoring Plan to include the methods that will be used to protect paleontological resources that may exist within the project sites, as well as procedures for monitoring, fossil preparation and identification, curation of specimens into an accredited repository, and preparation of a report at the conclusion of the monitoring program.	If paleontological monitoring is warranted, a mitigation and monitoring report shall be prepared and submitted to the Department of Planning and Development Services for review and approval.	Department of Planning and Development Services	Prior to grading	Department of Planning and Development Services			
Hydrology/Water Quality								
HYD-1	**Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration.** The project applicant or its contractor shall prepare a SWPPP specific to the project and be responsible for securing coverage under SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the appropriate agency, including the County of Imperial Department of Public Works and the Coachella Valley Water District, prior to commencement of work and shall be made conditions of the contract with the contractor selected to build and decommission the project. The SWPPP shall incorporate control measures in the following categories:	Prior to construction and site restoration, the project applicant or its contractor shall prepare a SWPPP with incorporated control measures outlined in Mitigation Measure HYD-1; and implement BMPs. Department of Planning and Development Services to verify.	Department of Planning and Development Services	Prior to issuance of a grading permit and site restoration	Department of Planning and Development Services, Coachella Valley Water District			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching) • Sediment control practices (e.g., temporary sediment basins, fiber rolls) • Temporary and post-construction on- and off-site runoff controls • Special considerations and BMPs for water crossings and drainages • Monitoring protocols for discharge(s) and receiving waters, with emphasis place on the following water quality objectives: dissolved oxygen, floating material, oil and grease, potential of hydrogen (pH), and turbidity • Waste management, handling, and disposal control practices • Corrective action and spill contingency measures • Agency and responsible party contact information • Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP The SWPPP shall be prepared by a Qualified SWPPP Practitioner and/or Qualified SWPPP Developer with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. BMPs for soil stabilization and erosion control practices and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure.							
HYD-2	**Incorporate Post-Construction Runoff BMPs into Project Drainage Plan.** The project Drainage Plan	Post construction for the project site, the applicant	Department of Planning and Development Services	Post construction	Department of Planning and Development			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	shall adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of stormwater to existing drainage systems. Infiltration basins will be integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary. The Drainage Plan shall be submitted to the County of Imperial Department of Public Works and Coachella Valley Water District for review and approval.	shall implement a Drainage Plan in accordance with the County and Imperial Irrigation District guidelines. Department of Planning and Development Services and IID to confirm.			Services, IID, Coachella Valley Water District			

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Executive Summary

This Environmental Impact Report (EIR) has been prepared in compliance with the California Environmental Quality Act (CEQA) Public Resources Code [PRC] Section 21000 et seq., the CEQA Guidelines (Section 15000 et seq.) as promulgated by the California Resources Agency and the Governor's Office of Planning and Research (OPR). The purpose of this environmental document is to assess the potential environmental effects associated with the VEGA SES 2, 3 & 5 Solar Energy Projects and to propose mitigation measures, where required, to reduce significant impacts.

Project Overview

The VEGA SES 2, 3 & 5 Solar Energy Projects are located on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA. The project area is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City (Figure ES-1). The project area is transected by the Coachella and East Highline Canals and the Union Pacific Railway.

Three separate Conditional Use Permits (CUPs) have been filed with the County, which together define the project sites. The three CUP applications or individual site locations consist of the following and are shown in Figure ES-2:

- CUP 20-0021: VEGA SES 2
- CUP 20-0022: VEGA SES 3
- CUP 20-0023: VEGA SES 5

Table ES-1 identifies the individual assessor parcel numbers (APN) associated with the VEGA SES 2, 3, and 5 sites with their respective acreage and zoning.

Collectively, the proposed projects involve the construction of up to 350 megawatt (MW) alternating current (AC) photovoltaic (PV) solar energy facility with an integrated 350 MW battery storage system (not to exceed 700 MW). The projects propose to utilize either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker systems. The projects would include electronic/electrical equipment, on-site substations, interconnection facilities, access roads and fencing. The electrical energy produced by the projects would be conducted through the projects' interconnection facilities to the following:

- VEGA SES 2 – Imperial Irrigation District's (IID) KN/KS Line
- VEGA SES 3 - IID 161 kilovolt (kV) "F" Transmission Line
- VEGA SES 5 - IID 92 kV Midway Substation

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Figure ES-1. Regional Location

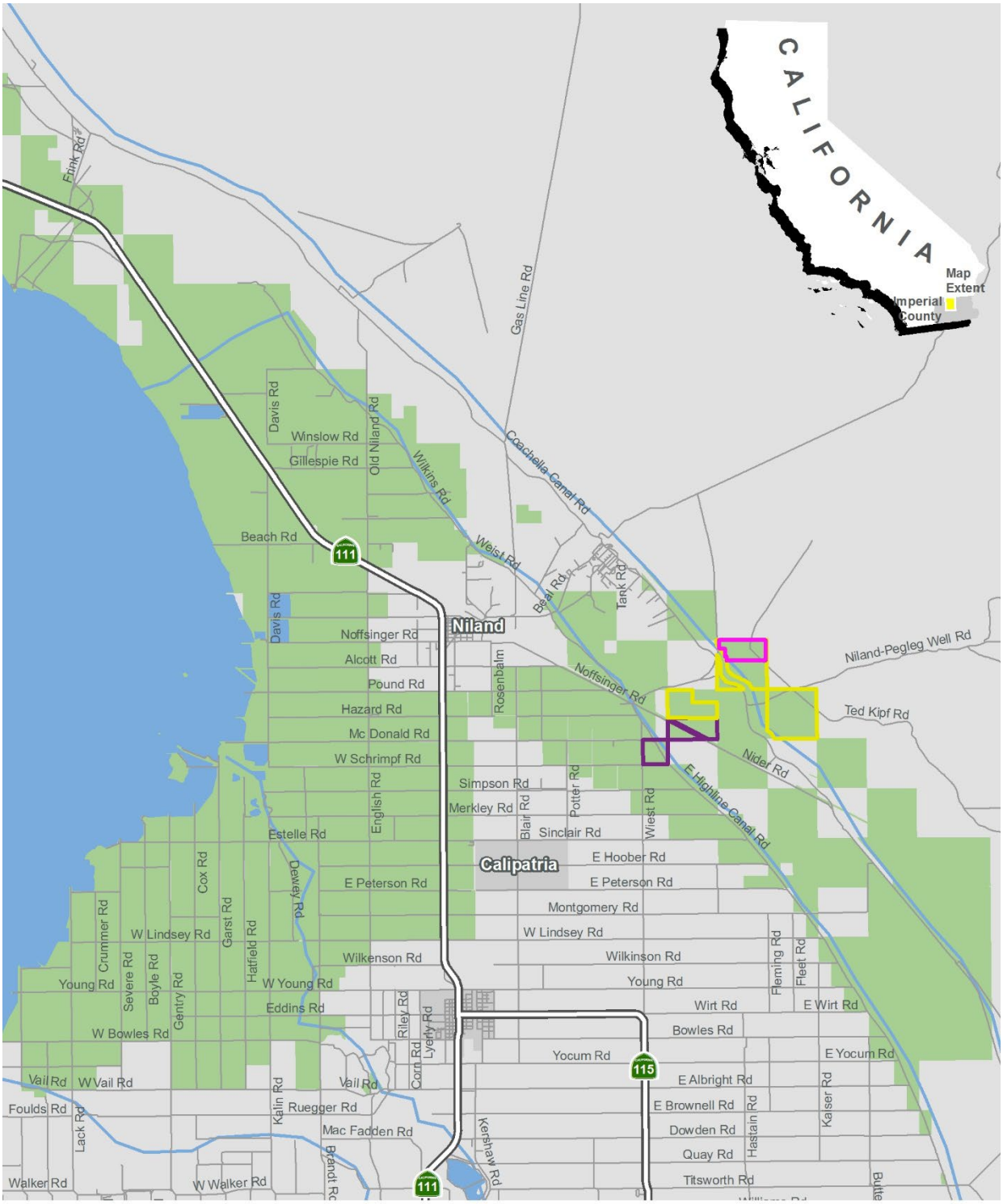

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Figure ES-2. Project Sites

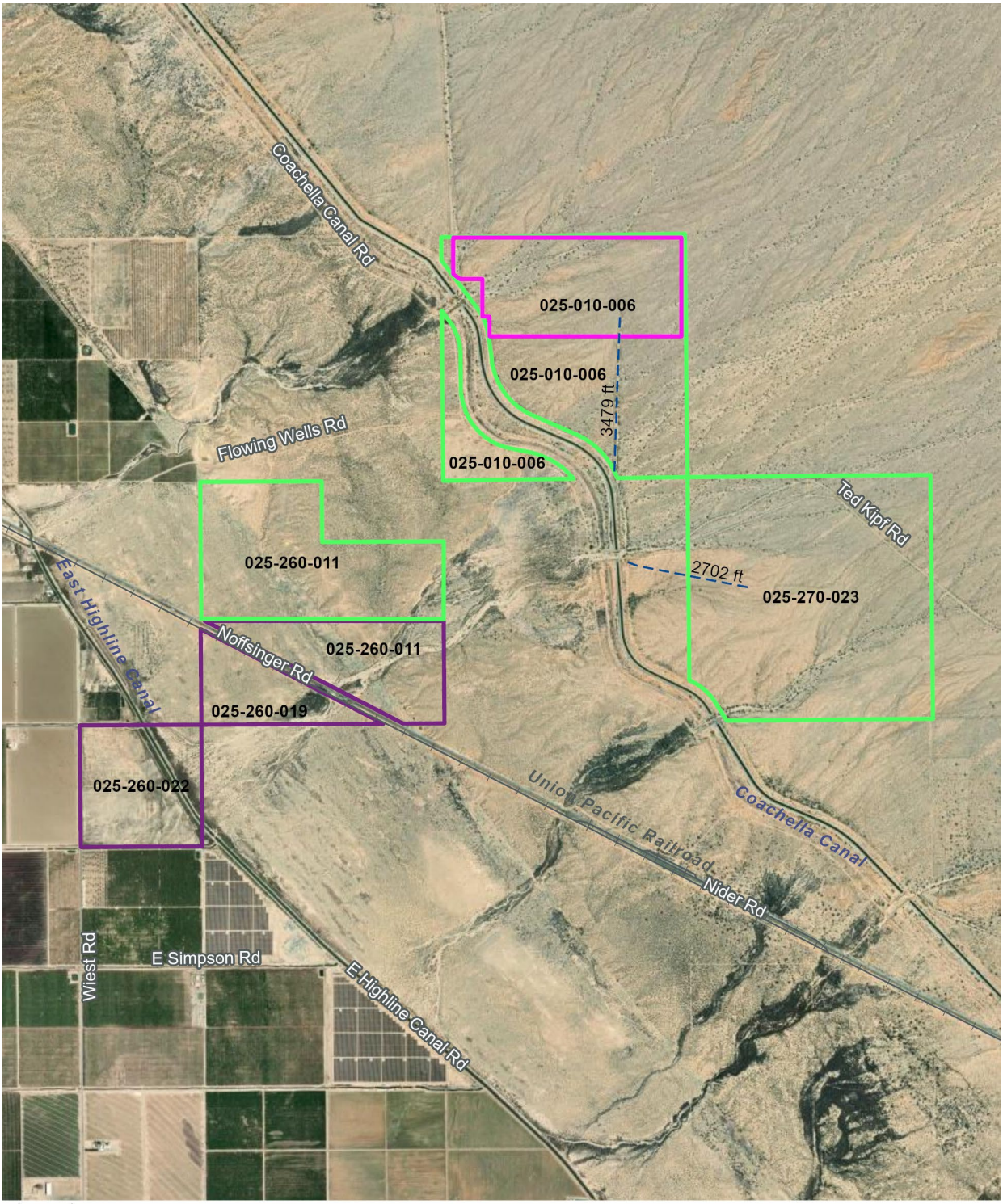

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Table ES-1. Solar Energy Facility Site Assessor Parcel Numbers, Acreages, and Zoning

Project	APN	Acreage	Zoning
VEGA SES 2 (CUP 20-0021)	025-010-006 (partial)	410	S-2-RE
	025-260-011 (partial	288	S-2-RE
	025-270-023	625	S-2-RE
	Subtotal	***1,323***	**--**
VEGA SES 3 (CUP 20-0022)	025-010-006 (partial)	230	S-2-RE
	Subtotal	***230***	**--**
VEGA SES 5 (CUP 20-0023)	025-260-011 (partial)	160	S-2-RE
	025-260-019	90	S-2-RE
	025-260-022	160	A-2-RE, A-3-RE, S-2-RE
	Subtotal	***410***	**--**
Total Gross Acres		**1,963**	**--**

Notes:
APN = assessor parcel number; A-2-RE = General Agriculture with a Renewable Energy Zone Overlay A-3-RE = Heavy Agriculture with a Renewable Energy Zone Overlay; S-2-RE = Open Space/Preservation with a Renewable Energy Zone Overlay

Right-of-Way Grants

The proposed projects would require Rights-of-Ways (ROW) grants from the Bureau of Land Management (BLM) and Bureau of Reclamation (BOR) for site access and for interconnection to the IID system that are located on federal lands managed by the BLM and BOR. The project applicant's ROW requests are summarized below and depicted on Figure ES-3 and Figure ES-4. A detailed description of the project's ROW requests is provided in Chapter 2, Project Description.

Bureau of Land Management

The following is a summary of the project applicant's ROW requests from the BLM:

1. A triangular aerial crossing ROW would be required at the southeastern corner of APN 025-010-006 to the northwestern corner of APN 025-270-023. The triangular ROW would be required for overhead powerlines that would span the two corners of these parcels. No power poles would be set within this ROW. The total land area would be approximately 0.02 acres.
2. A triangular aerial crossing ROW would be required at the northeastern corner of APN 025-260-035 to APN 025-010-006. This triangular ROW would be required for overhead powerlines that would span the two corners of these parcels. No power poles would be set within this ROW. The total land area would be approximately 0.02 acres.

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3. The electrical energy produced by the VEGA SES 3 project would be connected to the existing utility approved point of interconnection at the northeastern corner of the site to the IID's 161 kV "F" Line. Because the "F" Line is located on BLM land, the project applicant is requesting a 140-foot-wide ROW from BLM for the proposed interconnection road to IID and along the IID's 161 kV "F" Line for approximately 200 feet in length and the width of the existing IID ROW. There would be two new H Frame poles installed in the corridor of the "F" Line. The total area would be approximately 0.25 acres.

4. BLM approval of one triangular aerial crossing ROW would be required. At the northeast corner of APN 025-260-022 to APN 025-260-019, a triangular aerial crossing ROW would be required for the overhead power line that would span the two-corner intersection of the parcel. No power poles would be set within this area. The total land area would be approximately 0.02 acres.

5. The only motorized access to the VEGA SES 2 and 3 project sites, and corresponding Imperial IID utilities is Flowing Wells Road, which is a County maintained road situated on BLM public lands. The VEGA SES 2 and 3 projects intend to use Flowing Wells Road for access during construction of the facilities which upon being permitted will take approximately one year of actual construction. The projects propose a ROW for the existing 24-foot wide access road for construction, maintenance, and general project site access. The approximate area for this road is 24 feet x 5941 feet for a total acreage of 3.28 acres. The VEGA SES 2 and 3 projects would not require changes to Flowing Wells Road either in terms of alignment, cross section, width or length. The project applicant is requesting a 24-foot-wide ROW given that the road currently has no designated width. The VEGA SES 2 and 3 projects, if required as part of the permitting or ROW approval, would grade and maintain Flowing Wells Road during construction as required by the BLM, County and/or Air District, including future years maintenance for safe access to the sites. A maintenance agreement with the County/BLM will be included in the conditions of approval. All chemicals used for stabilization of Flowing Wells Road must be approved by BLM.

   The use of Flowing Wells Road for construction is considered temporary as it would be used primarily during construction of the VEGA SES 2 and 3 projects. During operation, the sites will be controlled remotely and will not have any on site employees. The solar facilities would require occasional onsite maintenance. Therefore, Flowing Wells Road could require occasional maintenance. Either the County or applicant could perform the maintenance of Flowing Wells Road under an agreement.

6. The project applicant is requesting a 30-foot-wide ROW from BLM for an access road to connect the northwest corner of the VEGA SES 2 site (APN 025-0260-011) to Flowing Wells Road. The total area for this ROW would be approximately 0.29 acres.

~~The only motorized access to the VEGA SES 2 and 3 project sites, and corresponding Imperial IID utilities is Flowing Wells Road, which is a County maintained road situated on Bureau of Land Management (BLM) public lands. Rights-of-Ways (ROW) grants from the BLM would be required for site access and for interconnection to the IID system. No portion of the VEGA SES 2 and 3 projects, other than access road(s), power lines, and access to IID infrastructure would be located on BLM public lands.~~

Bureau of Reclamation

The following is a summary of the project applicant's ROW requests from the BOR:

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1. There is a portion of the VEGA SES 2 gen-tie line, from the southwest corner of APN 025-010-006 to the northeast corner of APN 025-260-011, that would traverse BOR land. The project applicant is requesting a 60-foot-wide ROW for a single power pole structure from BOR to construct a portion of the gen-tie line on BOR land. This ROW would be 1,200-foot-long X 60-foot wide for an area of approximately 1.82 acres.
2. BOR approval of one triangular aerial crossing ROW would be required. At the southeast corner of APN 025-260-022 to APN 025-260-017, a triangular aerial crossing ROW would be required for the overhead power line that would span the two-corner intersection of the parcel. No power poles would be set within this area. The total land area would be approximately 0.02 acres.
3. Access will be needed across BOR land for VEGA SES 3, crossing the Coachella Canal. Applications for this ROW have been filed directly with the BOR office.

~~Access would also be required across Bureau of Reclamation (BREC) land for the VEGA SES 3 project, crossing the Coachella Canal. Applications for this ROW have been filed directly with the BREC office.~~

Figure ES-3. Overview of Right-of-Way Requests

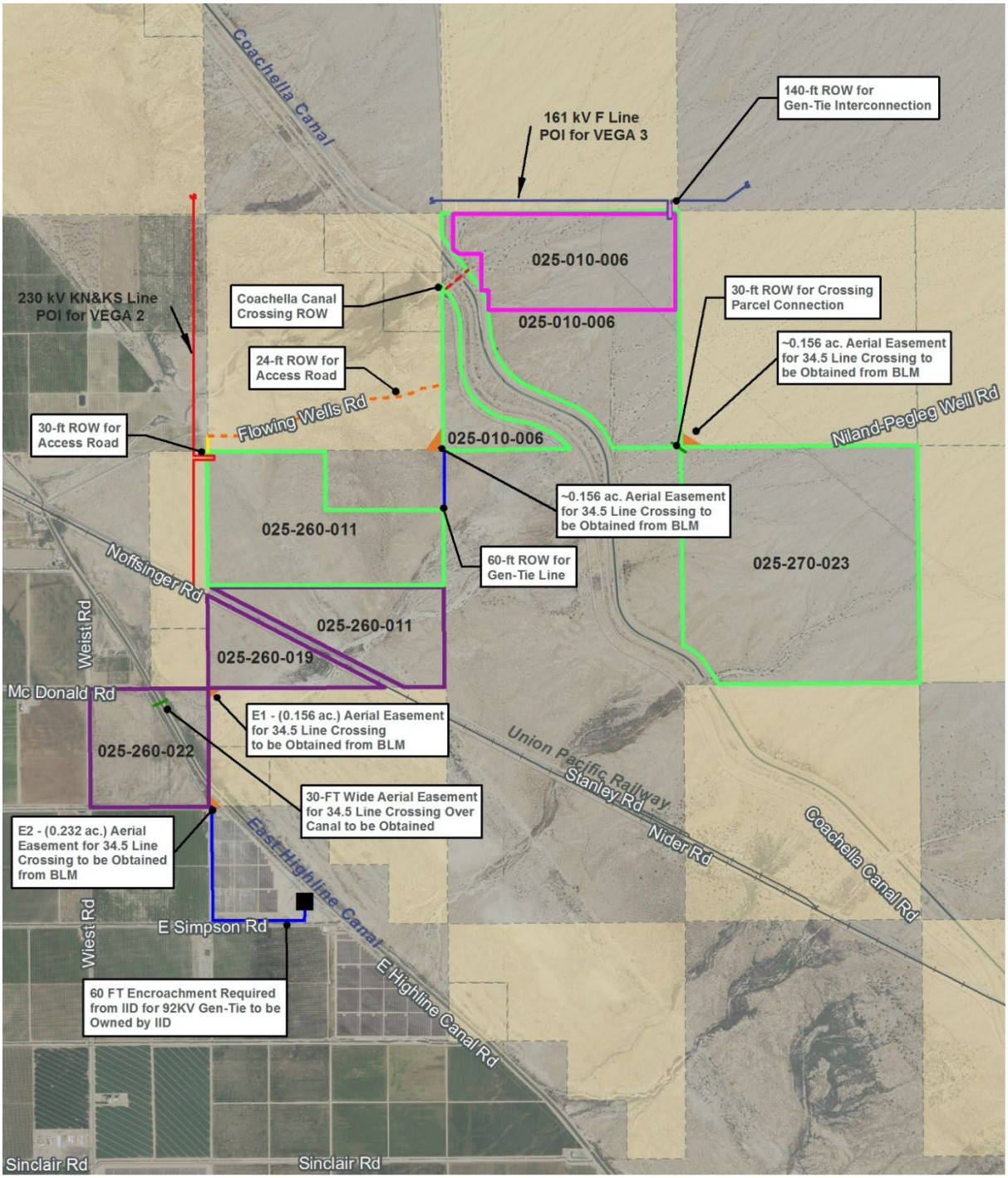

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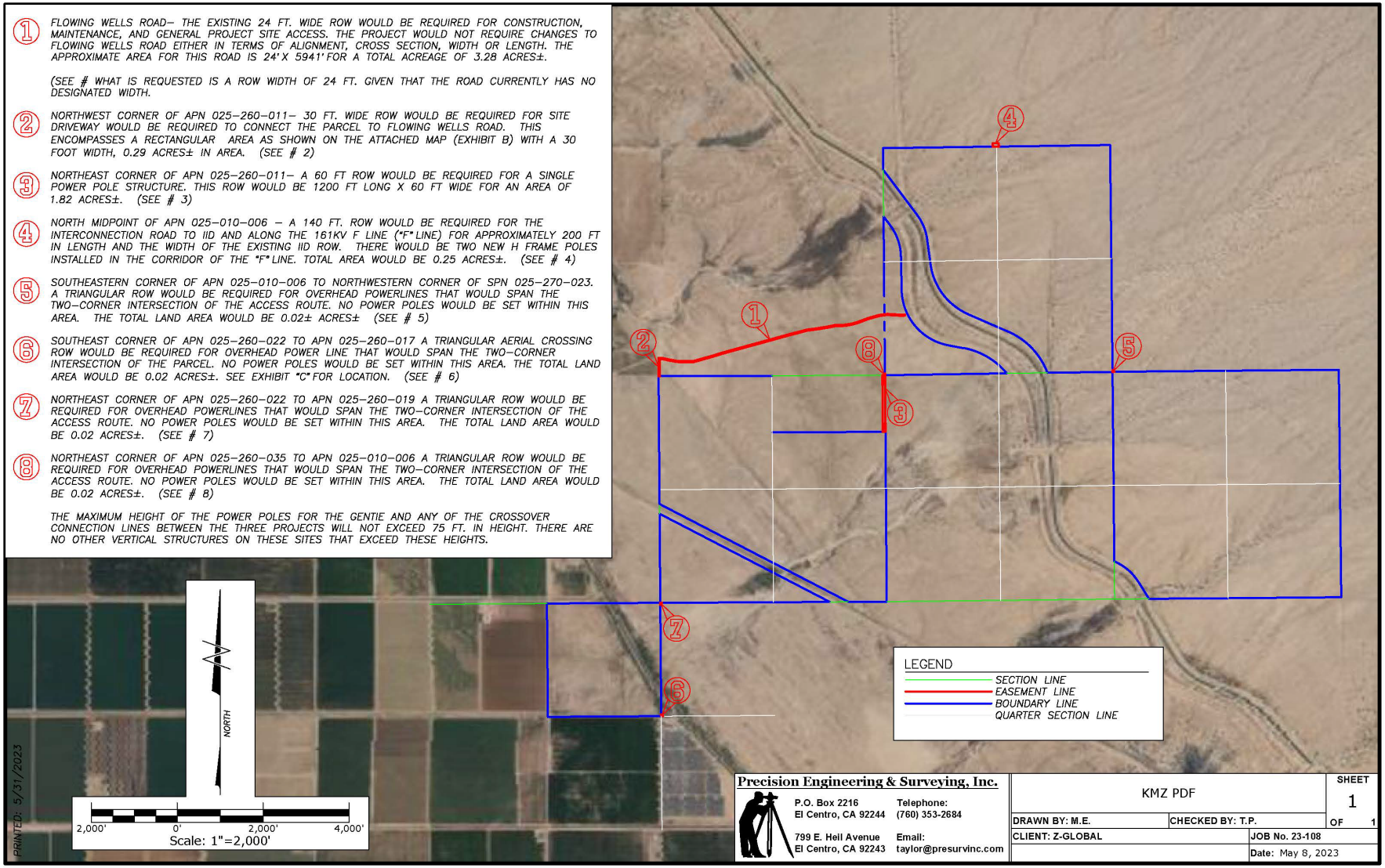
Figure ES-4. BLM and BOR Right-of-Way Requests



Notes: ROW Requests #3 and #6 on this figure are on Bureau of Reclamation land.

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Purpose of an EIR

The purpose of an EIR is to analyze the potential environmental impacts associated with a project. CEQA (Section 15002) states that the purpose of CEQA is to: (1) inform the public and governmental decision makers of the potential significant environmental impacts of a project; (2) identify the ways that environmental damage can be avoided or significantly reduced; (3) prevent significant avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and (4) disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Eliminated from Further Review in Notice of Preparation

Based on the Initial Study and Notice of Preparation (IS/NOP) prepared for the proposed projects (Appendix A of this EIR), Imperial County (County) has determined that environmental effects to Forestry Resources, Energy, Mineral Resources, Population/Housing, Public Services, Recreation, Utilities (Wastewater, Stormwater, and Solid Waste), and Wildfire would not be potentially significant. Therefore, these impacts are not addressed in this EIR; however, the rationale for eliminating these issues is discussed in Chapter 6.0, Effects Found Not Significant.

Summary of Significant Impacts and Mitigation Measures that Reduce or Avoid the Significant Impacts

Based on the analysis presented in the IS/NOP and the information provided in the comments to the IS/NOP, the following environmental topics are analyzed in this EIR:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use Planning
- Noise
- Transportation
- Tribal Cultural Resources
- Utilities/Service Systems

Table ES-2 summarizes the environmental impacts that were determined to be potentially significant, mitigation measures, and level of significance after mitigation associated with the projects.

Areas of Controversy and Issues to be Resolved

Areas of Concern

Section 15123(b)(2) of the CEQA Guidelines requires that an EIR identify areas of controversy as well as issues to be resolved known to the Lead Agency, including issues raised by other agencies and the public. A primary issue associated with this solar farm project, and other solar facility projects that are proposed in the County, is the corresponding land use compatibility and fiscal/economic impacts to the County. Through the environmental review process for this project, other areas of concern and

issues to be resolved include water supply; relocation, modification, or reconstruction of IID facilities; and access.

Detailed analyses of these topics are included within each corresponding section contained within this document.

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Agricultural Resources			
Impact 3.3-3 (VEGA SES 5 project only): Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.	Potentially Significant	This mitigation measure is applicable to the VEGA SES 5 project only. **AG-1** Prior to the issuance of a grading permit or building permit (whichever occurs first), a Pest Management Plan shall be developed by the project applicant and approved by the County of Imperial Agricultural Commissioner. The project applicant shall maintain a Pest Management Plan until reclamation is complete. The plan shall provide the following: 1. Monitoring, preventative, and management strategies for weed and pest control during construction activities at any portion of the project (e.g., transmission line); 2. Control and management of weeds and pests in areas temporarily disturbed during construction where native seed will aid in site revegetation as follows: • Monitor for all pests including insects, vertebrates, weeds, and pathogens. Promptly control or eradicate pests when found, or when notified by the Agricultural Commissioner's office that a pest problem is present on the project site. The assistance of a licensed pest control advisor is recommended. All treatments must be performed by a qualified applicator or a licensed pest control business; • All treatments must be performed by a qualified applicator or a licensed pest control operator; • "Control" means to reduce the population of common pests below economically damaging levels, and includes attempts to exclude pests before infestation, and effective control methods after infestation. Effective control methods may include physical/mechanical removal, bio control, cultural control, or chemical treatments; • Use of "permanent" soil sterilants to control weeds or other pests is prohibited because this would interfere with reclamation; • Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of	Less than Significant

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		Food Agriculture and the U.S. Department of Agriculture. Request a sample be taken by the Agricultural Commissioner's Office of a suspected invasive species. Eradication of exotic pests shall be done under the direction of the Agricultural Commissioner's Office and/or California Department of Food and Agriculture; • Obey all pesticide use laws, regulations, and permit conditions; • Allow access by Agricultural Commissioner staff for routine visual and trap pest surveys, compliance inspections, eradication of exotic pests, and other official duties; • Ensure all project employees that handle pest control issues are appropriately trained and certified, all required records are maintained and made available for inspection, and all required permits and other required legal documents are current; • Maintain records of pests found and treatments or pest management methods used. Records should include the date, location/block, project name (current and previous if changed), and methods used. For pesticides include the chemical(s) used, EPA Registration numbers, application rates, etc. A pesticide use report may be used for this; • Submit a report of monitoring, pest finds, and treatments, or other pest management methods to the Agricultural Commissioner quarterly within 15 days after the end of the previous quarter, and upon request. The report is required even if no pests were found or treatment occurred. It may consist of a copy of all records for the previous quarter, or may be a summary letter/report as long as the original detailed records are available upon request. 3. A long-term strategy for weed and pest control and management during the operation of the proposed project. Such strategies may include, but are not limited to: • Use of specific types of herbicides and pesticides on a scheduled basis.	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		4. Maintenance and management of project site conditions to reduce the potential for a significant increase in pest-related nuisance conditions on surrounding agricultural lands. 5. The project shall reimburse the Agricultural Commissioner's office for the actual cost of investigations, inspections, or other required non-routine responses to the site that are not funded by other sources.	
Air Quality			
Impact 3.4-1: Conflict with or obstruct implementation of the applicable air quality plan.	Potentially Significant	**AQ-1** **Fugitive Dust Control.** During construction activities, the constructor contractor shall employ the following PM_{10} reducing measures: 1. All unpaved roads associated with construction shall be effectively stabilized of dust emissions using Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant before the commencement of construction, and every 30 days thereafter until the end of all construction activities. Unpaved roads associated with construction include: • The 1.65 miles of unpaved road on Weist Road and Flowing Wells Road to the VEGA SES 2 and 3 project sites. Monthly application of Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant shall be applied at a rate of 0.1 gallon/square yard of chemical dust suppressant. 2. Prior to any earthmoving activity, the applicant shall submit a construction dust control plan and obtain Imperial County Air Pollution Control District and Imperial County Planning and Development Services Department (ICPDS) approval. 3. Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained	Less than significant

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		within Regulation VIII – Fugitive Dust Control Measures. Whereas these Regulation VIII measures are mandatory and are not considered project environmental mitigation measures, the ICAPCD CEQA Handbook's required additional standard and enhanced mitigation measures listed below shall be implemented prior to and during construction. ICAPCD will verify implementation and compliance with these measures as part of the grading permit review/approval process. **ICAPCD Standard Measures for Fugitive Dust (PM_{10}) Control** • All disturbed areas, including bulk material storage, which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material, such as vegetative ground cover. • All on-site and off-site unpaved roads will be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering. • All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material. • All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area. • Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line. • The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants, and/or watering. **ICAPCD "Discretionary" Measures for Fugitive Dust (PM_{10}) Control** • Water exposed soil only in those areas where active grading and vehicle movement occurs with adequate frequency to control dust. • Replace ground cover in disturbed areas as quickly as possible.	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• Automatic sprinkler system installed on all soil piles. • Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site. • Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees. • Implement a shuttle service to and from retail services and food establishments during lunch hours. • Standard Mitigation Measures for Construction Combustion Equipment • Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum. • Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use. • Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set). **Enhanced Mitigation Measures for Construction Equipment** To help provide a greater degree of reduction of PM emissions from construction combustion equipment, ICAPCD recommends the following enhanced measures. • Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		construction activity during the peak hour of vehicular traffic on adjacent roadways. • Implement activity management (e.g., rescheduling activities to reduce short-term impacts). **AQ-2** **Construction Equipment.** Construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at the project sites by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit. The equipment list shall be submitted periodically to ICAPCD to perform a NO_x analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds. The Planning and Development Services Department and ICAPCD shall verify implementation of this measure. **AQ-3** **Dust Suppression.** The project applicant shall employ a method of dust suppression (such as water or chemical stabilization) approved by ICAPCD. The project applicant shall apply chemical stabilization as directed by the product manufacturer to control dust between the panels as approved by ICAPCD, and other non-used areas (exceptions will be the paved entrance and parking area, and Fire Department access/ emergency entry/exit points as approved by Fire/Office of Emergency Services [OES] Department). <u>All chemicals used for stabilization of Flowing Wells Road must be approved by BLM.</u> **AQ-4** **Operational Dust Control Plan.** Prior to issuance of a Certificate of Occupancy, the applicant shall submit an operations dust control plan and obtain ICAPCD and ICPDS approval.	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		ICAPCD Rule 301 Operational Fees apply to any project applying for a building permit. At the time that building permits are submitted for the proposed projects, ICAPCD shall review the project to determine if Rule 310 fees are applicable to the projects.	
Impact 3.4-2: Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.	Potentially Significant	Implement Mitigation Measures AQ-1 through AQ-4.	Less than Significant
Biological Resources			
Impact 3.5-1: Potential impacts on special-status species.	Potentially Significant	**BIO-1a** **Rare Plant Surveys.** Prior to initiating ground disturbance, rare plant surveys shall be conducted within suitable habitat on the VEGA SES 2 and 3 project sites during the appropriate blooming period as follows for gravel milk-vetch, Wiggins' croton, glandular ditaxis, sand food, and Munz's cholla. The surveys shall be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If project-related impacts to rare plants on the project sites are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be	Less than Significant

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements. **BIO-1b** **Rare Plant Surveys.** Prior to initiating ground disturbance, rare plant surveys shall be conducted within suitable habitat on the VEGA SES 5 project site during the appropriate blooming period for Salton milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster. The surveys shall be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If project-related impacts to rare plants on the project sites are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements. **BIO-2** **General Impact Avoidance and Minimization Measures.** The following measures will be applicable throughout the life of the projects: • To reduce the potential indirect impact on migratory birds, bats and raptors, the project shall comply with the APLIC 2012 Guidelines for overhead utilities, as appropriate, to	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		minimize avian collisions with transmission facilities (APLIC 2012) • All electrical components on the project sites shall be either undergrounded or protected so that there will be no exposure to wildlife and therefore no potential for electrocution. • The project proponent shall designate a Project Biologist who shall be responsible for overseeing compliance with protective measures for biological resources during vegetation clearing and work activities within and adjacent to areas of native habitat. The Project Biologist shall be familiar with the local habitats, plants, and wildlife. The Project Biologist shall also maintain communications with the Contractor to ensure that issues relating to biological resources are appropriately and lawfully managed and shall monitor construction. The Project Biologist shall monitor activities within construction areas during ~~critical times~~ nesting bird season (generally February 1 to September 15), such as vegetation removal, the implementation of Best Management Practices (BMPs), and installation of security fencing to protect native species. The Project Biologist shall ensure that all wildlife and regulatory agency permit requirements, conservation measures, and general avoidance and minimization measures are properly implemented and followed. • The boundaries of all areas to be newly disturbed (including solar facility areas, staging areas, access roads, and sites for temporary placement of construction materials and spoils) shall be delineated with stakes and flagging prior to disturbance. All disturbances, vehicles, and equipment shall be confined to the flagged areas.	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• No potential wildlife entrapments (e.g., trenches, bores) shall be left uncovered overnight. Any uncovered pitfalls will be excavated to 3:1 slopes at the ends to provide wildlife escape ramps. Alternatively, man-made ramps may be installed. Covered pitfalls will be covered completely to prevent access by small mammals or reptiles. • To avoid wildlife entrapment (including birds), all pipes or other construction materials or supplies shall be covered or capped in storage or laydown areas, and at the end of each work day in construction, quarrying and processing/handling areas. No pipes or tubing of sizes or inside diameters ranging from 1 to 10 inches shall be left open either temporarily or permanently. • No anticoagulant rodenticides, such as Warfarin and related compounds (indandiones and hydroxycoumarins), shall be used within the project sites, on off-site project facilities and activities, or in support of any other project activities. • Avoid wildlife attractants. All trash and food-related waste shall be placed in self-closing containers and removed regularly from the sites to prevent overflow. Workers shall not feed wildlife. Water applied to dirt roads and construction areas for dust abatement shall use the minimal amount needed to meet safety and air quality standards to prevent the formation of puddles, which could attract wildlife. Pooled rainwater or floodwater within retention basins shall be removed to avoid attracting wildlife to the active work areas. • To minimize the likelihood for vehicle strikes on wildlife, speed limits shall not exceed 15 miles per hour when driving on access roads. All vehicles required for O&M must remain on designated access/maintenance roads.	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• Avoid nighttime construction lighting or if nighttime construction cannot be avoided, use shielded directional lighting pointed downward and towards the interior of the project sites, thereby avoiding illumination of adjacent natural areas and the night sky. • All construction equipment used for the projects shall be equipped with properly operating and maintained mufflers. • Hazardous materials and equipment stored overnight, including small amounts of fuel to refuel hand-held equipment, shall be stored within secondary containment when within 50 feet of open water to the fullest extent practicable. Secondary containment shall consist of a ring of sand bags around each piece of stored equipment/structure. A plastic tarp/visqueen lining with no seams shall be placed under the equipment and over the edges of the sandbags, or a plastic hazardous materials secondary containment unit shall be utilized by the Contractor. • The Contractor will be required to conduct vehicle refueling in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species. Any fuel containers, repair materials, including creosote-treated wood, and/or stockpiled material that is left on site overnight, shall be secured in secondary containment within the work area and staging/assembly area and covered with plastic at the end of each work day. • In the event that no activity is to occur in the work area for the weekend and/or a period of time greater than 48 hours, the Contractor shall ensure that all portable fuel containers are removed from the project sites.	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• All equipment shall be maintained in accordance with manufacturer's recommendations and requirements. • Equipment and containers shall be inspected daily for leaks. Should a leak occur, contaminated soils and surfaces will be cleaned up and disposed of following the guidelines identified in the Stormwater Pollution Prevention Plan or equivalent, Materials Safety Data Sheets, and any specifications required by other permits issued for the projects. • The Contractor shall utilize off-site maintenance and repair shops as much as possible for maintenance and repair of equipment. • If maintenance of equipment must occur onsite, fuel/oil pans, absorbent pads, or appropriate containment will be used to capture spills/leaks within all areas. Where feasible, maintenance of equipment shall occur in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species. • Appropriate BMPs shall be used by the Contractor to control erosion and sedimentation and to capture debris and contaminants from construction to prevent their deposition in waterways. • Erosion and sediment control devices used for the proposed projects, including fiber rolls and bonded fiber matrix, shall be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard. • Firearms, open fires, and pets shall be prohibited at all work locations and access roads. Smoking shall be prohibited along the project alignment.	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• Cross-country vehicle and equipment use outside of approved designated work areas and access roads shall be prohibited to prevent unnecessary ground and vegetation disturbance. • Any injured or dead wildlife encountered during project-related activities shall be reported to the project biologist, biological monitor, CDFW, or a CDFW-approved veterinary facility as soon as possible to report the observation and determine the best course of action. For special-status species, the Project Biologist shall notify the County, USFWS, and/or CDFW, as appropriate, within 24 hours of the discovery. • Stockpiling of material shall only be allowed within established work areas. • The Contractor shall actively manage the spread of noxious weeds by implementing weed control activities, including, but not limited to, cleaning equipment and inspecting equipment prior to transport to the sites and cleaning of tires and equipment prior to leaving the sites. The introduction of exotic, nonnative, weed, and/or invasive plant species will be avoided and controlled wherever possible, and may be achieved through physical or chemical removal and prevention, limiting the size of any vegetation and/or ground disturbance to the absolute minimum, and limiting ingress and egress to defined routes. Preventing exotic plants from entering the sites via vehicular sources will include measures such as cleaning vehicles coming into and going from the sites. • The ground beneath all parked equipment and vehicles shall be inspected for wildlife before moving.	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		BIO-3 Worker Environmental Awareness Program. Prior to project construction, a Worker Environmental Awareness Program shall be developed and implemented by a qualified biologist and shall be available in both English and Spanish. Handouts summarizing potential impacts on special-status biological resources and the potential penalties for impacts on these resources shall be provided to all construction personnel. At a minimum, the education program shall including the following: • the purpose for resource protection; • a description of special-status species including representative photographs and general ecology; • occurrences of USACE, RWQCB, and CDFW regulated features in the project study area; • regulatory framework for biological resource protection and consequences if violated • sensitivity of the species to human activities; • avoidance and minimization measures designed to reduce the impacts on special-status biological resources • environmentally responsible construction practices; • reporting requirements; • the protocol to resolve conflicts that may arise at any time during the construction process; and • workers sign acknowledgement form indicating that the Environmental Awareness Training and Education Program that has been completed, which shall be kept on record. **BIO-4 Burrowing Owl Avoidance and Minimization.** Take avoidance (pre-construction) surveys for burrowing owl shall be completed prior to project construction. Surveys shall be	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		conducted as detailed within Appendix D of the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game [CDFG] 2012). If burrowing owl is not detected, construction may proceed. • If burrowing owl is identified during the non-breeding season (September 1 through January 31), then a 50-meter buffer will be established by the biological monitor. Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until a CDFW-approved exclusion plan has been implemented. The buffer distance may be reduced if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities. If burrowing owl is identified during the breeding season (February 1 through August 31), then an appropriate buffer will be established by the biological monitor in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until young have fledged. The buffer distance may be reduced in consultation with CDFW if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities. **BIO-5** **Pre-Construction Nesting Bird Survey.** If construction or other project activities are scheduled to occur during the bird breeding season (typically February 1 through August 31 for raptors and ~~March~~ February 15 through August 31 for the majority of migratory bird species), a pre-construction nesting-bird survey shall be conducted by a qualified avian biologist to ensure that active bird nests, including those for loggerhead shrike, black-tailed gnatcatcher, and burrowing owl, will not be disturbed or destroyed. The survey shall be completed no more	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		than three days prior to initial ground disturbance. The nesting-bird survey shall include the project site and adjacent areas where project activities have the potential to affect active nests, either directly or indirectly, due to construction activity or noise. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist. If construction activities cease for a period of greater than three days during the bird breeding season, a pre-construction nesting bird survey shall be conducted prior to the commencement of activities. Final construction buffers or setback distances shall be determined by the qualified biologist in coordination with USFWS and CDFW on a case-by-case basis, depending on the species, season in which disturbance shall occur, the type of disturbance, and other factors that could influence susceptibility to disturbance (e.g., topography, vegetation, existing disturbance levels, etc.). **BIO-6a** **Pre-Construction Survey for Special-Status Species.** A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 2 and 3 project sites or that were identified as having a high potential to occur on the sites. These species include, but are not limited to, burrowing owl, loggerhead shrike, California black rail, and black-tailed gnatcatcher. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		appropriate agency (USFWS, CDFW) may need to be undertaken. **BIO-6b** **Pre-Construction Survey for Special-Status Species.** A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 5 project site or that were identified as having a high potential to occur on the site. These species include, but are not limited to, mountain plover, California black rail, merlin, Yuma hispid cotton rat, burrowing owl, black-tailed gnatcatcher, and loggerhead strike. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken. **BIO-7a** **Sensitive Habitat Avoidance.** To the greatest extent possible, plans should avoid impacts on blue palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets habitats within the VEGA SES 2 and 3 project sites to minimize potential impacts on special-status species. Excluding these habitats from the projects should also minimize mitigation and permitting requirements to meet the less-than-significance threshold. **BIO-7b** **Sensitive Habitat Avoidance.** To the greatest extent possible, plans should avoid impacts on bush seepweed scrub and tamarisk thicket habitats within the VEGA SES 5 project site to minimize potential impacts to special-status species. Excluding these habitats from the project should also minimize mitigation and permitting requirements to meet the less-than-significance threshold.	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures		Significance After Mitigation
Impact 3.5-2: Impact on riparian habitat or other sensitive natural communities.	Potentially Significant	**BIO-7a**	**Sensitive Habitat Avoidance.**	Less than Significant
		BIO-7b	**Sensitive Habitat Avoidance.**	
		BIO-8	**Aquatic Resources Regulatory Permitting.** If project-related impacts occur to the riparian areas that may also fall under the jurisdiction of the USACE, CDFW, or RWQCB a regulatory permit with those agencies will be needed prior to the impact occurring. Refer to the ECORP Jurisdiction Delineation Report (2022) for preliminary determination of regulatory limits of areas that may be regulated by the USACE, CDFW, or RWRCB. Permitting includes preparation and submittal of a Pre-Construction Notification under Section 404 of the federal CWA, an Application for Water Quality Certification under Section 401 of the federal CWA, and a Notification of Lake or Streambed Alteration under Section 1600 of the California Fish and Game Code. A completed CEQA document, and Notice of Determination, will be necessary to submit along with the applications. Other items such as finalized project plans, quantities of fill material, supporting technical studies, etc., are also submitted along with the applications. As a part of this process, the projects must also identify and approve mitigation through the respective agencies. Mitigation can include onsite or offsite options or could include purchase of credits from an existing mitigation or conservation bank or payment of an in-lieu fee to a conservation organization. Types of mitigation can include restoration, creation, rehabilitation, enhancement, or other types of habitat improvement. Typically, the type of mitigation and acreage of mitigation is negotiated with the regulatory agencies during the permitting process.	
		BIO-9	**Minimization of Impacts to Wetland/Riparian Habitat.** Solar panels, structures, and new access roads should not be placed within 50 feet of wetland and riparian habitat boundaries. A construction buffer of 300 feet shall be established around the wetlands and riparian habitat during the bird breading season (February 1 – August 31). Prior to construction, fencing should be installed approximately 10 feet from the wetland and riparian habitat boundaries within 50 feet of the projects. Fencing should be easily visible to	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures		Significance After Mitigation
			construction. The extensive alluvial fan systems should not be used as access roads between the projects.	
Impact 3.5-3: Impact on state or federally-protected wetlands.	Potentially Significant	**BIO-7a** **BIO-7b** **BIO-8** **BIO-9**	**Sensitive Habitat Avoidance.** **Sensitive Habitat Avoidance.** **Aquatic Resources Regulatory Permitting** **Minimization of Impacts to Wetland/Riparian Habitat.**	Less than Significant
Impact 3.5-4: Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Potentially Significant	**BIO-2** **BIO-4** **BIO-5** **BIO-6a** **BIO-6b** **BIO-7a** **BIO-7b**	**General Impact Avoidance and Minimization Measures.** **Burrowing Owl Avoidance and Minimization** **Pre-Construction Nesting Bird Survey.** **Pre-Construction Survey for Special-Status Species.** **Pre-Construction Survey for Special-Status Species.** **Sensitive Habitat Avoidance.** **Sensitive Habitat Avoidance.**	Less than Significant
Cultural Resources				
Impact 3.6-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.	Potentially Significant	**CR-1**	**Cultural Resources Management Plan.** Project proponent will develop a cultural resources management plan (CRMP) to outline the process for compliance with applicable cultural resources laws, management of resources during operation, and consideration of the effect of decommissioning.~~,~~0 ~~t~~The CRMP ~~should~~ shall include the following: identification of California Native American tribes, identification of long and short term management goals for cultural resources within the project area as identified on EIR Tables 3.6-4, 3.6-5, and 3.6-6, recommendations for eligibility for the CRHR and NRHP, evaluation of eligibility for the CRHR and NRHP for all resources within the project area, description of measures to avoid, minimize, ~~or~~ and reduce significant impacts to ~~historical~~ cultural resources (including both historical and archaeological	Less than Significant

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		resources) ~~and historic properties~~, unanticipated discovery procedures, monitoring needs, data recovery of significant cultural resources where avoidance is not possible, curation procedures for recovered artifacts, anticipated personnel requirements and qualifications. The CRMP shall specifically address pre-contact fishing village site Resource P-13-147 and all resources identified in EIR Tables 3.6-3, 3.6-4 and 3.6-5. The draft CRMP ~~should~~ shall be prepared by a registered professional archaeologist and reviewed and approved by the ~~lead agency~~County of Imperial Planning and Development Services Department. **CR-2** **Cultural Resources Training.** Project proponent will provide cultural resources training for all project personnel regarding the laws protecting cultural resources, appropriate conduct in the field, and other project-specific issues identified in the CRMP prepared for each site as required by Mitigation Measure CR-1. **CR-3** **Construction Monitoring.** A qualified Archaeologist shall be present on site for ground disturbing activities within 100-feet of all unevaluated or sites eligible for inclusion to the NRHP or CRHR. Ground disturbing activities include grubbing, trenching, and grading. Monitoring will be limited to natural surfaces and undisturbed sediments. Monitoring is not required for previously disturbed areas or fill. Monitors will complete daily monitoring reports documenting activities and results of the day. After construction activities have finished a comprehensive monitoring report shall be prepared. **CR-4** **Unanticipated Discovery Procedures.** In the event of the discovery of previously unidentified archaeological materials, the contractor shall immediately cease all work activities within approximately 100 feet of the discovery. After cessation of excavation, the contractor shall immediately contact the Imperial County Department of Planning and Development Services. Except in the case of cultural items that fall within the	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures		Significance After Mitigation
			scope of the Native American Grave Protection and Repatriation Act, the discovery of any cultural resource within the project area shall not be grounds for a "stop work" notice or otherwise interfere with the project's continuation except as set forth in this paragraph. In the event of an unanticipated discovery of archaeological materials during construction, the applicant shall retain the services of a qualified professional archaeologist, meeting the Secretary of the Interior's Standards for a Qualified Archaeologist, to evaluate the significance of the materials prior to resuming any construction related activities in the vicinity of the find. If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA and it cannot be avoided, the applicant shall implement an archaeological data recovery program.	
Impact 3.6-3: Disturb human remains.	Potentially Significant	**CR-5**	**Discovery of Human Remains.** If subsurface deposits believed to be human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist who meets the Secretary of the Interior's Standards for prehistoric and historic archaeology and is familiar with the resources of the region, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find: • If the find includes human remains, or remains that are potentially human, the professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Imperial County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and	Less than Significant

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. • If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC may mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the Imperial County Planning and Development Services Department, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.	
Geology and Soils			
Impact 3.6-2: Possible risks to people and structures caused by strong seismic ground shaking.	Potentially Significant	**GEO-1** **Prepare Geotechnical Report(s) as Part of Final Engineering for the Project and Implement Required Measures.** Facility design for all project components shall comply with the site-specific design recommendations as provided by a licensed geotechnical or civil engineer to be retained by the project applicant. The final geotechnical and/or	Less than Significant

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		civil engineering report shall address and make recommendations on the following: ▪ Site preparation ▪ Soil bearing capacity ▪ Appropriate sources and types of fill ▪ Potential need for soil amendments ▪ Structural foundations ▪ Grading practices ▪ Soil corrosion of concrete and steel ▪ Erosion/winterization ▪ Seismic ground shaking ▪ Liquefaction ▪ Expansive/unstable soils In addition to the recommendations for the conditions listed above, the geotechnical investigation shall include subsurface testing of soil and groundwater conditions and shall determine appropriate foundation designs that are consistent with the version of the CBC that is applicable at the time building and grading permits are applied for. All recommendations contained in the final geotechnical engineering report shall be implemented by the project applicant. The final geotechnical and/or civil engineering report shall be submitted to Imperial County Public Works Department, Engineering Division for review and approval prior to issuance of building permits.	
Impact 3.6-3: Possible risks to people and structures caused by seismic-related	Potentially Significant	Implement Mitigation Measure GEO-1.	Less than Significant

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
ground failure, including liquefaction.			
Impact 3.6-5: Substantial soil erosion or the loss of topsoil.	Potentially Significant	Implement Mitigation Measure GEO-1 and Mitigation Measure HYD-1.	Less than Significant
Impact 3.6-6: Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project.	Potentially Significant	Implement Mitigation Measure GEO-1.	Less than Significant
Impact 3.6-7: Be located on expansive soil, as defined in Table 18 1 B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.	Potentially Significant	Implement Mitigation Measure GEO-1.	Less than Significant
Impact 3.5-9: Impact on paleontological resources.	Potentially Significant	**GEO-2** **Paleontological Resources.** In the event that unanticipated paleontological resources or unique geologic resources are encountered during ground-disturbing activities, work must cease within 50 feet of the discovery and a paleontologist shall be hired to assess the scientific significance of the find. The consulting paleontologist shall have knowledge of local paleontology and the minimum levels of experience and expertise as defined by the Society of Vertebrate Paleontology's Standard Procedures (2010) for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. If any paleontological resources or unique geologic features are found within the project sites, the consulting paleontologist shall prepare a paleontological Treatment and Monitoring Plan to include the methods that will be used to protect paleontological resources that may exist within the project sites, as well as procedures for monitoring, fossil preparation and identification, curation of specimens into	Less than Significant

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures		Significance After Mitigation
			an accredited repository, and preparation of a report at the conclusion of the monitoring program.	
Hydrology/Water Quality				
Impact 3.8-1: Violation of water quality standards.	Potentially Significant	**HYD-1**	**Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration.** The project applicant or its contractor shall prepare a SWPPP specific to the projects and be responsible for securing coverage under SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the appropriate agency, including the County of Imperial Department of Public Works and the Coachella Valley Water District, prior to commencement of work and shall be made conditions of the contract with the contractor selected to build and decommission the projects. The SWPPP shall incorporate control measures in the following categories: ▪ Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching) ▪ Sediment control practices (e.g., temporary sediment basins, fiber rolls) ▪ Temporary and post-construction on- and off-site runoff controls ▪ Special considerations and BMPs for water crossings and drainages ▪ Monitoring protocols for discharge(s) and receiving waters, with emphasis place on the following water	Less than Significant

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		quality objectives: dissolved oxygen, floating material, oil and grease, potential of hydrogen (pH), and turbidity ▪ Waste management, handling, and disposal control practices ▪ Corrective action and spill contingency measures ▪ Agency and responsible party contact information ▪ Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP The SWPPP shall be prepared by a Qualified SWPPP Practitioner and/or Qualified SWPPP Developer with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. BMPs for soil stabilization and erosion control practices and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure. **HYD-2** **Incorporate Post-Construction Runoff BMPs into Project Drainage Plan.** The project Drainage Plan shall adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of stormwater to existing drainage systems. Infiltration basins will be integrated into the Drainage Plan to the maximum extent	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary. The Drainage Plan shall be submitted to the County of Imperial Department of Public Works and Coachella Valley Water District for review and approval.	
Impact 3.10-3: Result in erosion or siltation on- or off-site.	Potentially Significant	Implement Mitigation Measure HYD-1.	Less than Significant
Impact 3.10-4: Increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.	Potentially Significant	Implement Mitigation Measure HYD-2.	Less than Significant
Impact 3.10-5: Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Potentially Significant	Implement Mitigation Measure HYD-1.	Less than Significant
Impact 3.10-8: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Potentially Significant	Implement Mitigation Measures HYD-1 and HYD-2.	Less than Significant

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Statement of Overriding Considerations

CEQA Guidelines Section 15093 requires the Lead Agency to balance, as applicable, the economic, legal, social, and technological, or other benefits of the project against its unavoidable environmental risks when determining whether to approve the project. No significant and unmitigated impacts have been identified for the proposed projects; therefore, the County would not be required to adopt a Statement of Overriding Considerations pursuant to Section 15093 for this project.

Project Alternatives

Alternatives Considered but Rejected

Alternative Site

Section 15126.6(f)(2) of the CEQA Guidelines addresses alternative locations for a project. The key question and first step in the analysis is whether any of the significant effects of the proposed project would be avoided or substantially lessened by constructing the proposed project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need to be considered for inclusion in the EIR. Further, CEQA Guidelines Section 15126.6(f)(1) states that among the factors that may be taken into account when addressing the feasibility of alternative locations are whether the project proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent).

The proponent does not have control of an alternate site; if control were viable, the proponent would have to re-initiate the application process as a new project. Similar to the proposed project site, an alternate site would require environmental review once the proponent has prepared sufficient project description information. At present, the proponent does not have control of an alternate site. This alternative would be the most complex, costly, and time-consuming alternative to implement. It is unknown if the environmental impacts associated with this Alternative would be less than the proposed project because it would be speculative to evaluate an unsecured alternate site. This is primarily due to the fact that the proponent does not have control of an alternate site. Therefore, an alternative site was eliminated from further consideration in this EIR.

Alternatives Evaluated

The environmental analysis for the proposed project evaluated the potential environmental impacts resulting from implementation of the proposed project, as well as alternatives to the project. The alternatives include Alternative 1: No Project/No Development and Alternative 2: Reduced Project Site. A detailed discussion of the alternatives considered is included in Chapter 7. Table ES-3 summarizes the impacts resulting from the proposed projects and the identified alternatives.

Alternative 1: No Project/No Development Alternative

The CEQA Guidelines require analysis of the No Project Alternative (PRC Section 15126). According to Section 15126.6(e), “the specific alternative of ‘no project’ shall also be evaluated along with its impacts. The ‘no project’ analysis shall discuss the existing conditions at the time the Notice of Preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.”

The No Project/No Development Alternative assumes that the projects, as proposed, would not be implemented and the project site would not be developed.

The No Project/No Development Alternative would not meet a majority of the objectives of the projects. Additionally, the No Project/No Development Alternative would not help California meet its statutory and regulatory goal of increasing renewable power generation, including GHG reduction goals of Assembly Bill (AB) 32 (California Global Warming Solutions Act of 2006).

Alternative 2: Reduced Project Site

The purpose of this alternative is to reduce the size of the project sites to minimize impacts on sensitive vegetation communities and riparian habitat. Iodine bush scrub, bush seepweed scrub, tamarisk thickets, and blue palo verde-ironwood woodland occur within the project sites and are considered sensitive natural communities by CDFW.

In addition, riparian habitat associated with the drainage systems throughout the VEGA SES 2 and 3 project sites consists of blue palo verde-ironwood woodland and tamarisk thickets. Riparian habitat associated with the drainage systems throughout the VEGA SES 5 project site consists of tamarisk thickets.

This alternative would remove the portion of VEGA SES 2 that is located on APN 025-010-006 and remove APN 025-260-019 and a portion of APN 025-260-011 from VEGA SES 5. Therefore, the project site would be reduced by 660 acres from a total of 1,963 acres to 1,303 acres. Figure 7-1 depicts this alternative.

Alternative 2 would meet most of the basic objectives of the proposed projects and should remain under consideration. However, this alternative would make it more difficult to achieve the overall objective of providing a total of 350 MW of renewable solar energy, as there would be less area available for the placement of PV structures.

Environmentally Superior Alternative

Table ES-3 provides a qualitative comparison of the impacts for each alternative compared to the proposed projects. As noted on Table ES-3, the No Project/No Development Alternative would be considered the environmentally superior alternative, since it would eliminate all of the significant impacts identified for the projects. However, CEQA Guidelines Section 15126.6(e)(2) states that “if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.” As shown on Table ES-3, Alternative 2 would be the environmental superior alternative because it would reduce impacts for the following environmental issue areas as compared to the proposed projects: air quality, biological resources, cultural resources, hydrology/water quality, and utilities/service systems.

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Table ES-3. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Aesthetics	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Agricultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact
Air Quality	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Biological Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Cultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* *Less Impact*

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Table ES-3. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Geology and Soils	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact
GHG Emissions	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Hazards and Hazardous Materials	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Hydrology/ Water Quality	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Land Use/Planning	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact

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Table ES-3. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Noise	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Transportation	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Tribal Cultural Resources	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* *Less than Significant* *Comparison to Proposed Project:* Similar Impact
Utilities/Service Systems	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Less Impact

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1 Introduction

This environmental impact report (EIR) has been prepared to meet the requirements of the California Environmental Quality Act (CEQA) for purposes of evaluating the potential environmental impacts, mitigation measures, and alternatives associated with the proposed VEGA SES 2, 3, and 5 Solar Energy Project. This EIR describes the existing environment that would be affected by, and the environmental impacts which could potentially result from the construction and operation of the proposed projects as described in detail in Chapter 2.0 of this EIR.

1.1 Overview of the Proposed Project

The project applicant, Apex Energy Solutions, LLC, proposes to construct and operate an expansive photovoltaic (PV) solar energy facility and associated infrastructure on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA. The project area is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The project area is transected by the Coachella and East Highline Canals and the Union Pacific Railway.

Three separate Conditional Use Permits (CUPs) have been filed with the County, which together define the project sites. The three CUP applications or individual site locations consist of the following:

- CUP 20-0021: VEGA SES 2
- CUP 20-0022: VEGA SES 3
- CUP 20-0023: VEGA SES 5

Table 1-1 identifies the individual assessor parcel numbers (APN) associated with the VEGA SES 2, 3, and 5 sites with their respective acreage and zoning.

Table 1-1. Solar Energy Facility Site Assessor Parcel Numbers, Acreages, and Zoning

Project	APN	Acreage	Zoning
VEGA SES 2 (CUP 20-0021)	025-010-006 (partial)	410	S-2-RE
	025-260-011 (partial)	288	S-2-RE
	025-270-023	625	S-2-RE
	Subtotal	***1,323***	**--**
VEGA SES 3 (CUP 20-0022)	025-010-006 (partial)	230	S-2-RE
	Subtotal	***230***	**--**
VEGA SES 5 (CUP 20-0023)	025-260-011 (partial)	160	S-2-RE
	025-260-019	90	S-2-RE
	025-260-022	160	A-2-RE, A-3-RE, S-2-RE
	Subtotal	***410***	**--**

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Table 1-1. Solar Energy Facility Site Assessor Parcel Numbers, Acreages, and Zoning

Project	APN	Acreage	Zoning
Total Gross Acres		**1,963**	**--**

Notes:
APN = assessor parcel number; A-2-RE = General Agriculture with a Renewable Energy Zone Overlay A-3-RE = Heavy Agriculture with a Renewable Energy Zone Overlay; S-2-RE = Open Space/Preservation with a Renewable Energy Zone Overlay

Collectively, the proposed projects involve the construction of up to 350 megawatt (MW) alternating current (AC) photovoltaic (PV) solar energy facility with an integrated 350 MW battery storage system (not to exceed 700 MW). The projects propose to utilize either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker systems. The projects would include electronic/electrical equipment, on-site substations, interconnection facilities, access roads and fencing. The electrical energy produced by the projects would be conducted through the projects' interconnection facilities to the following:

- VEGA SES 2 – Imperial Irrigation District's (IID) KN/KS Line
- VEGA SES 3 - IID 161 kilovolt (kV) "F" Transmission Line
- VEGA SES 5 - IID 92 kV Midway Substation

The proposed projects would require Rights-of-Ways (ROW) grants from the Bureau of Land Management (BLM) and Bureau of Reclamation (BOR) for site access and for interconnection to the IID system that are located on federal lands managed by the BLM and BOR. A detailed description of the project's ROW requests is provided in Chapter 2, Project Description.

~~The only motorized access to the VEGA SES 2 and 3 project sites, and corresponding Imperial IID utilities is Flowing Wells Road, which is a County maintained road situated on Bureau of Land Management (BLM) public lands. Rights-of-Ways (ROW) grants from the BLM would be required for site access and for interconnection to the IID system. No portion of the VEGA SES 2 and 3 projects, other than access road(s), power lines, and access to IID infrastructure would be located on BLM public lands.~~

~~Access would also be required across Bureau of Reclamation (BREC) land for the VEGA SES 3 project, crossing the Coachella Canal. Applications for this ROW have been filed directly with the BREC office.~~

1.1.1 Agency Roles and Responsibilities

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the project.

County of Imperial

Implementation of the project would involve the following approvals by the County of Imperial:

1. **Approval of Conditional Use Permits (CUPs) – Solar Energy Facility.** Implementation of the projects would require the approval of CUPs by the County to allow for the construction

and operation of the proposed solar energy facilities with an integrated battery storage system. The following CUPs are under consideration for approval as evaluated in this EIR:

- CUP 20-0021: VEGA SES 2
- CUP 20-0022: VEGA SES 3
- CUP 20-0023: VEGA SES 5

The project parcels are currently zoned as A-2-RE (General Agriculture with a Renewable Energy Zone Overlay), A-3-RE (Heavy Agriculture with a Renewable Energy Zone Overlay), and S-2-RE (Open Space/Preservation with a Renewable Energy Zone Overlay).

Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

> *j) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)*
>
> *s) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *z) Electrical substations in an electrical transmission system (500 kv/230 kv/161 kv)*
>
> *bb) Facilities for the transmission of electrical energy (100-200 kv)*
>
> *ww) Resource extraction and energy development as per Division 17*
>
> *aaa) Solar energy electrical generator*

Pursuant to Title 9, Division 5, Chapter 9, the following uses are permitted in the A-3 zone subject to approval of a CUP from Imperial County:

> *i) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)*
>
> *o) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *oo) Major facilities relating to the generation and transmission of electrical energy provided such facilities are not under State or Federal law, to be approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters, meeting the requirements in Division 17.*
>
> *zz) Solar energy plants meeting the requirements in Division 17*

Pursuant to Title 9, Division 5, Chapter 19, the following uses are permitted in the S-2 zone subject to approval of a CUP from Imperial County:

> *d) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*

i) Major facilities relating to the generation and transmission of electrical energy provide[d] such facilities are not under State or Federal law, to [be] approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters. Such uses shall include but be limited to the following:

- *Electrical generation plants*
- *Facilities for the transmission of electrical energy (100-200 kV)*
- *Electrical substations in an electrical transmission system (500 kv/230 kv/161 kV)*

2. **Approval of CUPs (CUP 22-0025, ~~and~~ -0026, and -0027) – Groundwater Wells.** Pursuant to Title 9 Division 21: Water Well Regulations, §92102.00, the Applicant will be required to obtain a CUP for each proposed on-site groundwater well. As required by §92102.00, no person shall (1) drill a new well, (2) activate a previously drilled but unused well, (unused shall mean a well or wells that have not been used for a 12 month) period by installing pumps, motors, pressure tanks, piping, or other equipment necessary or intended to make the well operational, (3) increase the pumping capacity of a well, or (4) change the use of a well, without first obtaining a CUP through the County Planning & Development Services Department.
3. **Certification of the EIR.** After the required public review for the Draft EIR, the County will respond to written comments, edit the document, and produce a Final EIR to be certified by the Planning Commission and Board of Supervisors prior to making a decision on the project.

Subsequent ministerial approvals may include, but are not limited to:

- Grading and clearing permits
- Building permits
- Reclamation plan
- Encroachment permits
- Transportation permit(s)

Other Agencies Reviews and/or Consultations

The following agencies may be involved in reviewing and/or consultations with the project proponent as it relates to construction of the project:

Federal

UNITED STATES FISH AND WILDLIFE SERVICE

- The United States Fish and Wildlife Service (USFWS) enforces compliance with regulations related to special-status species or their habitat as required under the Federal Endangered Species Act (ESA).

UNITED STATES ARMY CORPS OF ENGINEERS

- Section 404 Permit (Clean Water Act [CWA]). The CWA establishes a program to regulate the discharge of dredge and fill material into waters of the U.S. including wetlands. Activities

regulated under this program include fills for development, water resource projects (e.g., dams and levees), infrastructure development (e.g., highways and airports), and conversion of wetlands to uplands for farming and forestry. Either an individual 404b permit or authorization to use an existing USACE Nationwide Permit will need to be obtained if any portion of the construction requires fill into a river, stream, or stream bed that has been determined to be a jurisdictional waterway.

BUREAU OF LAND MANAGEMENT (BLM)

- Right-of-way easement to use Flowing Wells Road for access during construction and maintenance
- Right-of-way grant for the off-site gen-tie lines to be located on federal lands under the jurisdiction of the BLM
- Aerial easements to allow gen-tie connections between the facilities

BUREAU OF RECLAMATION

- Right-of-way easement to cross the Coachella Canal to access the project site (APN 025-010-006)
- Right-of-way grant for the off-site gen-tie line to be located on federal lands under the jurisdiction of the BOR
- Aerial easement to allow gen-tie connections between the facilities
- There are two training dikes within the project area. The locations of these dikes are depicted on EIR Figure 2.2 Project Sites. As shown, one dike extends northerly from the Coachella Canal through APN #025-010-006 (VEGA SES 2) and a portion of APN #025-010-006 (VEGA SES 3). Any modifications to these dikes will require appropriate authorization from BOR.

COACHELLA VALLEY WATER DISTRICT

- Drainage Plan

State

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (TRUSTEE AGENCY)

- The California Department of Fish and Wildlife (CDFW) is a Trustee Agency and enforces compliance with regulations related to California special-status species or their habitats as required under the California Endangered Species Act (CESA).

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

- **National Pollution Discharge Elimination System Construction General Permit Order No. 2009-009-DWQ.** Requires the applicant to file a public Notice of Intent to discharge stormwater and to prepare and implement a stormwater pollution prevention plan (SWPPP).
- **Jurisdictional Waters.** Agencies and/or project proponents must consultant with the California Regional Water Quality Control Board (RWQCB) regarding, when applicable,

regarding compliance with the CWA Section 401 Water Quality Certification or permitting under California Porter-Cologne Act.

Local

IMPERIAL COUNTY FIRE DEPARTMENT

- Review as part of the EIR process including the final design of the proposed fire system.

IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT

- Review as part of the EIR process regarding consistency with the Imperial County Air Pollution Control District (ICAPCD) CEQA Air Quality Handbook, the final "Modified" 2009 8-hour Ozone Air Quality Management Plan, the State Implementation Plan for particulate matter less than 10 microns in diameter (PM_{10}) in the Imperial Valley, the State Implementation Plan (SIP) for particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and verification of Rule 801 compliance.

1.2 Relationship to Statutes, Regulations, and Other Plans

1.2.1 County of Imperial General Plan and Land Use Ordinance

The General Plan provides guidance on future growth in the County of Imperial. Any development in the County of Imperial must be consistent with the General Plan and Land Use Ordinance (Title 9, Division 10).

1.2.2 Renewables Portfolio Standard Program

Established in 2002 under Senate Bill (SB) 1078, California's Renewables Portfolio Standard (RPS) was accelerated in 2006 under SB 107 by requiring that 20 percent of electricity retail sales be served by RE resources by 2010. RE sources include wind, geothermal, and solar. Subsequent recommendations in California energy policy reports advocated a goal of 33 percent by 2020. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order (EO) S-14-08 requiring that "... all retail sellers of electricity shall serve 33 percent of their load with RE by 2020." The following year, EO S-21-09 directed the California Air Resources Board (CARB), under its Assembly Bill (AB) 32 authority, to enact regulations to achieve the goal of 33 percent renewables by 2020.

In the ongoing effort to codify the ambitious 33 percent by 2020 goal, SB X12 was signed by Governor Brown, in April 2011. This new RPS preempts the CARB's 33 percent Renewable Electricity Standard and applies to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities had to adopt the new RPS goals of 20 percent of retails sales from renewables by the end of 2013, 25 percent by the end of 2016, and the 33 percent requirement being met by the end of 2020.

Governor Brown signed into legislation SB 350 in October 2015, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible RE resources by 2030. In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

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1.2.3 Senate Bill 32

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by Executive Order (EO) B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

1.2.4 Title 17 California Code of Regulations, Subchapter 10, Article 2, Sections 95100 et seq.

These CARB regulations implement mandatory GHG emissions reporting as part of the California Global Warming Solutions Act of 2006.

1.2.5 Federal Clean Air Act

The legal authority for federal programs regarding air pollution control is based on the 1990 Clean Air Act (CAA) Amendments. These are the latest in a series of amendments made to the CAA. This legislation modified and extended federal legal authority provided by the earlier Clean Air Acts of 1963 1970, and 1977.

The Air Pollution Control Act of 1955 was the first Federal legislation involving air pollution. This Act provided funds for federal research in air pollution. The CAA of 1963 was the first Federal legislation regarding air pollution control. It established a federal program within the U.S. Public Health Service and authorized research into techniques for monitoring and controlling air pollution. In 1967, the Air Quality Act was enacted in order to expand Federal government activities. In accordance with this law, enforcement proceedings were initiated in areas subject to interstate air pollution transport. As part of these proceedings, the Federal government for the first time conducted extensive ambient monitoring studies and stationary source inspections.

The Air Quality Act of 1967 also authorized expanded studies of air pollutant emission inventories, ambient monitoring techniques, and control techniques.

1.2.6 Imperial County Air Pollution Control District

The ICAPCD enforces rules and regulations regarding air emissions associated with various activities, including construction and farming, and operational activities associated with various land uses, in order to protect the public health.

1.2.7 Federal Clean Water Act (33 United States Code Section 1251-1387)

The Federal Water Pollution Control Act (33 United States Code [USC] §§1251-1387), otherwise known as the CWA, is a comprehensive statute aimed at restoring and maintaining the chemical, physical and biological integrity of the nation's waters. Enacted originally in 1948, the Act was amended numerous times until it was reorganized and expanded in 1972. It continues to be amended almost every year. Primary authority for the implementation and enforcement of the CWA rests with the U.S. Environmental Protection Agency (EPA). In addition to the measures authorized before 1972,

the Act authorizes water quality programs, requires federal effluent limitations and state water quality standards, requires permits for the discharge of pollutants into navigable waters, provides enforcement mechanisms, and authorizes funding for wastewater treatment works construction grants and state revolving loan programs, as well as funding to states and tribes for their water quality programs. Provisions have also been added to address water quality problems in specific regions and specific waterways.

Important for wildlife protection purposes are the provisions requiring permits to dispose of dredged and fill materials into navigable waters. Permits are issued by the United States Army Corps of Engineers (USACE) under guidelines developed by EPA pursuant to Section 404 of the CWA.

1.2.8 Federal Clean Water Act and California Porter-Cologne Water Quality Control Act

The project is located within the Colorado River Basin RWQCB, Region 7. The CWA and the California Porter-Cologne Water Quality Control Act require that Water Quality Control Plans (more commonly referred to as Basin Plans) be prepared for the nine state-designated hydrologic basins in California. The Basin Plan serves to guide and coordinate the management of water quality within the region.

1.2.9 Federal Land Policy and Management Act

The Federal Land Policy and Management Act (FLPMA) is a federal law that governs the way in which the public lands administered by the BLM are managed. The act set out a multiple use management policy for the BLM in which the agency would balance its management of the land to meet diverse needs, including recreation, grazing, timber and mineral production, fish and wildlife protection, and oil and gas production.

BLM is authorized to grant, issue or renew rights-of-way (ROW) over, upon, under, or through public lands. A ROW grant is an authorization to use a specific piece of public land for a certain project, such as roads, pipelines, transmission lines, and communication sites. A ROW grant authorizes rights and privileges for a specific use of the land for a specific period of time. The proposed right-of-way requests associated with the projects are subject to review and approval by the BLM.

1.2.10 California Desert Conservation Area Plan

Section 601 of the FLMPA required preparation of a long-range plan for the California Desert Conservation Area (CDCA). The CDCA Plan was adopted in 1980 to provide for the use of public lands and resources of the CDCA in a manner which enhances wherever possible and, which does not diminish, on balance, the environmental, cultural, and aesthetic values of the Desert and its productivity. The CDCA Plan is a comprehensive, long-range plan covering 25 million-acres. Approximately 12 million acres of this total are public lands administered by the BLM on behalf of the CDCA. These public lands are dispersed throughout the California Desert which includes the Mojave Desert, the Sonoran Desert and a small portion of the Great Basin Desert. The 12 million acres of public lands administered by the BLM make-up approximately half of the CDCA. The CDCA is applicable to the federal (i.e., BLM) actions associated with implementation of the proposed projects (those portions of the projects not otherwise located on private lands).

1.2.11 Desert Renewable Energy Conservation Plan

The Desert Renewable Energy Conservation Plan (DRECP) created a Land Use Plan Amendment to the CDCA Plan. The DRECP has been developed as an interagency plan by the BLM, the U.S. Fish and Wildlife Service (USFWS), the California Energy Commission (CEC), and the California Department of Fish and Wildlife (CDFW) to (1) advance federal and state natural resource conservation goals and other federal land management goals; (2) meet the requirements of the federal Endangered Species Act, California Endangered Species Act, Natural Community Conservation Planning Act, and FLPMA; and (3) facilitate the timely and streamlined permitting of renewable energy projects, all in the Mojave and Colorado/Sonoran desert regions of Southern California.

~~1.2.9~~1.2.12 Federal Endangered Species Act

The ESA (16 USC 1531-1544) provides protection for plants and animals whose populations are dwindling to levels that are no longer sustainable in the wild. The Act sets out a process for listing species, which allows for petition from any party to list a plant or animal. Depending on the species, USFWS or the National Marine Fisheries Service (NMFS) will determine whether listing the species is warranted. If it is warranted, the species will be listed as either threatened or endangered. The difference between the two categories is one of degree, with endangered species receiving more protections under the statute.

~~1.2.10~~1.2.13 National Historic Preservation Act

Federal regulations (36 Code of Federal Regulations [CFR] Part 800.2) define historic properties as "any prehistoric or historic district, site, building, structure, or object included, or eligible for inclusion in, in the National Register of Historic Places (NRHP)." The term "cultural resource" is used to denote a historic or prehistoric district, site, building, structure, or object, regardless of whether it is eligible for the NRHP.

1.2.14 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the kill or transport of native migratory birds, or any part, nest, or egg of any such bird unless allowed by another regulation adopted in accordance with the MBTA. The prohibition applies to birds included in the respective international conventions between the U.S. and Great Britain, the U.S. and Mexico, the U.S. and Japan, and the U.S. and Russia. Disturbances that cause nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the MBTA. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

~~1.2.11~~1.2.15 California Endangered Species Act

CESA is enacted through Government Code Section 2050. Section 2080 of the California Fish and Game Code (FGC) prohibits "take" of any species that the commission determines to be an

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endangered species or a threatened species. Take is defined in Section 86 of the FGC as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

CESA allows for take incidental to otherwise lawful development projects. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate mitigation planning to offset project-caused losses of listed species populations and their essential habitats.

~~1.2.12~~1.2.16 California Lake and Streambed Program (Fish and Game Code Section 1602)

CDFW is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the FGC (Section 1602) requires an entity to notify CDFW of any proposed activity that may substantially modify a river, stream, or lake.

1.3 Purpose of an EIR

The purpose of an EIR is to analyze the potential environmental impacts associated with a project. CEQA (Section 15002) states that the purpose of CEQA is to: (1) inform the public and governmental decision makers of the potential, significant environmental impacts of a project; (2) identify the ways that environmental damage can be avoided or significantly reduced; (3) prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and (4) disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

1.4 EIR Process

1.4.1 Availability of Reports

~~This~~ The Draft EIR was distributed to various federal, state, regional, local agencies and interested parties for a 50-day public review period, from December 14, 2022, through February 2, 2023, in accordance with Section 15087 of the CEQA Guidelines. The public review period was extended for an additional 30 days, ending on March 3, 2023. ~~This~~ The Draft EIR and documents incorporated by reference ~~are~~ were made available for public review at the County of Imperial Planning and Development Services Department, 801 Main Street, El Centro, California 92243. Documents ~~may be reviewed~~ were available for review during regular business hours.

David Black, Planner IV

County of Imperial, Planning and Development Services Department

801 Main Street

El Centro, California 92243

Comments received during the public review period of the Draft EIR ~~will be~~ have been reviewed and responded to in ~~the~~this Final EIR. The Final EIR will be reviewed by the Imperial County Planning Commission and Board of Supervisors as a part of the procedure to certify the Final EIR. Additional information on this process may be obtained by contacting the County of Imperial Planning and Development Services Department at (442) 265-1736.

1.4.2 Public Participation Opportunities/Comments and Coordination

Notice of Preparation

The County of Imperial issued a notice of preparation (NOP) for the preparation of an EIR for the VEGA SES 2, 3, and 5 Solar Energy Project on May 4, 2021. The NOP was distributed to city, county, state, and federal agencies, other public agencies, and various interested private organizations and individuals in order to define the scope of the EIR. The NOP was also published in the Imperial Valley Press and The Desert Review on May 4, 2021. The purpose of the NOP was to identify public agency and public concerns regarding the potential impacts of the projects, and the scope and content of environmental issues to be addressed in the EIR. Correspondence in response to the NOP was received from the following entities and persons:

- California Department of Transportation
- Native American Heritage Commission
- V&V Farms, LLC

The comments submitted on the NOP during the public review and comment period are included as Appendix A to this EIR.

Scoping Meeting and Environmental Evaluation Committee

During the NOP public review period, the VEGA SES 2, 3 and 5 Solar Energy Project was discussed as an informational item at the County's Environmental Evaluation Committee meeting on May 13, 2021.

Additionally, a virtual scoping meeting for the general public as well public agencies was held on May 13, 2021 at 6:00 p.m., to further obtain input as to the scope of environmental issues to be examined in the EIR. The NOP, which included the scoping meeting date and location, was published in the Imperial Valley Press and The Desert Review on May 4, 2021. A virtual meeting was held by the Imperial County Planning & Development Services Department. At the scoping meeting, members of the public were invited to ask questions regarding the proposed projects and the environmental review process, and to comment both verbally and in writing on the scope and content of the EIR. No written or verbal comments were received during the scoping meeting.

1.4.3 Environmental Topics Addressed

Based on the analysis presented in the NOP and the information provided in the comments to the NOP, the following environmental topics are analyzed in this EIR.

- Aesthetics
- Agriculture Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- GHG Emissions
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use and Planning
- Noise and Vibration
- Public Services
- Transportation
- Tribal Cultural Resources
- Utilities/Service Systems (Water Supply)

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Eliminated from Further Review in Notice of Preparation

The initial study (IS)/NOP completed by the County (Appendix A of this EIR) determined that environmental effects to Forestry Resources, Energy, Mineral Resources, Population/Housing, Public Services, Recreation, Utilities (Wastewater, Stormwater, and Solid Waste), and Wildfire would not be potentially significant. Therefore, these impacts are not addressed in this EIR; however, the rationale for eliminating these issues is discussed in Chapter 6.0, Effects Found Not Significant.

1.4.4 Areas of Controversy and Issues to be Resolved

Section 15123(b)(2) of the CEQA Guidelines requires that an EIR identify areas of controversy known to the Lead Agency, including issues raised by other agencies and the public as well as issues to be resolved. A primary issue associated with this solar farm project, and other solar facility projects that are proposed in the County, is the corresponding land use compatibility and fiscal/economic impacts to the County. Through the environmental review process for this project, other areas of concern and issues to be resolved include water supply; relocation, modification, or reconstruction of IID facilities; and access.

1.4.5 Document Organization

The structure of the ~~Draft~~ Final EIR is identified below. The ~~Draft~~ Final EIR is organized into ~~10~~ 14chapters, including the Executive Summary.

- **Chapter 0.1 Introduction and Summary** describes the CEQA requirements and content of the Final EIR.
- **Chapter 0.2 Responses to Comment Letters Received on the Draft EIR** provides copies of the comment letters received and individual responses to written comments.
- **Chapter 0.3 Errata to the Draft EIR** identifies the location of, or contains revisions to, information included in the Draft EIR dated December 2022, based upon additional or revised information required to prepare a response to a specific comment.
- **Chapter 0.4 Mitigation Monitoring and Reporting Program** identifies the mitigation measures, timing, and responsibility for implementation of the measures.
- The **Executive Summary** provides a summary of the proposed projects, including a summary of project impacts, mitigation measures, and project alternatives.
- **Chapter 1 Introduction** provides a brief introduction of the proposed projects; relationship to statutes, regulations and other plans; the purpose of an EIR; public participation opportunities; availability of reports; and comments received on the NOP.
- **Chapter 2 Project Description** provides a description of the VEGA SES 2, 3 & 5 Solar Energy Projects. This chapter also defines the goals and objectives of the proposed projects, provides details regarding the individual components that together comprise the project, and identifies the discretionary approvals required for implementation of the project.
- **Chapter 3 Environmental Analysis** provides a description of the existing environmental setting and conditions, an analysis of the environmental impacts of the project for the following environmental issues: aesthetics; agricultural resources; air quality; biological resources; cultural resources; geology and soils; GHG emissions; hydrology/water quality; land use and planning; noise and vibration; transportation; tribal cultural resources; and utilities/service

systems. This chapter also identifies mitigation measures to address potential impacts to the environmental issues identified above.

- **Chapter 4 Analysis of Long-Term Effects** provides an analysis of growth inducing impacts, significant irreversible environmental changes, and unavoidable adverse impacts.
- **Chapter 5 Cumulative Impacts** discusses the impact of the proposed projects in conjunction with other planned and future development in the surrounding areas.
- **Chapter 6 Effects Found Not to be Significant** lists all the issues determined to not be significant as a result of the preparation of this EIR.
- **Chapter 7 Alternatives** analyzes the alternatives to the proposed projects.
- **Chapter 8 References** lists the data references utilized in preparation of the EIR.
- **Chapter 9 EIR Preparers and Organizations Contacted** lists all the individuals and companies involved in the preparation of the EIR, as well as the individuals and agencies consulted and cited in the EIR.

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2 Project Description

Chapter 2 provides a description of the VEGA SES 2, 3, and 5 Solar Energy Projects. This chapter also defines the goals and objectives of the proposed projects, provides details regarding the individual components that together comprise the projects, and identifies the discretionary approvals required for project implementation of each of the projects.

2.1 Project Location

The project applicant, Apex Energy Solutions, LLC, proposes to construct and operate an expansive photovoltaic (PV) solar energy facility, battery energy storage system (BESS), and associated infrastructure on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA. The project area is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City (Figure 2-1). The project area is transected by the Coachella and East Highline Canals and the Union Pacific Railway.

Three separate Conditional Use Permits (CUPs) have been filed with the County for the construction and operation of the solar facilities, which together define the project sites. The three CUP applications or individual site locations consist of the following and are shown in Figure 2-2:

- CUP 20-0021: VEGA SES 2
- CUP 20-0022: VEGA SES 3
- CUP 20-0023: VEGA SES 5

Table 2-1 identifies the individual assessor parcel numbers (APN) associated with the VEGA SES 2, 3, and 5 sites with their respective acreage and zoning.

Table 2-1. Solar Energy Facility Site Assessor Parcel Numbers, Acreages, and Zoning

Project	APN	Acreage	Zoning
VEGA SES 2 (CUP 20-0021)	025-010-006 (partial)	410	S-2-RE
	025-260-011 (partial)	288	S-2-RE
	025-270-023	625	S-2-RE
	Subtotal	***1,323***	**--**
VEGA SES 3 (CUP 20-0022)	025-010-006 (partial)	230	S-2-RE
	Subtotal	***230***	**--**
VEGA SES 5 (CUP 20-0023)	025-260-011 (partial)	160	S-2-RE
	025-260-019	90	S-2-RE
	025-260-022	160	A-2-RE, A-3-RE, S-2-RE
	Subtotal	***410***	**--**

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Table 2-1. Solar Energy Facility Site Assessor Parcel Numbers, Acreages, and Zoning

Project	APN	Acreage	Zoning
Total Gross Acres		**1,963**	**--**

Notes:
APN = assessor parcel number; A-2-RE = General Agriculture with a Renewable Energy Zone Overlay A-3-RE = Heavy Agriculture with a Renewable Energy Zone Overlay; S-2-RE = Open Space/Preservation with a Renewable Energy Zone Overlay

2.1.1 VEGA SES 2

The VEGA SES 2 project site is located on three non-contiguous parcels (APNs 025-010-006 [partial], 025-260-011 [partial], and 025-270-023).

The northernmost parcel, APN 025-010-006, comprises 640 acres. The VEGA SES 2 project site is located on the southern 410 acres of the 640-acre parcel. This parcel is approximately 2.31 miles northeast of the East Highline Canal Road/Wiest Road/Flowing Wells Road intersection. This parcel is transected by Coachella Canal Road (intersected by Flowing Wells Road approximately halfway through the parcel) and the Coachella Canal, which runs southeast parallel to the roadway.

The southwestern parcel, APN 025-260-011, comprises 488 acres. The VEGA SES 2 project is located on the northern 288 acres of the 488-acre parcel.

The southeastern parcel, APN 025-270-023, encompasses approximately 625 acres and is adjacent to the southeast corner of APN 025-010-006. An approximately 934-foot segment of the Coachella Canal traverses the southwestern corner of the parcel. This parcel is transected by Niland Pegleg Well Road and Ted Kipf Road in the northern half of the parcel.

2.1.2 VEGA SES 3

The VEGA SES 3 project site is located on the northern portion of APN 025-010-006, comprising the remaining 230 acres of the 640-acre parcel.

2.1.3 VEGA SES 5

The VEGA SES 5 project site is located on three parcels (APNs 025-260-011 [partial], 025-260-019 and 025-260-022) encompassing approximately 410 acres. A portion of the VEGA SES 5 project site is located on the southern 160 acres of APN 025-260-011. APN 025-260-019 is adjacent to the Union Pacific Railway and Noffsinger Road to the northeast. APN 025-260-022 is adjacent to Wiest Road to the west and McDonald Road to the north and transected by East Highline Canal Road and the East Highline Canal.

The agricultural portion of VEGA SES 5 (APN 025-260-022) that is west of the East Highline Canal contains fallow agricultural land with scattered dry crop residue. The agricultural field is bounded by McDonald Road to the north, Schrimpf Road to the south, and Weist Road to the west. The East Highline Canal cuts across APN 025-260-022 diagonally in a northwest to southeast direction. Within the agricultural portion of the VEGA SES 5 project site, there are subsurface tile drainage pipelines that are generally aligned north to south and carry irrigation wastewater to the N Drain at the southwest corner of the field.

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Figure 2-1. Regional Location

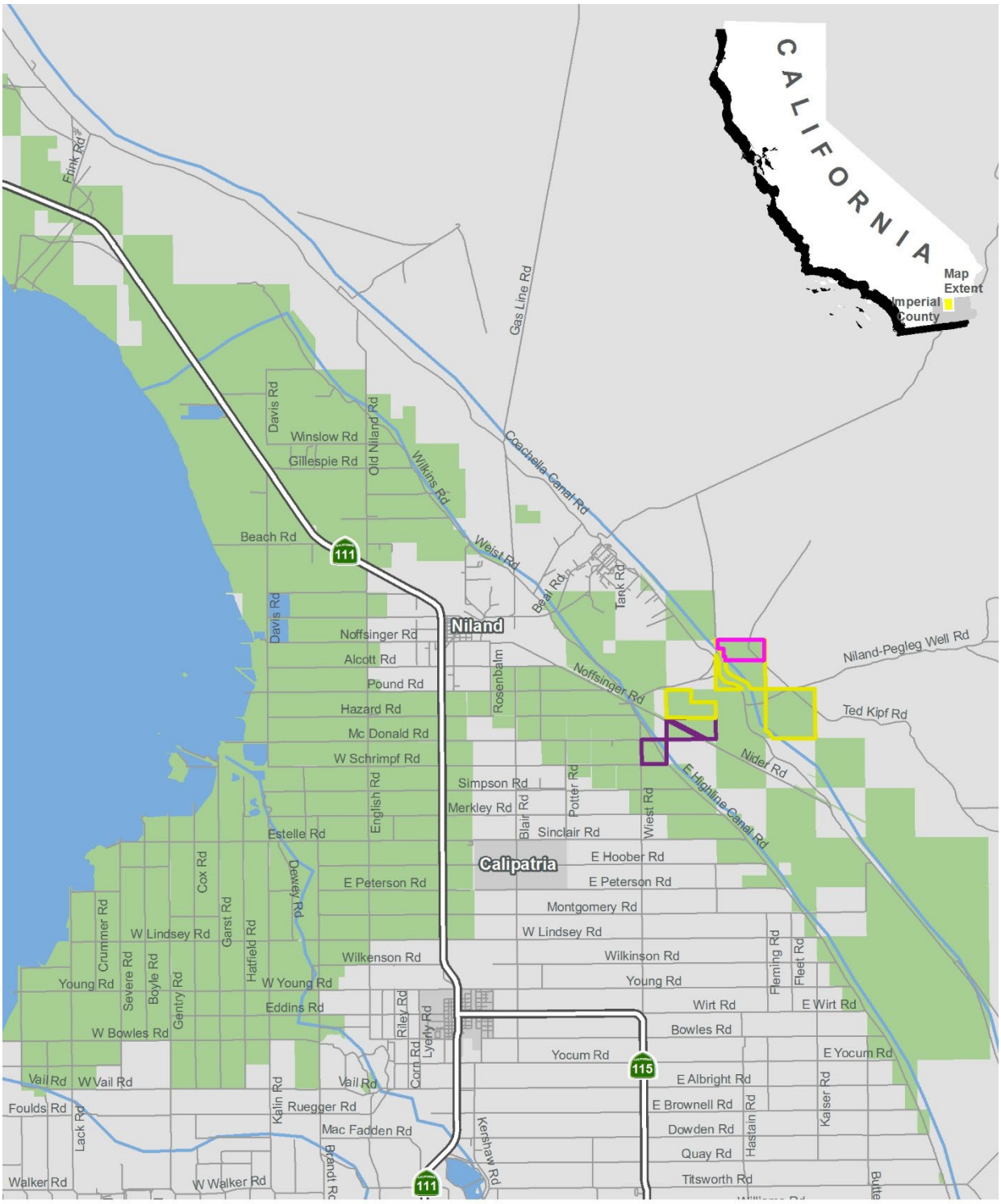

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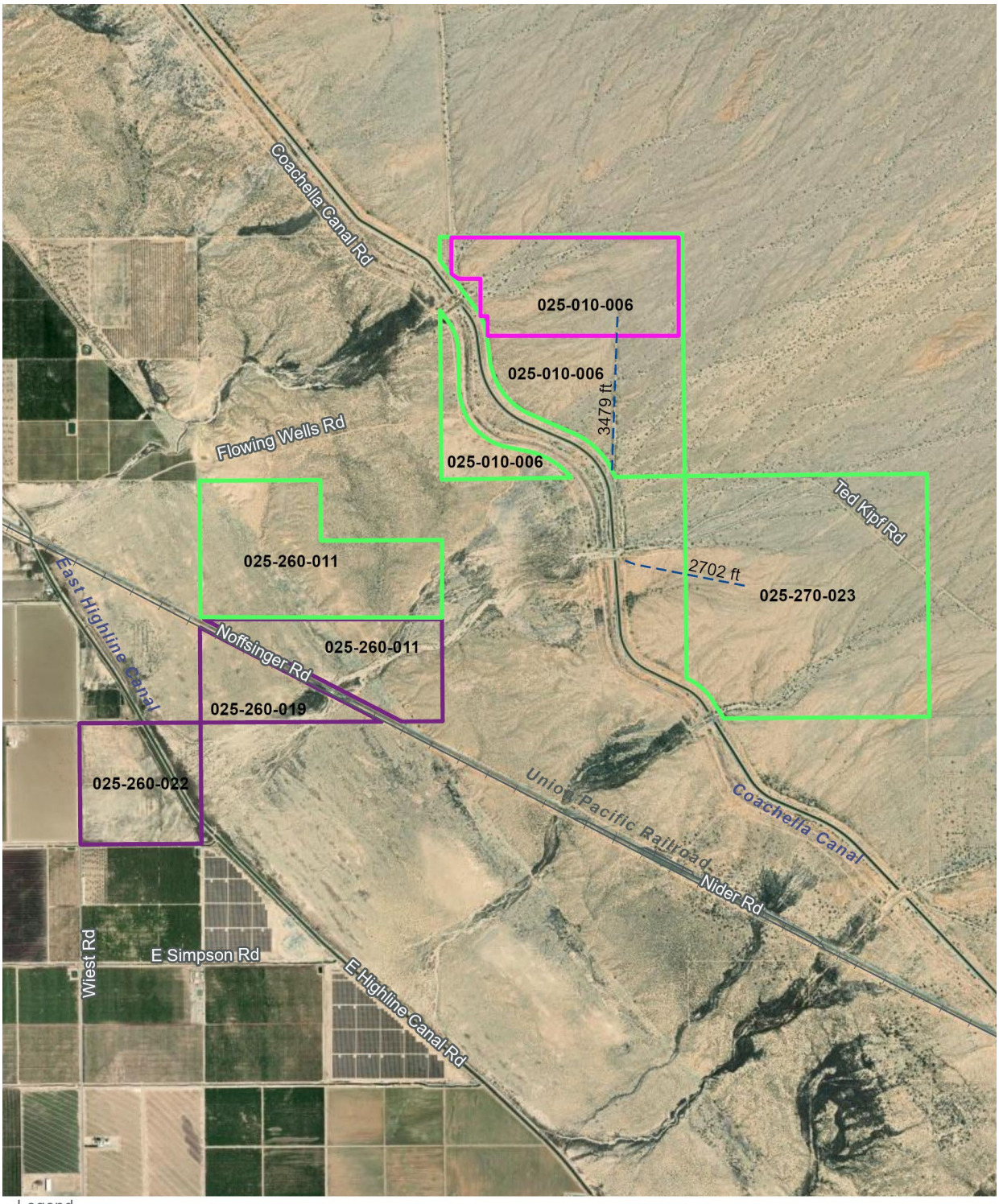
Figure 2-2. Project Sites



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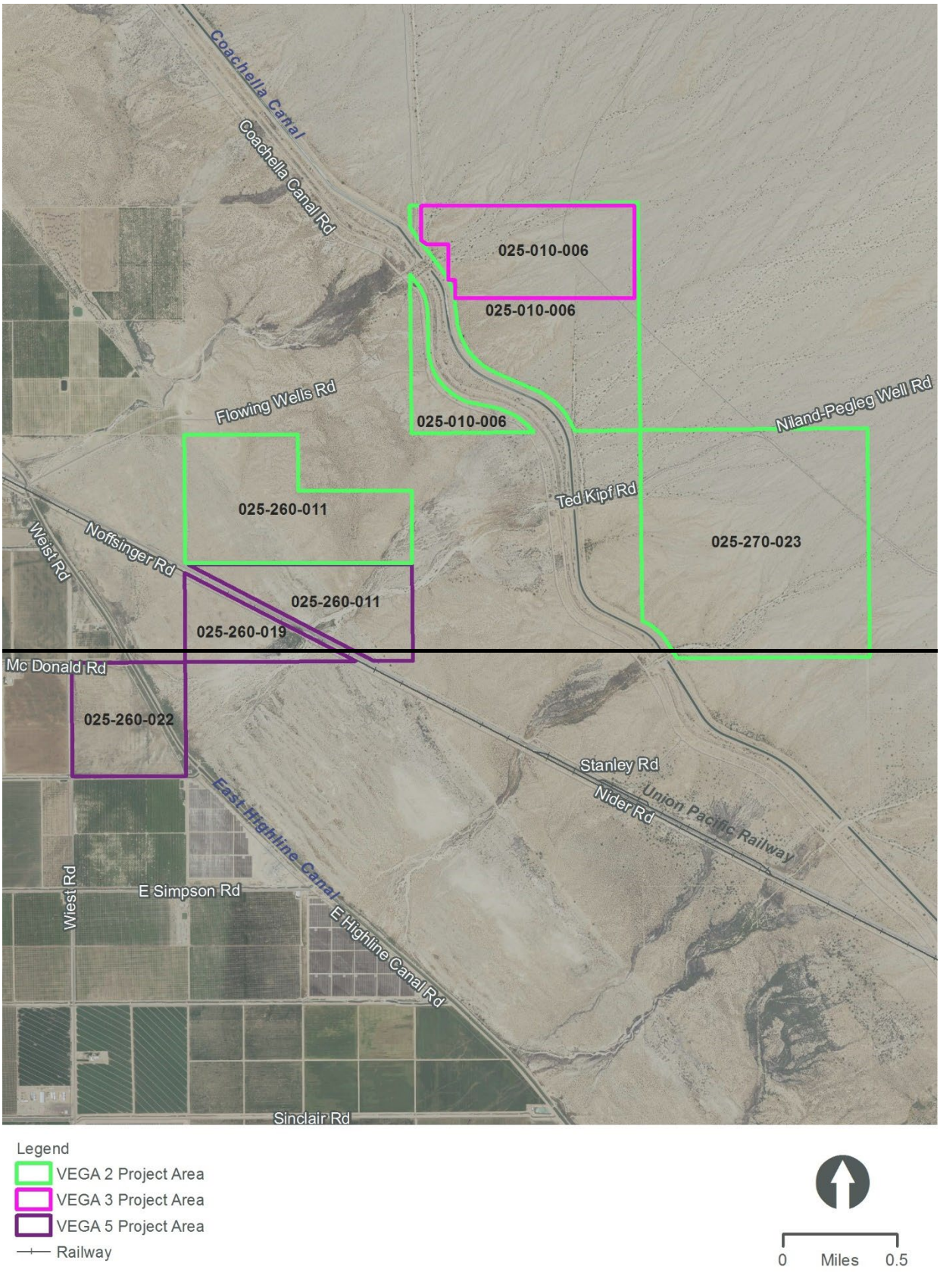

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Renewable Energy Overlay Zone

In 2016, the County adopted the Imperial County Renewable Energy and Transmission Element, which includes an RE Zone (RE Overlay Map). This General Plan element was created as part of the California Energy Commission Renewable Energy Grant Program to amend and update the County's General Plan to facilitate future development of renewable energy projects.

The County Land Use Ordinance, Division 17, includes the RE Overlay Zone, which authorizes the development and operation of renewable energy projects with an approved CUP. The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of renewable energy facilities while minimizing the impact on other established uses. CUP applications proposed for specific renewable energy projects not located in the RE Overlay Zone would not be allowed without an amendment to the RE Overlay Zone.

As shown on Figure 2-1, the project sites are located within the RE Overlay Zone. Therefore, no General Plan Amendment or Rezone would be required to implement the proposed projects.

2.2 Project Objectives

- Construct and operate a solar energy facility capable of producing up to 350 megawatt (MW) alternating current (AC) of electricity to assist the State of California in achieving its 60 percent renewable portfolio standard by 2030.
- Provide a 700 MW energy (battery storage) system, that would accommodate and store the power generated by the project so that the facility can continue to provide renewable energy during non-daylight hours.
- Interconnect directly to IID's existing electrical transmission system.
- Help California meet its statutory and regulatory goal of increasing renewable power generation, including greenhouse gas reduction goals of Senate Bill 32.
- Minimize and mitigate any potential impact to sensitive environmental resources within the project area.

2.3 Project Characteristics

The proposed projects (VEGA SES 2, 3, and 5) would involve the construction and operation of an expansive PV solar energy facility and associated infrastructure on approximately 1,963 acres of privately-owned land. The project sites would be developed with a ground mounted PV solar power generating system, supporting structures, on-site substations, battery energy storage system (BESS), interconnection facilities, and internal access roads. The projects would employ the use of PV power systems to convert solar energy into electricity using non-reflective technology.

Collectively, the proposed projects involve the construction of up to 350 megawatt (MW) alternating current (AC) photovoltaic (PV) solar energy facility (Table 2-2) with an integrated battery storage system (not to exceed 700 MW).

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Table 2-2. Megawatt Output

Solar Facility	Proposed Megawatt Output	Battery Storage
VEGA SES 2	240 MW	480 MW
VEGA SES 3	60 MW	120 MW
VEGA SES 5	50 MW	100 MW
Total	**350MW**	**700 MW**

2.3.1 Photovoltaic Panels/Solar Arrays

PV solar cells convert sunlight directly into direct current electricity. The process of converting light (photons) to electricity (voltage) in a solid-state process is called the photovoltaic effect. A number of individual PV cells are electrically arranged and connected into solar PV modules, sometimes referred to as solar panels.

The projects propose to utilize either thin film or crystalline solar photovoltaic (PV) technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems.

The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The depth of the piles would be dependent on the recommendations of the geotechnical report prepared for the projects. The fixed-frame racks would be secured at a fixed tilt of 20-30 degrees from horizontal facing a southerly direction. Current project designs would have individual PV modules, mounted two high on a fixed frame, providing a two-foot ground clearance and resulting in the tops of the panels at approximately 7.5 feet above the ground. The fixed PV modules would be arranged in arrays spaced approximately 15 to 25 feet apart (pile-to-pile) to maximize performance and to allow access for panel cleaning. These arrays would be separated from each other and the perimeter security fence by up to 30-foot wide interior roads.

If HSAT technology is used, the PV modules would rotate around the north-south HSAT axis so that the PV modules would continue to face the sun as the sun moves across the sky throughout the day. The PV modules would reach their maximum height (up to 9 feet above the ground, depending on the final design) at both sunrise and sunset, when the HSAT is rotated to point the modules at the rising or setting sun. At noon, or when stowed during high winds, when the HSAT system is rotated so that the PV modules are horizontal, the nominal height would be about 6 feet above the ground, depending on the final design.

The individual PV systems would be arranged in large arrays by placing them in columns spaced approximately 10 feet apart to maximize operational performance and to allow access for panel cleaning and maintenance. Current project designs would have individual HSAT PV modules, each approximately two feet wide by four feet long (depending on the specific PV technology selected), mounted on a frame which is attached to an HSAT system. The HSAT arrays would be separated from each other and the perimeter security fence by up to 30-foot-wide roads, consistent with Imperial County Fire Department emergency access requirements.

2.3.2 Electrical Power System

Electricity generated by the PV modules would be collected by a direct current (DC) collection system routed underground in trenches. This DC power would be delivered to one of the pad-mounted inverters in weatherproof enclosures located within the arrays. The inverters would convert the DC

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power to three-phase alternating current (AC). The inverters could be connected to AC interconnection facilities which, if needed, would raise the voltage to 34.5 kilovolt (kV), or the interconnection voltage selected by the projects. Underground or overhead 12.5 kV or 34.5 kV collection lines would transmit the electricity to the new substations.

2.3.3 Substations, Distribution/Electrical Collection and Transmission

VEGA SES 2

Substations

As shown in Figure 2-3, two new substations would be constructed on the VEGA SES 2 project site. The first substation would be constructed in the northwestern corner of APN 025-260-011 on approximately two acres. The substation would take the delivery of up to 60 kV electricity and increase the voltage of the electricity to 230 kV, where it would feed into the interconnection switching station for metering and delivery to the IID KN/KS Line, and ultimately delivery to IID's Ramon Substation. The substation would include two transformers, circuit breakers, disconnect switches, microwave or other communication facilities, and an electrical control building.

The second substation would be located in the northwestern corner of APN 025-270-023 on approximately two acres. This substation would be comprised of an underground combiner box used to connect all of the low voltage AC outputs of the inverters, a medium voltage transformer to increased the voltage up to 60 kV, a protective relay system and associated circuit breakers and disconnect switches. This substation would take delivery of the energy generated on APN 025-270-023 and transmit it through the proposed 34.5 kV or 60 kV lines to the primary project substation on APN 025-260-011. The substation would include a transformer, circuit breaker, meters, disconnect switches, and microwave or other communication facilities.

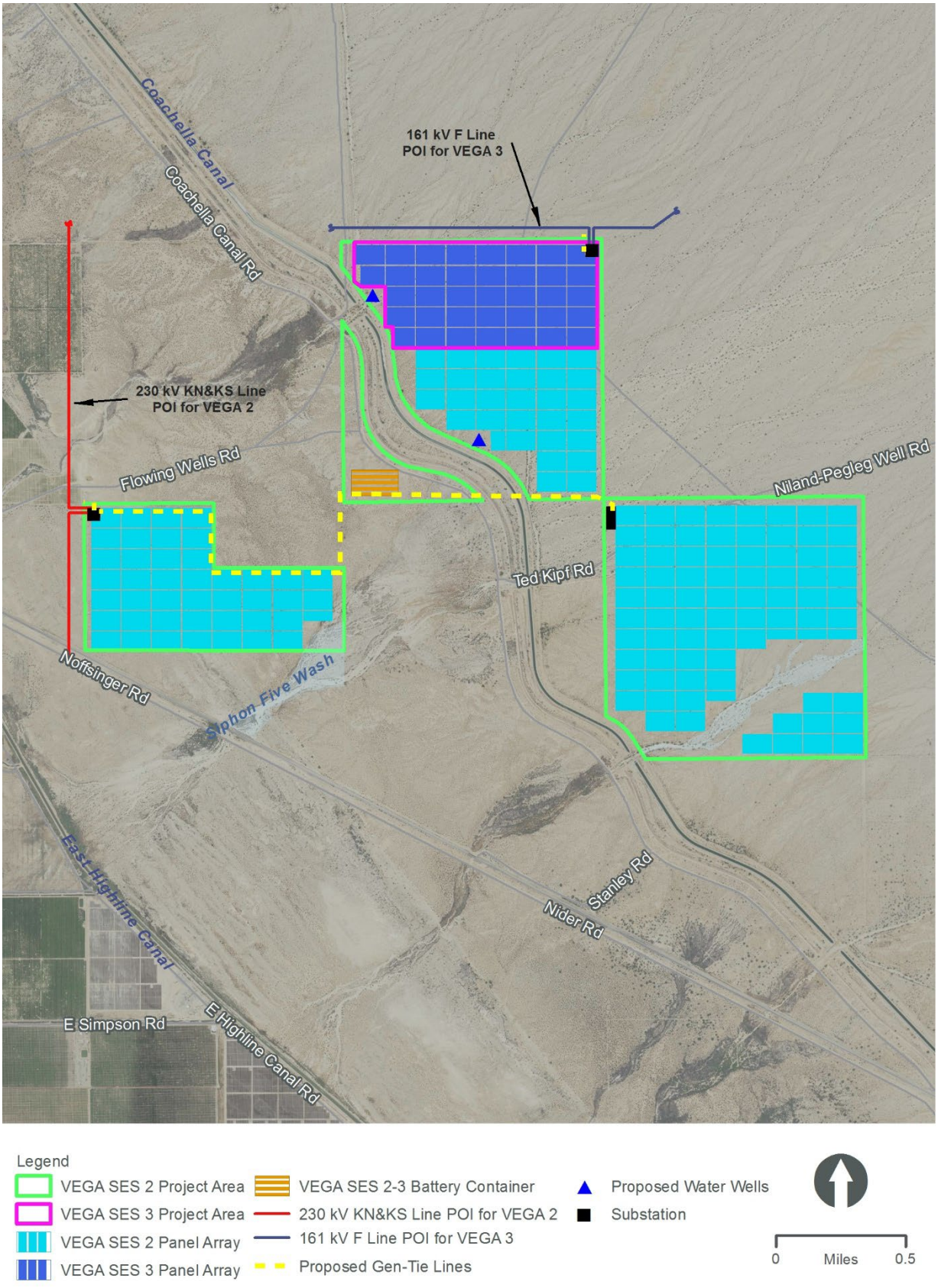
One new interconnection switching station would be constructed on APN 025-260-011, immediately adjacent to the substation. The interconnection switching station and substation would be connected via a single overhead 230 kV line. The switching station would include circuit breakers, switches, overhead bus work, protective relay equipment and an electrical control building. The switching station would operate at 230 kV and be configured in a Breaker-And-A-Half arrangement. This would allow for looping in of one or two of the IID 230 kV lines as well as connection of the total project output at 230 kV. The switching station would be enclosed within its own fence.

To connect the project's interconnection facilities, the medium voltage power produced by the project would be conveyed underground, or above ground where necessary, to cross over any sensitive site features. The design of the project's interconnection facilities would meet all necessary utility standards and requirements. As required, surge arrestors would be used to protect facilities and auxiliary equipment from lightning strikes or other disturbances. Distribution from the site would be via an overhead connection.

Distribution and Interconnection

The VEGA SES 2 project's distribution and interconnection would be as follows: the medium voltage power would be conveyed underground or aboveground via 34.5 kV or 60 kV distribution circuits from the substation located in the northwest corner of 025-270-023 to the substation located in the northwest corner of APN 025-260-011. The height of the proposed gen-tie transmission structures would be 40 feet. The electrical energy produced by the VEGA SES 2 project would be delivered to the IID through the project's interconnection switching station to the IID's 230 kV KN/KS Line.

Figure 2-3. VEGA SES 2 and 3 Site Plan



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~~BLM Right-of-Way Request – VEGA SES 2~~

Bureau of Reclamation Right-of-Way Request – VEGA SES 2

60-Foot-Wide ROW for Gen-Tie Interconnection

As shown in Figure 2-4 and Figure 2-5, there is a portion of the VEGA SES 2 gen-tie line, from the southwest corner of APN 025-010-006 to the northeast corner of APN 025-260-011, that would traverse ~~BLM~~ Bureau of Reclamation (BOR) land. The project applicant is requesting a 60-foot-wide ROW for a single power pole structure from ~~BLM~~ BOR to construct a portion of the gen-tie line on ~~BLM~~ BOR land. This ROW would be 1,200-foot-long X 60-foot wide for an area of approximately 1.82 acres.

BLM Right-of-Way Request – VEGA SES 2

~~30-Foot-Wide ROW for Gen-Tie Interconnection~~Aerial Crossing ROWs for Overhead Powerlines

As shown in Figure 2-4 and Figure 2-5, ~~A~~a triangular aerial crossing ROW would be required at the southeastern corner of APN 025-010-006 to the northwestern corner of APN 025-270-023. The triangular ROW would be required for overhead powerlines that would span the two corners of these parcels. No power poles would be set within this ROW. The total land area would be approximately 0.02 acres.

Additionally, as shown in Figure 2-4 and Figure 2-5, a triangular aerial crossing ROW would be required at the northeastern corner of APN 025-260-035 to APN 025-010-006. This triangular ROW would be required for overhead powerlines that would span the two corners of these parcels. No power poles would be set within this ROW. The total land area would be approximately 0.02 acres.

~~Additionally, BLM approval of two aerial easements would also be required to allow gen-tie connections between the facilities. No ground disturbance would occur associated with the aerial easements.~~

VEGA SES 3

Substation

A new substation would be constructed on the northwestern corner of the VEGA SES 3 project site. The substation site will comprise approximately two acres. Medium voltage power electricity generated from the site would be conveyed underground, or above ground where necessary, to cross over any sensitive site features, to connect to the substation.

Interconnection

A new interconnection switching station would be constructed immediately adjacent to the substation. The interconnection switching station and substation would be connected via a single overhead 161 kV line. The switching station would include circuit breakers, switches, overhead bus work, protective relay equipment and an electrical control building. The switching station would operate at 161 kV and be configured in a Breaker-And-A-Half or three breaker ring bus arrangement. This would allow for looping in of the IID 161 kV “F” transmission line as well as connection of the project gen-tie line. The switching station would be enclosed within its own fence. As shown in Figure 2-3, the electrical energy produced by the VEGA SES 3 project would be connected to the existing utility approved point of

interconnection at the northeast corner of the site to the IID's 161 kV "F" Line, and ultimately delivery to IID's Ramon Substation.

The design of the project's interconnection facilities would meet all necessary utility standards and requirements. As required, surge arrestors would be used to protect facilities and auxiliary equipment from lightning strikes or other disturbances. Distribution from the site would be via an overhead connection.

BLM Right-of-Way Request – VEGA SES 3

140-Foot-Wide ROW for Gen-Tie Interconnection

As shown in Figure 2-3, the electrical energy produced by the VEGA SES 3 project would be connected to the existing utility approved point of interconnection at the northeastern corner of the site to the IID's 161 kV "F" Line. Because the "F" Line is located on BLM land, the project applicant is requesting a 140-foot-wide ROW from BLM for the proposed interconnection road to IID and along the IID's 161 kV "F" Line for approximately 200 feet in length and the width of the existing IID ROW. There would be two new H Frame poles installed in the corridor of the "F" Line. The total area would be approximately 0.25 acres ~~to construct a gen-tie line from the northeastern corner of the site to IID's 161 kV "F" Line to the north~~ (Figure 2-4 and Figure 2-5).

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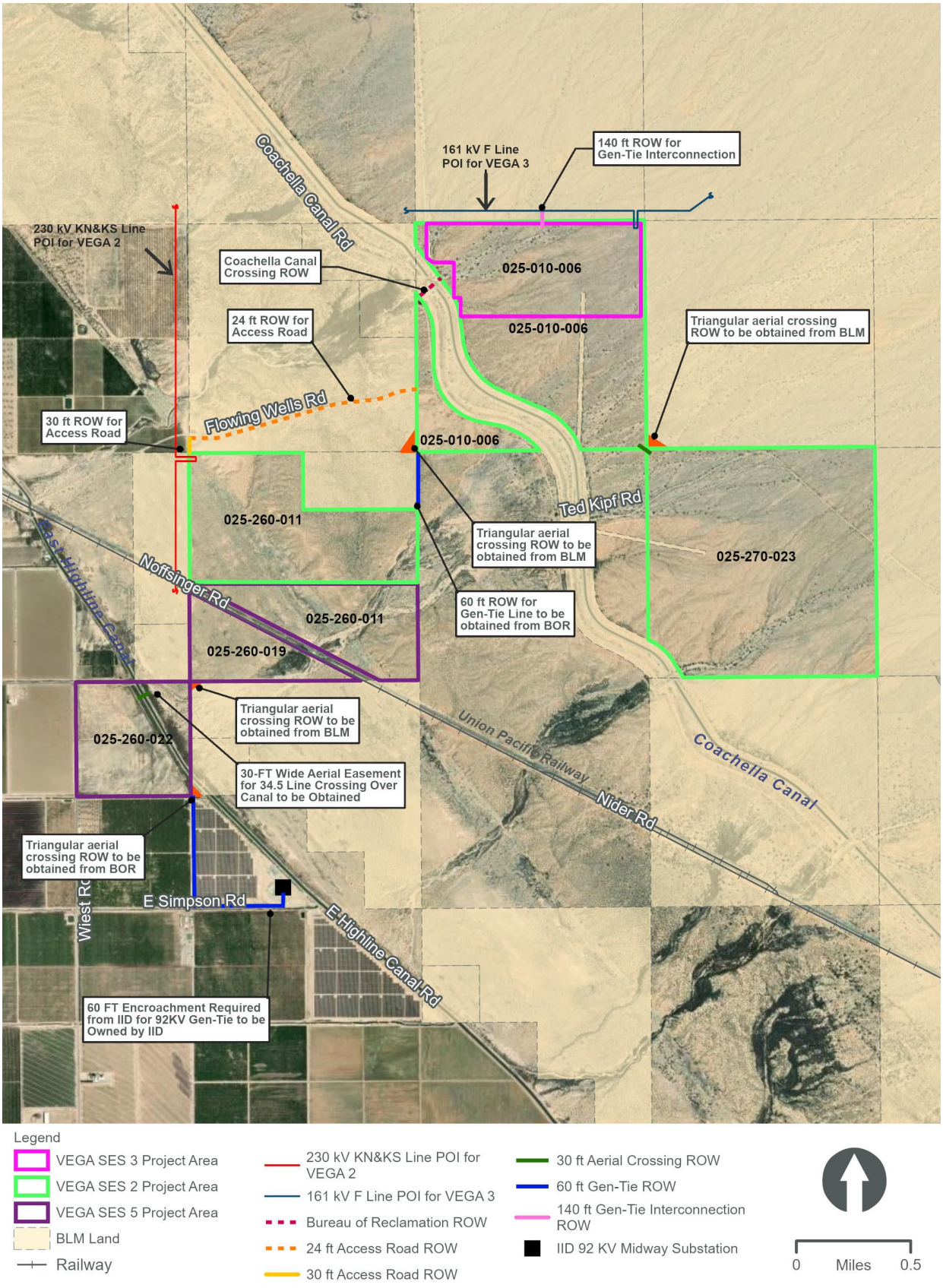
Figure 2-~~4~~2-~~4~~. Overview of Right-of-Way Requests



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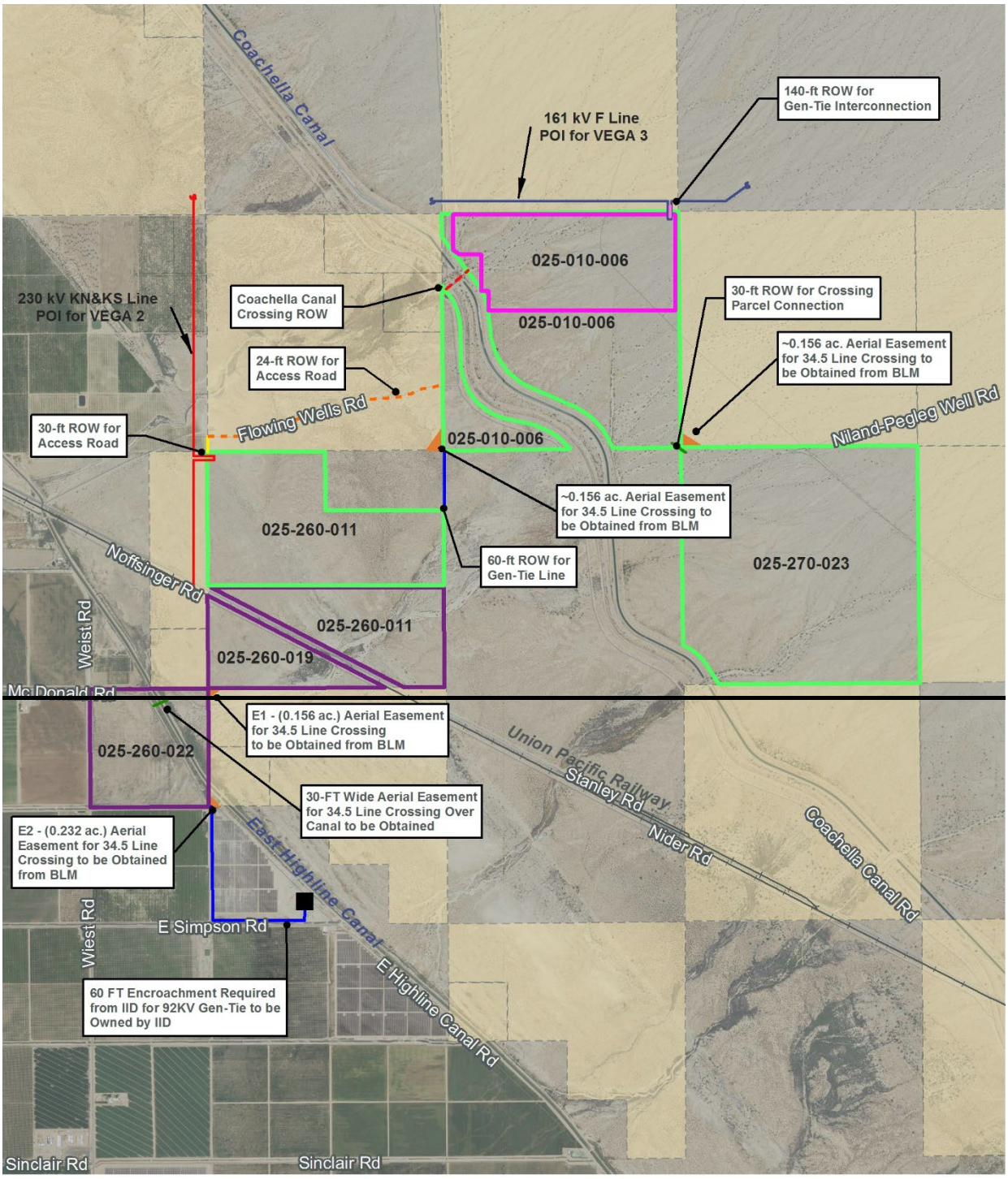

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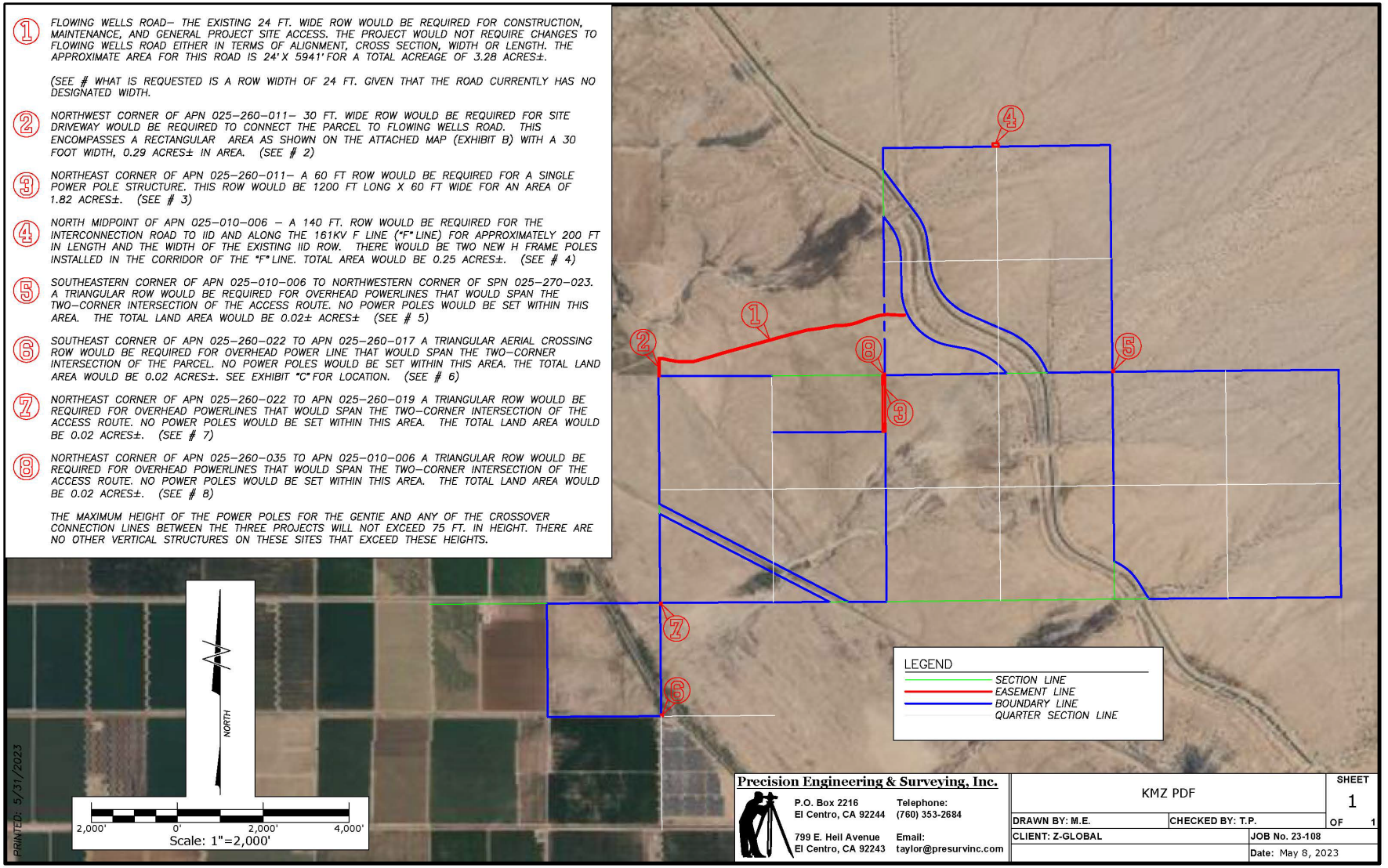
Figure 2-5. BLM and BOR Right-of-Way Requests



Notes: ROW Requests #3 and #6 on this figure are on Bureau of Reclamation land.

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VEGA SES 5

Substation

A new substation would be constructed on the VEGA SES 5 project site, on the southeastern boundary of APN 025-260-022. This substation would take the delivery of the up to 34.5 kV power generated on the site and increase the voltage of the electricity to 92 kV, where it would be delivered to the IID 92 kV Midway Substation.

Interconnection

The proposed gen-tie line alignment for VEGA SES 5 is depicted on Figure 2-6~~Figure 2-5~~. The substation would include a transformer, circuit breakers, meters, disconnect switches, and microwave or other communication facilities. The medium voltage power electricity generated from the project would be conveyed underground, or above ground where necessary, to cross over any sensitive site features, to connect to the projects' interconnection facilities.

The design of the project's interconnection facilities would meet all necessary utility standards and requirements. As required, surge arrestors would be used to protect facilities and auxiliary equipment from lightning strikes or other disturbances. Distribution from the site would be via an overhead connection.

BLM Right-of-Way Request – VEGA SES 5

Aerial Crossing ROW for Overhead Powerline

As shown in Figure 2-4 and Figure 2-5, BLM approval of ~~two~~ one triangular aerial crossing ROW ~~easements~~ would be required ~~to allow the proposed gen-tie to cross BLM land~~. At the northeast corner of APN 025-260-022 to APN 025-260-019, a triangular aerial crossing ROW would be required for the overhead power line that would span the two-corner intersection of the parcel. No power poles would be set within this area. The total land area would be approximately 0.02 acres.

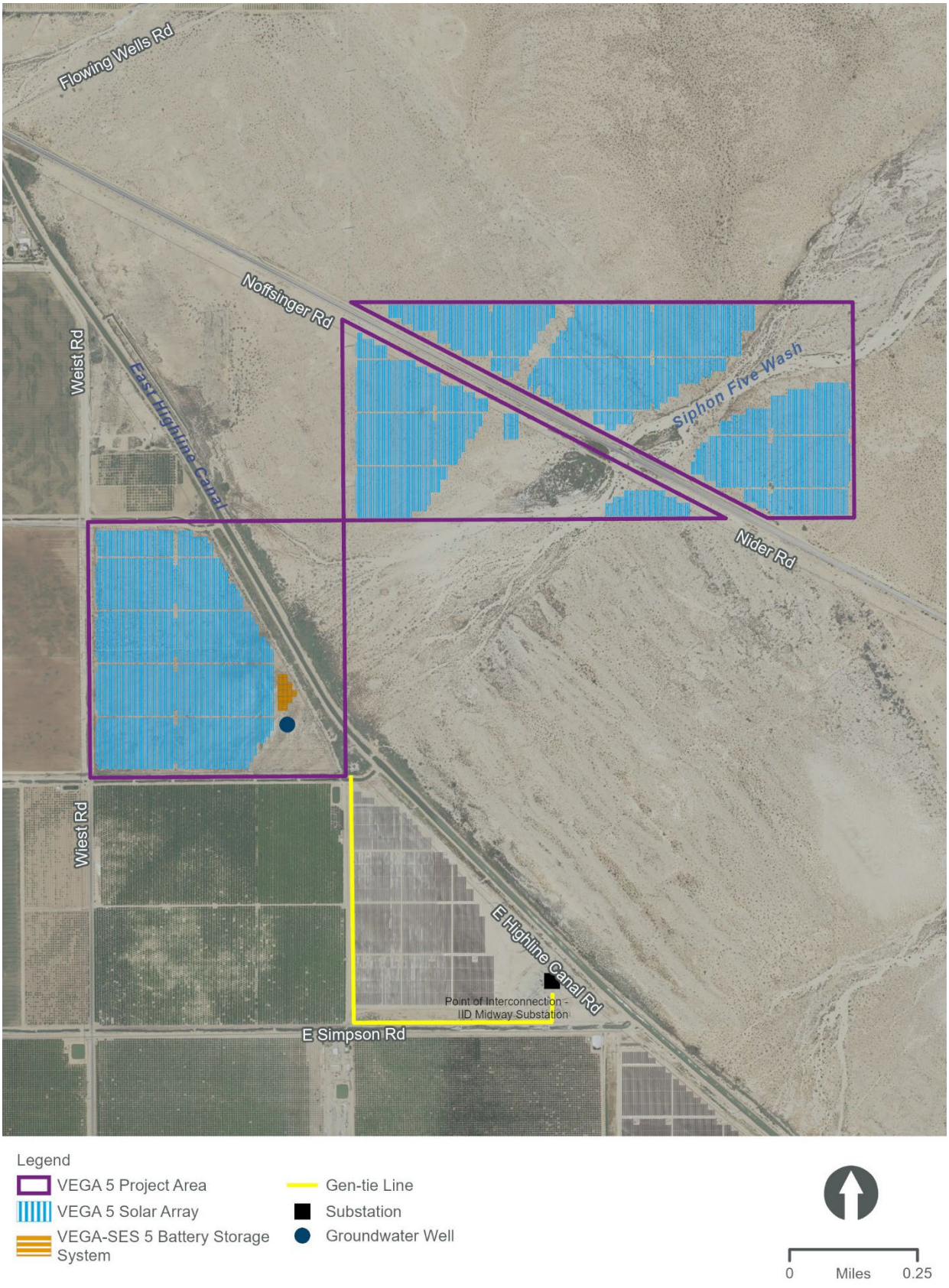
Bureau of Reclamation Right-of-Way Request – VEGA SES 5

Aerial Crossing ROW for Overhead Powerline

As shown in Figure 2-4 and Figure 2-5, BOR approval of one triangular aerial crossing ROW would be required. At the southeast corner of APN 025-260-022 to APN 025-260-017, a triangular aerial crossing ROW would be required for the overhead power line that would span the two-corner intersection of the parcel. No power poles would be set within this area. The total land area would be approximately 0.02 acres.

No ground disturbance would occur associated with the aerial ~~easements~~crossing ROWs.

Figure 2-6~~2-5~~. VEGA SES 5 Site Plan



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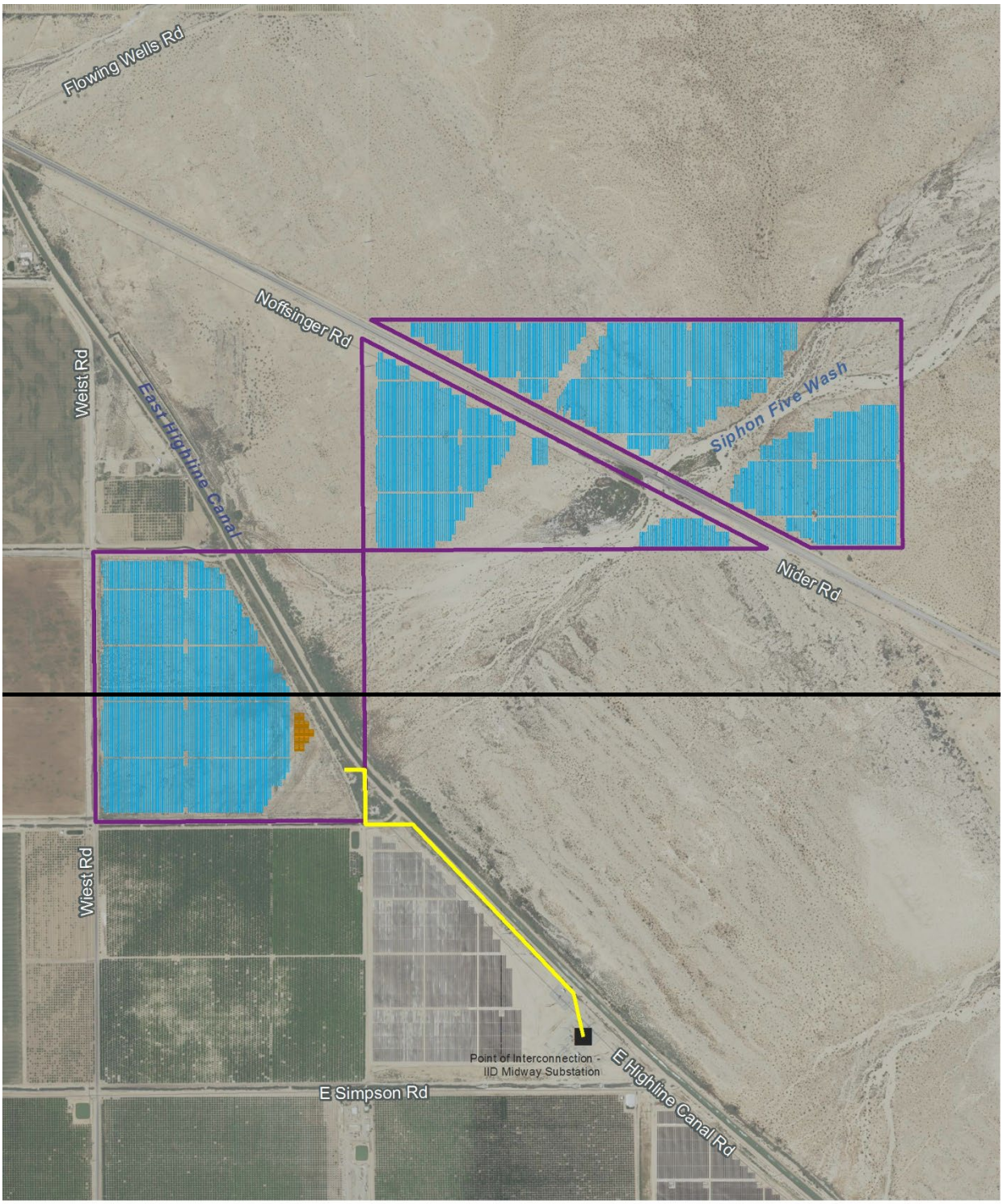

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2.3.4 Battery Energy Storage System

A BESS is proposed on an approximately 5-acre site within the VEGA SES 2 project site in the southwestern corner of APN 025-010-006. The BESS on the VEGA SES 5 project site is proposed to be located in the southeastern corner of APN 025-260-022. The proposed BESS would consist of either lithium ion or flow batteries. The batteries will either be housed in storage containers or buildings fitted with HVAC and fire suppression systems as necessary, depending on the final selection of battery technology. Inside the housing the batteries will be placed on racks, the orientation of which depends on the type of housing. Underground trenches with conduits will be used to connect the batteries to the control and monitoring systems, and inverters to convert the PV produced DC power to AC power. Figure 2-7~~Figure 2-6~~ depicts representative examples of a typical BESS.

Figure 2-7~~2-6~~. Representative Example of Battery Energy Storage Systems

2.3.5 Security

Six-foot high security fencing would be installed around the perimeter of each of the project sites at the commencement of construction and site access would be limited to authorized site workers. In addition, a motion detection system and closed-circuit camera system may also be installed. The site would be remotely monitored 24 hours per day, 7 days per week. In addition, routine unscheduled security rounds may be made by the security team monitoring the site security.

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2.3.6 Site Access

VEGA SES 2 and 3

The VEGA SES 2 and 3 project sites would include both a primary and secondary access driveway (if required) off adjacent public roads. No new access across IID lateral canals or drains is expected. The project driveways would be provided with a minimum of 30-foot double swing gates with "Knox Box" for keyed entry. Emergency response personnel would be provided with manual override capability in order to access the site facilities. To accommodate emergency access, PV panels would be spaced to maintain proper clearance. Internal access roads, up to 30-foot wide, would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles.

BLM Right-of-Way Requests

The proposed access to both VEGA SES 2 and 3 is through the use of Flowing Wells Road. This existing dirt road, although occasionally maintained by the County of Imperial, is on BLM land and a right-of-way (ROW) approval from the BLM is required. There is no alternative route that either exists or can be used to gain access to the VEGA SES 2 and 3 project sites that do not cross some Federal lands, hence Flowing Wells Road, is the only viable route.

24-Foot-Wide ROW for Access Road

The VEGA SES 2 and 3 projects intend to use Flowing Wells Road for access during construction of the facilities which upon being permitted will take approximately one year of actual construction. As shown in Figure 2-4 and Figure 2-5, the projects propose a ROW for the existing 24-foot wide access road for construction, maintenance, and general project site access. The approximate area for this road is 24 feet x 5941 feet for a total acreage of 3.28 acres. ~~to obtain a 24-foot-wide ROW for the length of Flowing Wells Road starting approximately 575 feet north of the northwest corner of APN 025-260-011 to APN 025-010-006.~~

The VEGA SES 2 and 3 projects would not require changes to Flowing Wells Road either in terms of alignment, cross section, width or length. The project applicant is requesting a 24-foot-wide ROW given that the road currently has no designated width. The VEGA SES 2 and 3 projects, if required as part of the permitting or ROW approval, would grade and maintain Flowing Wells Road during construction as required by the BLM, County and/or Air District, including future years maintenance for safe access to the sites. A maintenance agreement with the County/BLM will be included in the conditions of approval. All chemicals used for stabilization of Flowing Wells Road must be approved by BLM.

The use of Flowing Wells Road for construction is considered temporary as it would be used primarily during construction of the VEGA SES 2 and 3 projects. During operation, the sites will be controlled remotely and will not have any on site employees. The solar facilities would require occasional onsite maintenance. Therefore, Flowing Wells Road could require occasional maintenance. Either the County or applicant could perform the maintenance of Flowing Wells Road under an agreement.

30-Foot-Wide ROW for Access Road

The project applicant is requesting a 30-foot-wide ROW from BLM for an access road to connect the northwest corner of the VEGA SES 2 site (APN 025-0260-011) to Flowing Wells Road (Figure 2-4 and Figure 2-5). The total area for this ROW would be approximately 0.29 acres.

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Bureau of Reclamation Right-of-Way Request

Access will be needed across Bureau of Reclamation (~~BREC~~BOR) land for VEGA SES 3, crossing the Coachella Canal (Figure 2-4). Applications for this ROW have been filed directly with the ~~BREC~~ BOR office.

VEGA SES 5

The VEGA SES 5 site would include two primary driveways and a secondary driveway (if required). The primary driveway on APN 025-260-19 would be located in the northwestern corner of the parcel off of Noffsinger Road, while the driveway on APN 025-260-022 would be located along Weist Road which runs parallel to the western boundary of the parcel.

The project driveways would be provided with a minimum of 30-foot double swing gates with "Knox Box" for keyed entry. Emergency response personnel would be provided with manual override capability in order to access the site facilities. To accommodate emergency access, PV panels would be spaced to maintain proper clearance. Internal access roads, up to 30-foot wide, would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles.

2.3.7 Fire Protection/Fire Suppression

Fire protection systems for battery systems would be designed in accordance with California Fire Code and would take into consideration the recommendations of the National Fire Protection Association (NFPA) 855.

Fire suppression agents such as Novec 1230 or FM 2000, or water may be used as a suppressant. In addition, fire prevention methods would be implemented to reduce potential fire risk, including voltage, current, and temperature alarms. Energy storage equipment would comply with Underwriters Laboratory (UL)-95401 and test methods associated with UL-9540A. The projects would include lithium-ion batteries. For lithium-ion batteries storage, a system would be used that would contain the fire event and encourage suppression through cooling, isolation, and containment. Suppressing a lithium-ion (secondary) battery is best accomplished by cooling the burning material. A gaseous fire suppressant agent (e.g., 3M™ Novec™ 1230 Fire Protection Fluid or similar) and an automatic fire extinguishing system with sound and light alarms would be used for lithium-ion batteries.

To mitigate potential hazards, redundant separate methods of failure detection would be implemented. These would include alarms from the Battery Management System (BMS), including voltage, current, and temperature alarms. Detection methods for off gas detection would be implemented, as applicable. These are in addition to other potential protective measures such as ventilation, overcurrent protection, battery controls maintaining batteries within designated parameters, temperature and humidity controls, smoke detection, and maintenance in accordance with manufacturer guidelines. Remote alarms would be installed for operations personnel as well as emergency response teams in addition to exterior hazard lighting. In addition, an Incidence Response Plan would be implemented. Additionally, the project applicant would contribute its proportionate share for purchase of any fire-suppression equipment, if determined warranted by the County Fire Department for the proposed projects.

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2.4 Site Construction

2.4.1 Construction Activities

Construction activities would primarily involve demolition and grubbing, grading of the project sites to establish access roads and pads for electrical equipment, trenching for underground electrical collection lines, and the installation of solar equipment and security fencing. Construction of each solar energy facility is estimated to take 12-18 months and would begin in late 2022/early 2023.

Dust generated during construction would be controlled by watering and, as necessary, the use of other dust suppression methods and materials accepted by the Imperial County Air Pollution Control District (ICAPCD).

A temporary, portable construction supply container would be located at each project site at the beginning of construction and removed at the end of construction.

The number of on–site construction workers for the VEGA SES 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the VEGA SES 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on–site construction workers for the VEGA SES 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the VEGA SES 5 battery storage facility and substation is not expected to exceed 50 workers at any one time. Onsite parking would be provided for all construction workers.

2.4.2 Construction Access

As shown in Figure 2-8~~Figure 2-7~~, primary access to the VEGA SES 2 and 3 project sites will be from SR-111 along McDonald Road to Weist Road. Construction-related traffic would cross the East Highline Canal at Noffsinger Road. Weist Road continues to Flowing Wells Road. The crossing of the Union Pacific (UP) Railroad tracks is at an unsignalized crossing on Weist Road. The VEGA SES 2 and 3 project sites will be accessed from Flowing Wells Road. Weist Road, Noffsinger Road and Flowing Well Roads are unpaved roadways.

For the VEGA SES 5 project, access to and from the site will be from SR-111 along McDonald Road (Figure 2-9~~Figure 2-8~~). A portion of the site construction traffic will travel to the east side of the East Highline Canal, by using Weist Road and Noffsinger Road. To access the portion of the site east of the UP Railroad tracks, access across the tracks will be made at Flowing Wells Road, and access to the property will be made via an easement that will be acquired. The easement will be a direct vertical south from Flowing Wells Road at the western boundary of APN 025-260-011.

The abovementioned roads will provide full access to the project sites and associated facilities. The project applicant is requesting a 30-foot-wide ROW from BLM for an access road to connect the northwest corner of the VEGA SES 2 site (APN 025-0260-011) to Flowing Wells Road (Figure 2-4 and Figure 2-5). No additional new roads will be constructed.

Delivery trucks are expected to follow the same travel route as construction workers. An estimated two trucks would arrive at each project site each day during the first few weeks of construction of each solar facility.

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2.4.3 Water Use

The area served by IID is located in the Imperial Valley, which is generally contiguous with IID's Imperial Unit, lies south of the Salton Sea, north of the U.S./Mexico International Border, and generally in the 658,942-acre area between IID's Westside Main and East Highline Canals.

APN 025-260-011 and parts of APN 025-010-006 and APN 025-270-023 are located within IID's East Mesa Unit service area where water is only available for agricultural uses. Thus, there is not a public water system that will serve the VEGA SES 2 and 3 project sites. The water supply will be provided by new onsite groundwater supply wells (see Figure 2-3) to be drilled and installed as part of the VEGA SES 2 and 3 projects.

VEGA SES 5 APN 025-260-011, APN 025-260-019, and the area of APN 025-260-022 east of the East Highline Canal are located within IID's East Mesa Unit, while 114.4 acres of the area of APN 025-260-022 west of the East Highline Canal is within IID's Imperial Unit. The VEGA SES 5 parcel areas in the East Mesa Unit do not currently have water service from IID. Although water service from IID is currently available for the area of APN 025-260-022 within the Imperial Unit, the project applicant does not plan to use surface water from IID to supply any area of the project. Thus, there are no public water systems that will serve the project. The water supply will be provided by a new onsite groundwater supply well to be drilled and installed as part of the VEGA SES 5 project.

Table 2-3 identifies the estimated water needed during construction of each project.

Table 2-3. Construction Water Use

Project	Construction Water Use (acre feet)
VEGA SES 2 & 3	~~630~~ 775 AF
VEGA SES 5	~~365~~ 205 AF
Total	**~~995~~ 980 AF**

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Figure 2-8~~2-7~~. VEGA SES 2 and 3 Access Route

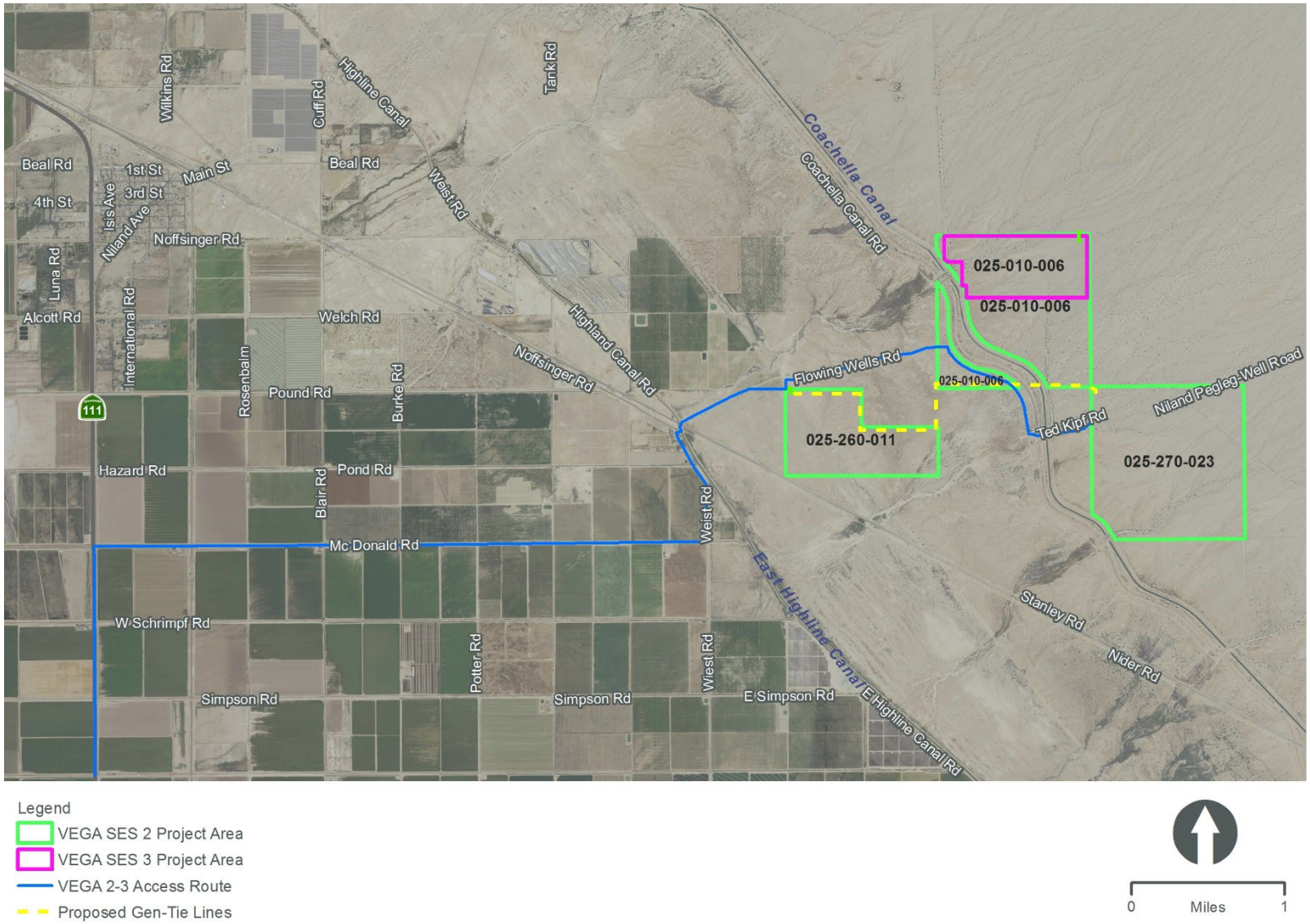

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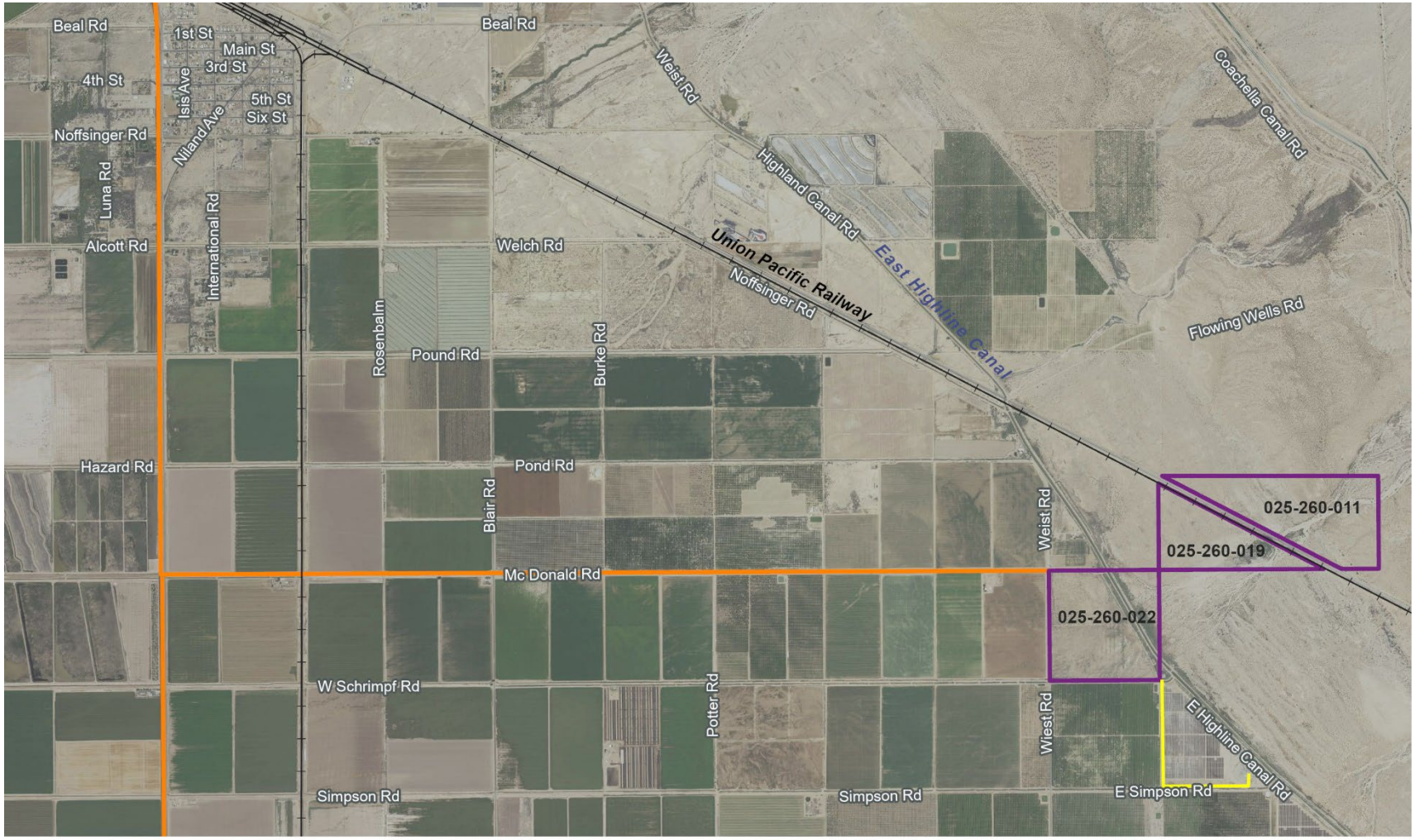
Figure 2-~~92-8~~. VEGA SES 5 Access Route



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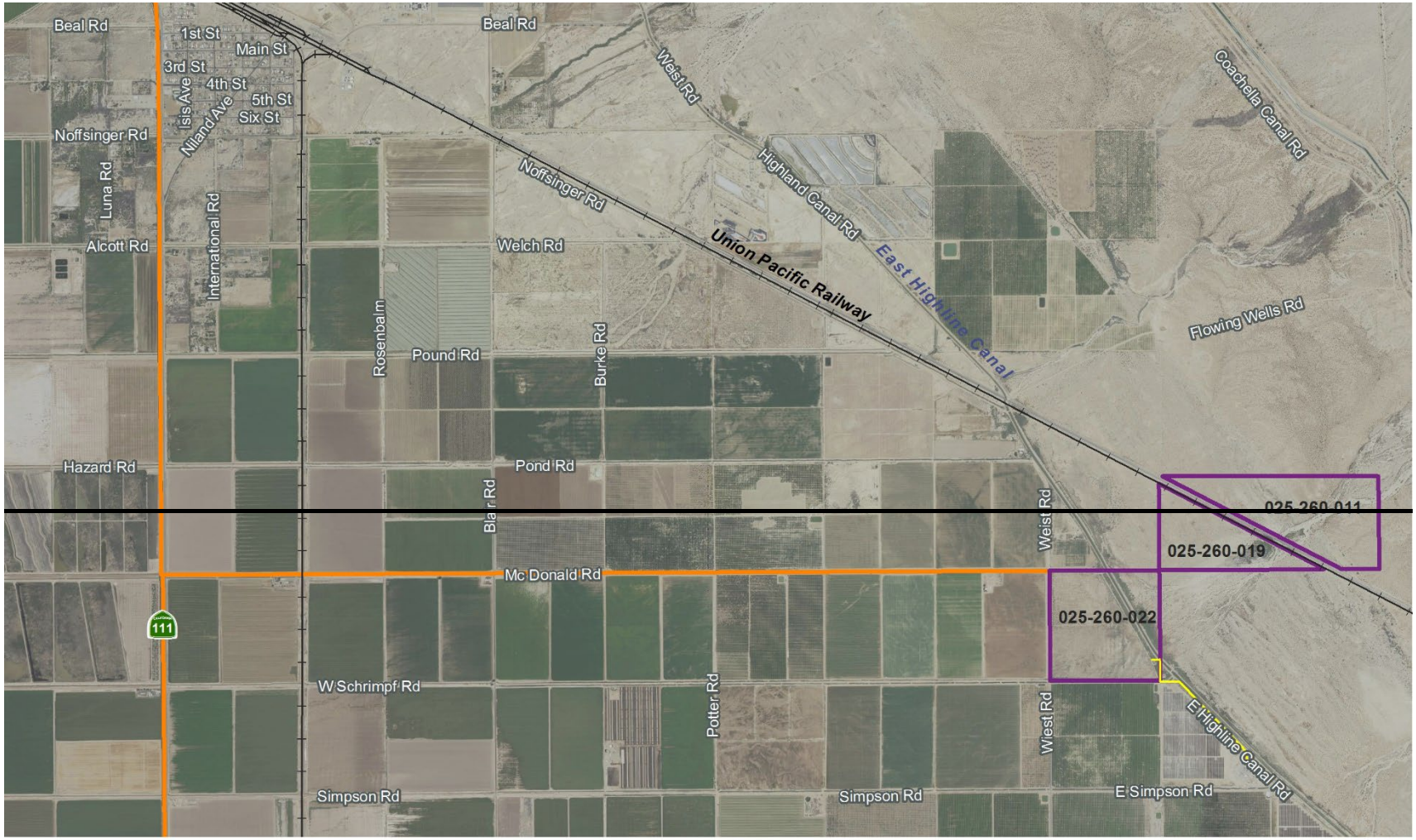

Legend
- VEGA SES 5 Project Area
- VEGA 5 Access Route
- Gen-Tie Line
- Railway

0 Miles 0.75

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2.5 Operations and Maintenance

Once construction is completed, the facilities would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. Security personnel may conduct unscheduled security rounds and would be dispatched to the project site in response to a fence breach or other alarm.

Up to two to three people would be contracted (part-time) to perform all routine and emergency operational and maintenance activities. Such activities include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules if needed (up to two times per year) to maintain power generation efficiency. Vegetation growing on the project sites would periodically (approximately every 3 months) be removed manually and/or treated with herbicides.

2.5.1 Water Use

Water for washing the PV modules on the project sites would be obtained from proposed on-site water wells (Figure 2-3). Table 2-4 identifies the estimated water needed during operation of each project.

Table 2-4. Operational Water Use

Project	Operational Water Use (acre feet per year)
VEGA SES 2	~~10~~ 24 AF
VEGA SES 3	~~2~~ 6 AFY
VEGA SES 5	~~20~~ 5 AFY
Total	**~~32~~ 35 AFY**

2.6 Restoration of the Project Sites

Electricity generated by the projects could be sold under the terms of a PPA with a power purchaser (i.e., utility service provider). The projected life of the projects is 30 years. At the end of the PPA term, the owner of the projects may choose to enter into a subsequent PPA, update technology and re-commission, or decommission and remove the generating facility and its components. Upon decommissioning, the sites could be converted to other uses in accordance with applicable land use regulations in effect at that time. A collection and recycling program will be executed to promote recycling of project components and minimize disposal in landfills. All permits related to decommissioning would be obtained, where required.

Project decommissioning may include the following activities:

- The facility would be disconnected from the utility power grid.
- Project components would be dismantled and removed using conventional construction equipment and recycled or disposed of safely.
- PV panel support steel and support posts would be removed and recycled off-site by an approved metals recycler.
- All compacted surfaces within the project site and temporary on-site haul roads would be de-compacted.

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- Electrical and electronic devices, including inverters, transformers, panels, support structures, lighting fixtures, and their protective shelters would be recycled off-site by an approved recycler.
- All concrete used for the underground distribution system would be recycled off-site by a concrete recycler or crushed on-site and used as fill material.
- Fencing would be removed and recycled off-site by an approved metals recycler.
- Gravel roads would be removed; filter fabric would be bundled and disposed of in accordance with all applicable regulations. Road areas would be backfilled and restored to their natural contour.
- Soil erosion and sedimentation control measures would be re-implemented during the decommissioning period and until the site is stabilized.

Prior to issuance of the initial grading permit for the projects, a Site Reclamation Plan in conformance with County of Imperial requirements would be prepared for review and approval by the Imperial County Planning and Development Services Department. This plan would be implemented at the end of power operations and would describe the proposed equipment dismantling, removal and site restoration program, in conformance with County requirements.

2.7 Required Project Approvals

2.7.1 Imperial County

The following are the primary discretionary approvals required for implementation of the projects:

1. **Approval of CUPs.** Implementation of the projects would require the approval of CUPs by the County to allow for the construction and operation of the proposed solar energy facilities with an integrated battery storage system. The following CUPs are under consideration for approval as evaluated in this EIR:
    - CUP 20-0021: VEGA SES 2
    - CUP 20-0022: VEGA SES 3
    - CUP 20-0023: VEGA SES 5

Table 2-5. VEGA SES 2, 3, and 5 CUPs – Solar Facilities

Project	APN	Acreage	Zoning
VEGA SES 2 (CUP 20-0021)	025-010-006 (partial)	410	S-2-RE
	025-260-011 (partial)	288	S-2-RE
	025-270-023	625	S-2-RE
	Subtotal	***1,323***	**--**
VEGA SES 3 (CUP 20-0022)	025-010-006 (partial)	230	S-2-RE
	Subtotal	***230***	**--**
VEGA SES 5 (CUP 20-0023)	025-260-011 (partial)	160	S-2-RE
	025-260-019	90	S-2-RE
	025-260-022	160	A-2-RE, A-3-RE, S-2-RE

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Table 2-5. VEGA SES 2, 3, and 5 CUPs – Solar Facilities

Project	APN	Acreage	Zoning
	Subtotal	***410***	**--**
Total Gross Acres		**1,963**	**--**

The project parcels are currently zoned as A-2-RE, A-3-RE, and S-2-RE.

Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

> *j) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)*
>
> *s) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *z) Electrical substations in an electrical transmission system (500 kv/230 kv/161 kv)*
>
> *bb) Facilities for the transmission of electrical energy (100-200 kv)*
>
> *ww) Resource extraction and energy development as per Division 17*
>
> *aaa) Solar energy electrical generator*

Pursuant to Title 9, Division 5, Chapter 9, the following uses are permitted in the A-3 zone subject to approval of a CUP from Imperial County:

> *i) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)*
>
> *o) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *oo) Major facilities relating to the generation and transmission of electrical energy provided such facilities are not under State or Federal law, to be approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters, meeting the requirements in Division 17.*
>
> *zz) Solar energy plants meeting the requirements in Division 17*

Pursuant to Title 9, Division 5, Chapter 19, the following uses are permitted in the S-2 zone subject to approval of a CUP from Imperial County:

> *d) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *i) Major facilities relating to the generation and transmission of electrical energy provide[d] such facilities are not under State or Federal law, to [be] approved exclusively by an agency, or agencies of the State or Federal government, and*

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provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters. Such uses shall include but be limited to the following:

- *Electrical generation plants*
- *Facilities for the transmission of electrical energy (100-200 kV)*
- *Electrical substations in an electrical transmission system (500 kv/230 kv/161 kV)*

2. **Approval of CUPs (CUP 22-0025, ~~and~~ -0026, and -0027) – Groundwater Wells.** Pursuant to Title 9 Division 21: Water Well Regulations, §92102.00, the Applicant will be required to obtain a CUP for each proposed on-site groundwater well. As required by §92102.00, no person shall (1) drill a new well, (2) activate a previously drilled but unused well, (unused shall mean a well or wells that have not been used for a 12 month) period by installing pumps, motors, pressure tanks, piping, or other equipment necessary or intended to make the well operational, (3) increase the pumping capacity of a well, or (4) change the use of a well, without first obtaining a CUP through the County Planning & Development Services Department.
3. **Certification of the EIR.** After the required public review for the Draft EIR, the County will respond to written comments, edit the document, and produce a Final EIR to be certified by the Planning Commission and Board of Supervisors prior to making a decision on approval or denial of the project.

Subsequent ministerial approvals may include, but are not limited to:

- Grading and clearing permits
- Building permits
- Reclamation plan
- Encroachment permits
- Transportation permit(s)

2.7.2 Discretionary Actions and Approvals by Other Agencies

Responsible Agencies are those agencies that have discretionary approval over one or more actions involved with development of the project. Trustee Agencies are state agencies that have discretionary approval or jurisdiction by law over natural resources affected by a project. These agencies may include, but are not limited to the following:

- California RWQCB – Notice of Intent for General Construction Permit, CWA 401 Water Quality Certification
- ICAPCD – Fugitive Dust Control Plan, Rule 801 Compliance
- CDFW (Trustee Agency) – ESA Compliance, Section 1600 Streambed Alteration Agreement
- USFWS – ESA Compliance
- USACE – Section 404 of the CWA Permit
- Bureau of Land Management

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  - Right-of-way easement to use Flowing Wells Road for access during construction and maintenance
  - Right-of-way grant for the off-site gen-tie lines to be located on federal lands under the jurisdiction of the BLM
  - Aerial easements to allow gen-tie connections between the facilities

- Bureau of Reclamation
  - Right-of-way easement to cross the Coachella Canal to access the project site (APN 025-010-006)
  - Right-of-way grant for the off-site gen-tie line to be located on federal lands under the jurisdiction of the BOR
  - Aerial easement to allow gen-tie connections between the facilities
  - There are two training dikes within the project area. The locations of these dikes are depicted on EIR Figure 2.2 Project Sites. As shown, one dike extends northerly from the Coachella Canal through APN #025-010-006 (VEGA SES 2) and a portion of APN #025-010-006 (VEGA SES 3). Any modifications to these dikes will require appropriate authorization from Bureau of Reclamation.
- Coachella Valley Water District
  - Drainage Plan

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3 Environmental Analysis, Impacts, and Mitigation

3.1 Introduction to Environmental Analysis

This section provides an overview of the environmental analysis and presents the format for the environmental analysis in each topical section.

3.1.1 Organization of Issue Areas

Chapter 3 provides an analysis of impacts for those environmental topics that the County determined could result in "significant impacts," based on preparation of an Initial Study and review by the County's Environmental Evaluation Committee and responses received during the scoping process, including the NOP review period and public scoping meeting. Sections 3.1 through 3.15 discuss the environmental impacts that may result with approval and implementation of the projects, and where impacts are identified, recommends mitigation measures that, when implemented, would reduce significant impacts to a level less than significant. Each environmental issue area in Chapter 3 contains a description of the following:

- The environmental setting as it relates to the specific issue
- The regulatory framework governing that issue
- The threshold of significance (from Appendix G of the CEQA Guidelines)
- The methodology used in identifying and considering the issues
- An evaluation of the project-specific impacts and identification of mitigation measures
- A determination of the level of significance after mitigation measures are implemented
- The identification of any residual significant impacts following mitigation

3.1.2 Format of the Impact Analysis

This analysis presents the potential impacts that could occur under the projects along with any supporting mitigation requirements. Each section identifies the resulting level of significance of the impact using the terminology described below following the application of the proposed mitigation. The section includes an explanation of how the mitigation measure(s) reduces the impact in relation to the applied threshold of significance. If the impact remains significant (i.e., at or above the threshold of significance), additional discussion is provided to disclose the implications of the residual impact and indicate why no mitigation is available or why the applied mitigation does not reduce the impact to a less than significant level.

Changes that would result from the project were evaluated relative to existing environmental conditions within the project sites as defined in Chapter 2. Existing environmental conditions are based on the time at which the NOP was published on May 4, 2021. In evaluating the significance of these changes, this EIR applies thresholds of significance that have been developed using: (1) criteria discussed in the CEQA Guidelines; (2) criteria based on factual or scientific information; and (3) criteria based on

regulatory standards of local, state, and/or federal agencies. Mechanisms that could cause impacts are discussed for each issue area.

This EIR uses the following terminology to denote the significance of environmental impacts of the project:

- *No impact* indicates that the construction, operation, and maintenance of the projects would not have any direct or indirect effects on the environment. It means no change from existing conditions. This impact level does not need mitigation.
- A *less than significant impact* is one that would not result in a substantial or potentially substantial adverse change in the physical environment. This impact level does not require mitigation, even if feasible, under CEQA.
- A *significant impact* is defined by CEQA Section 21068 as one that would cause "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project." Levels of significance can vary by project, based on the change in the existing physical condition. Under CEQA, mitigation measures or alternatives to the project must be provided, where feasible, to reduce the magnitude of significant impacts.
- An *unmitigable significant impact* is one that would result in a substantial or potentially substantial adverse effect on the environment, and that could not be reduced to a less than significant level even with any feasible mitigation. Under CEQA, a project with significant and unmitigable impacts could proceed, but the lead agency would be required to prepare a "statement of overriding considerations" in accordance with State CEQA Guidelines California Code of Regulations (CCR) Section 15093, explaining why the lead agency would proceed with the project in spite of the potential for significant impacts.

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3.2 Aesthetics

This section provides a description of the existing visual and aesthetic resources within the project area and relevant state and local plans and policies regarding the protection of scenic resources. Effects to the existing visual character of the project area as a result of project-related facilities are considered and mitigation is proposed based on the anticipated level of significance. The information provided in this section is summarized from the Visual Impact Assessment Letter Report – VEGA SES 2 and VEGA SES 3 Projects and Visual Impact Assessment Letter Report – VEGA SES 5 Project (Appendix B1 and B2 of this EIR, respectively) prepared by ECORP Consulting, Inc.

3.2.1 Existing Conditions

Regional

Imperial County encompasses 4,597 square miles in the southeastern portion of California. The County is bordered by Riverside County on the north, the international border of Mexico on the south, San Diego County on the west and Arizona on the east. The length and breadth of the County provide for a variety of visual resources ranging from desert, sand dunes, mountain ranges, and the Salton Sea (County of Imperial 2016).

The desert includes several distinct areas that add beauty and contrast to the natural landscape. The barren desert landscape of the Yuha Desert, lower Borrego Valley, East Mesa, and Pilot Knob Mesa provide a dramatic contrast against the backdrop of the surrounding mountain ranges. The West Mesa area is a scenic desert bordered on the east by the Imperial Sand Dunes, the lower Borrego Valley, the East Mesa, and Pilot Knob Mesa.

The eastern foothills of the Peninsular Range are located on the west side of the County. The Chocolate Mountains, named to reflect their dark color, are located in the northeastern portion of the County, extending from the southeast to the northwest between Riverside County and the Colorado River. These mountains reach an elevation of 2,700 feet making them highly visible throughout the County.

Project Sites and Vicinity

The project sites are located on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA. The project area is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City.

VEGA SES 2 and 3

Topography within the VEGA SES 2 and 3 project sites consist of gentle slopes with a gradual increase in elevation from west to east and elevations range between -7 and 182 feet above mean sea level (amsl). Adjacent land uses include active agriculture and the Coachella Canal. BLM open space areas exist to the north, east, and south. Further away, approximately 3 miles to the northwest and just slightly higher in elevation than the project sites, are Slab City and Salvation Mountain. Slab City is a former military facility that now serves as the site of an informal community for artists, travelers, and winter-timer recreational vehicle (RV) campers. Salvation Mountain is an outdoor art project as the western entrance to Slab City. Both attract tourists and sightseers. However, topography, intervening

structures, and distance limit and obscure visibility of the project sites in direct views from publicly accessible portions of these areas.

The VEGA SES 2 and 3 project sites contain scattered desert vegetation. The majority of the project sites consist of creosote bush scrub and palo verde/ironwood woodland; and some bush seepweed scrub, disturbed creosote bush scrub, four-wing saltbush scrub, and tamarisk thickets. A small portion of the area adjacent to the proposed gen-tie alignment along Flowing Wells Road is active agriculture. The remainder of the project area consists of the canal and existing unpaved roadways.

VEGA SES 5

The VEGA SES 5 project site's topography is relatively flat with elevations ranging between -65 and 22 feet amsl. The majority of the VEGA SES 5 project site consists of fallow agricultural land (west of the East Highline Canal), creosote bush scrub, bush seepweed scrub, and tamarisk thickets. Other vegetation types present include iodine bush scrub. The surrounding land uses are observed to be mostly active agriculture land uses west of the East Highline Canal, vacant desert land east of the East Highline Canal, and the IID 92 kV Midway Substation which is approximately 0.50 mile southeast of the VEGA SES 5 project site.

Scenic Vista

Scenic vistas are typically expansive views from elevated areas. They may or may not be part of a designated scenic overlook or other area providing a static vista view of a landscape. The project sites are located in a rural portion of Imperial County and are not located within an area containing a scenic vista designated by the State or the County's General Plan.

Scenic Highways

According to the Conservation and Open Space Element, no State scenic highways have been designated in Imperial County (County of Imperial 2016). The project sites are not located within a state scenic highway corridor, nor are there any state scenic highways located in proximity to the project sites. The nearest road segment considered eligible for a State scenic highway designation is the portion of SR 111 from Bombay Beach to the County line. The project sites are located approximately 19 miles southeast of Bombay Beach; therefore, it would not be visible from the location of the proposed projects.

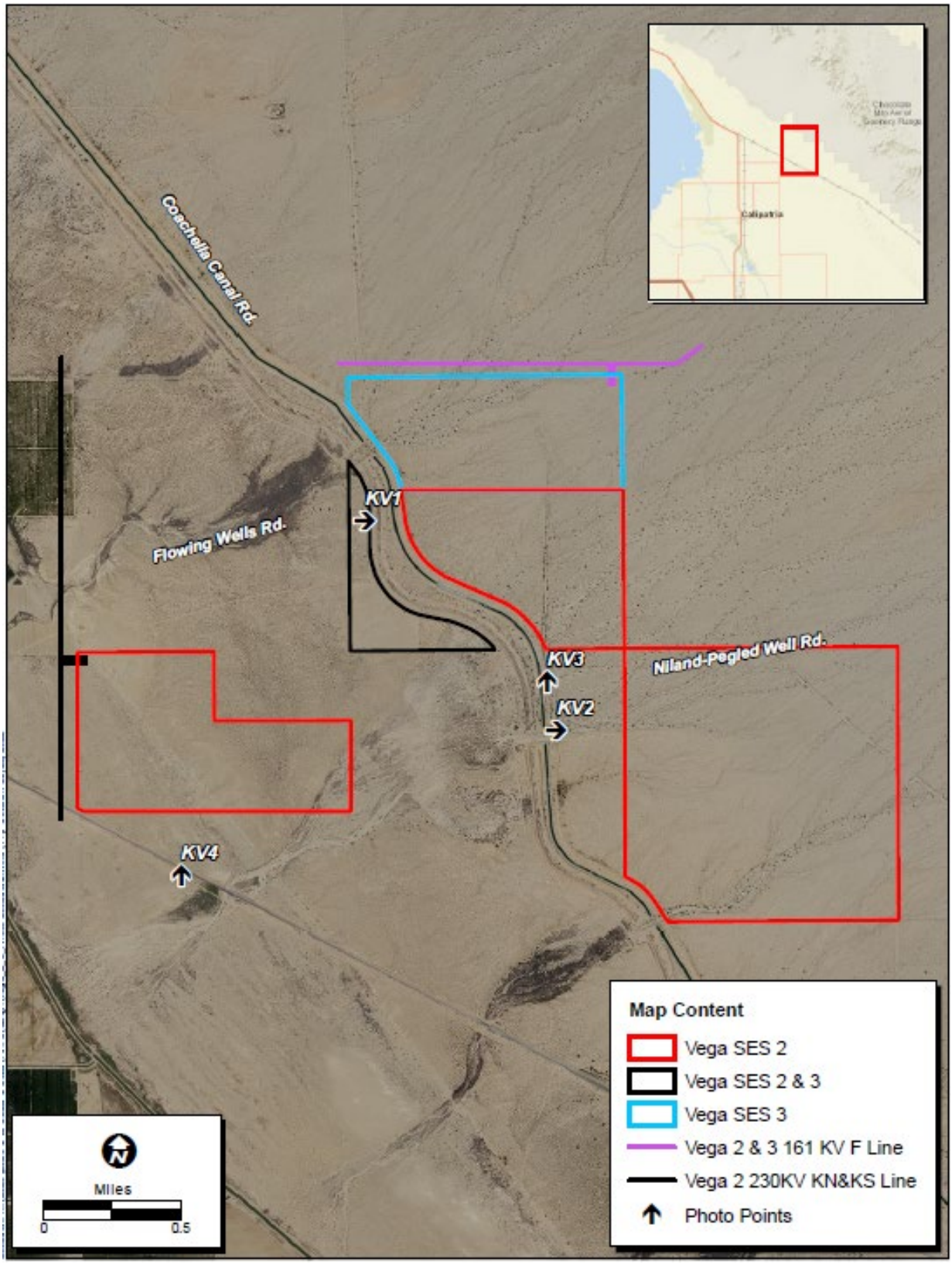
Visual Character

Aerial imagery was reviewed to identify where the proposed projects would potentially be visible from visually sensitive areas and selected preliminary viewpoints for site photography. Field surveys were conducted in January 2021 to photo-document existing visual conditions and views toward the project sites. A representative subset of photographed viewpoints was selected as Key Views (KV). Assessments of existing visual conditions were made based on professional judgment that took into consideration sensitive receptors and sensitive viewing areas in the project area.

VEGA SES 2 and 3

Because it is not feasible to study every available view of the project sites, four key views that represent typical views with distinct visual characteristics in the project study area were selected. The key views reflect views of the project sites and were taken from locations within the public right-of-way. A description of the four KVs is provided below and KV locations are depicted in Figure 3.2-1.

Figure 3.2-1. Key Views - VEGA SES 2 and 3 Project Sites



Source: Appendix B1 of this EIR

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KV 1 – COACHELLA CANAL ROAD, NORTH OF FLOWING WELLS ROAD

KV 1 is a view from Coachella Canal Road, north of Flowing Wells Road facing east (Figure 3.2-2). The dominant feature within KV 1 is the vegetation visible throughout the view. Also visible within this KV is the Coachella Canal berm in the middleground and the distant Chocolate Mountains in the background. This view does not exhibit any striking or distinctive visual patterns; however, the presence of the scenic mountains in the background provides an aesthetic resource, although somewhat obstructed, to the view. While the Coachella Canal is present and the berm along the edge of the canal is visible within this KV, it is free from encroaching man-made elements.

KV 2 – NILAND-PEGLEG WELL ROAD, EAST OF COACHELLA CANAL

KV 2 is a view from Niland-Pegleg Well Road, east of Coachella Canal facing east (Figure 3.2-3). Similar to KV 1, the dominant features within this KV are the vegetation visible throughout the view and the Chocolate Mountains in the background. Also visible within this KV is the Coachella Canal berm in the foreground. KV 2 does not exhibit any striking or distinctive visual patterns; however, the presence of the scenic mountains in the background provides aesthetic resources that are prominent and mostly unobstructed in the view. While a service road and the Coachella Canal berm along the edge of the canal is visible within this KV, it is mostly free from encroaching man-made elements.

KV 3 – COACHELLA CANAL ROAD, NORTH OF NILAND-PEGLEG WELL ROAD

KV 3 is a view from Coachella Canal Road, north of Niland-Pegleg Road facing north (Figure 3.2-4). The dominant features within this KV is Coachella Canal Road, the vegetation visible on either side of the road, and the Chocolate Mountains in the distant background. Also visible within this KV are apiary boxes on the east side of Coachella Canal Road. KV 3 does not exhibit any striking or distinctive visual patterns. The presence of the scenic mountains in the distant background are visible but are affected by atmospheric conditions (e.g., haze). However, the mountains do provide aesthetic resources that are somewhat obstructed in the view. Due to the presence of the roadway and apiary boxes within this KV, the view contains highly visible encroaching man-made elements.

KV 4 – NOFFSINGER ROAD

KV 4 is a view from Noffsinger Road facing north (Figure 3.2-5). The dominant features within this KV are the existing Union Pacific Yuma subdivision railroad track, sparse vegetation in the foreground with denser vegetation beyond the railroad track, and the Chocolate Mountains in the background. Also visible within this view are marker posts associated with an underground utility line. This view does not exhibit any striking or distinctive visual patterns; however, the presence of the scenic mountains in the background, although affected by atmospheric conditions (e.g., haze), provide aesthetic resources that are mostly unobstructed in the view. Due to the presence of the railroad track and marker posts visible within this KV, the view contains highly visible encroaching man-made elements.

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Figure 3.2-2. Key View 1: Coachella Canal Road, North of Flowing Wells Road - VEGA SES 2 and 3

Source: Appendix B1 of this EIR

Figure 3.2-3. Key View 2: Niland-Pegleg Well Road, East of Coachella Canal - VEGA SES 2 and 3

Source: Appendix B1 of this EIR

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Figure 3.2-4. Key View 3: Coachella Canal Road, North of Niland-Pegleg Road - VEGA SES 2 and 3

Source: Appendix B1 of this EIR

Figure 3.2-5. Key View 4: Noffsinger Road - VEGA SES 2

Source: Appendix B1 of this EIR

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VEGA SES 5

Two KVs that represent typical views with distinct visual characteristics in the VEGA SES 5 project area were selected. The key views reflect views of the area and were taken from locations within the public right-of-way. A description of the two KVs is provided below and KV locations are depicted in Figure 3.2-6.

KEY VIEW 1 – NOFFSINGER ROAD, NORTH OF WASH AREA

KV 1 is a view from Noffsinger Road, north of the wash area facing south (Figure 3.2-7). The dominant feature within this KV is the vegetation visible throughout the view and Noffsinger Road in the immediate foreground. There are no distant topographic features in the background. This view does not exhibit any striking or distinctive visual patterns. The view is free from encroaching man-made elements.

KEY VIEW 2 – WIEST ROAD, SOUTH OF MCDONALD ROAD

KV 2 is a view from Wiest Road, south of McDonald Road facing east (Figure 3.2-8). The dominant features within this KV are the vegetation visible only in the foreground and a fallow agricultural field in the middleground. The Chocolate Mountains are barely visible in the background because they are masked by atmospheric conditions (e.g., haze). This view does not exhibit any striking or distinctive visual patterns; however, the presence of the scenic mountains in the background, although masked by haze, provides an aesthetic resource somewhat visible within the view. While overhead power lines are visible within this KV, it is mostly free from encroaching man-made elements.

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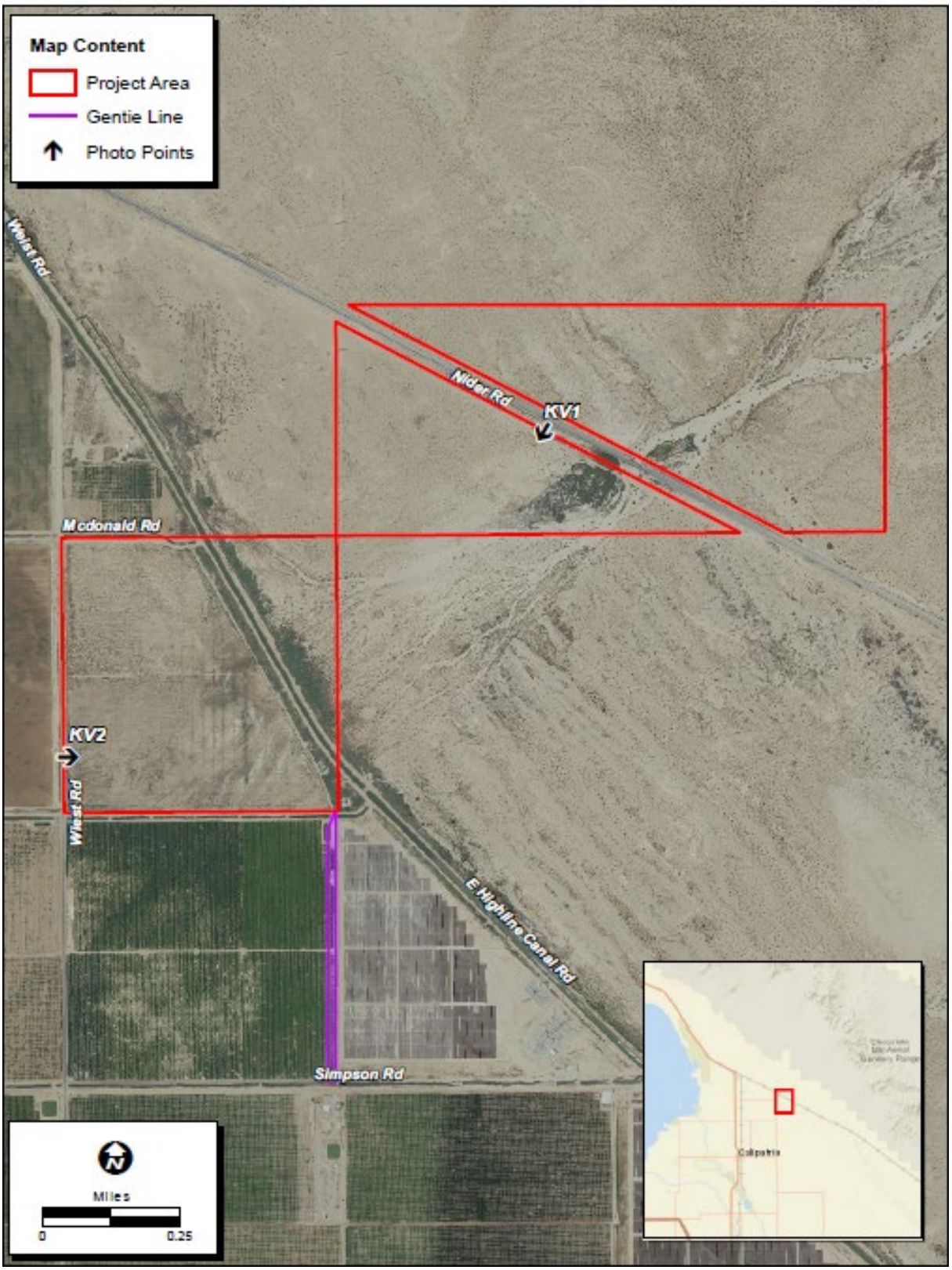
Figure 3.2-6. Key Views - VEGA SES 5 Project Site



Source: Appendix B2 of this EIR

Figure 3.2-7. Key View 1: Noffsinger Road, North of Wash Area

Source: Appendix B2 of this EIR

Figure 3.2-8. Key View 2: Wiest Road, South of McDonald Road

Source: Appendix B2 of this EIR

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Light, Glare, and Glint

Glare is considered a continuous source of brightness, relative to diffused light, whereas glint is a direct redirection of the sun beam in the surface of a PV solar module. Glint is highly directional, since its origin is purely reflective, whereas glare is the reflection of diffuse irradiance; it is not a direct reflection of the sun.

The project sites are currently vacant and do not generate any light or glare. The majority of the light and glare in the project area is a result of motor vehicles traveling on surrounding roadways, airplanes, and farm equipment. Local roadways generate glare both during the night hours when cars travel with lights on, and during daytime hours because of the sun's reflection from cars and pavement surfaces.

The Chocolate Mountains are located to the north and east of the project site. The Chocolate Mountain Aerial Gunnery Range is used by the United States Marine Corps (USMC) for training purposes.

3.2.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the projects.

State

California Department of Transportation

Caltrans manages the California Scenic Highway Program. The goal of the program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to the scenic corridor.

Local

Imperial County General Plan

The Imperial County General Plan contains policies for the protection and conservation of scenic resources and open spaces within the County. These policies also provide guidance for the design of new development. The Conservation and Open Space Element of the General Plan provides specific goals and objectives for maintaining and protecting the aesthetic character of the region. Table 3.2-1 provides an analysis of the proposed projects' consistency with the Conservation and Open Space Element Goal 5. Additionally, the Circulation and Scenic Highways Element of the General Plan provides policies for protecting and enhancing scenic resources within highway corridors in Imperial County, consistent with the Caltrans State Scenic Highway Program.

County of Imperial Land Use Ordinance, Title 9

The County's Land Use Ordinance Code provides specific direction for lighting requirements.

Division 17: Renewable Energy Resources, Section 91702.00 – Specific Standards for All Renewable Energy Projects

(R) Lights should be directed or shielded to confine direct rays to the Project site and muted to the maximum extent consistent with safety and operational necessity.

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Table 3.2-1. Consistency with Applicable General Plan Conservation and Open Space Policies

General Plan Policies	Consistency with General Plan	Analysis
Goal 5: The aesthetic character of the region shall be protected and enhanced to provide a pleasing environment for residential, commercial, recreational, and tourist activity.	Consistent	As described in Section 3.2.3, the proposed projects would result in changes to the existing visual character of the project sites. However, public views of the project site are limited, and the proposed projects would not result in a significant deterioration in the visual character of the project site or surrounding area from public viewpoints.
Objective 5.1: Encourage the conservation and enhancement of the natural beauty of the desert and mountain landscape.	Consistent	The project sites are located on both sides of the East Highline Canal and occupy both active agricultural land and desert lands. As described in Section 3.2.3, proposed onsite apparatus would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. Solar PV arrays would be spaced approximately 15 to 25 feet apart allowing for views of the Chocolate Mountains from the public right-of-way. Further, views from project adjacent roadways that are publicly accessible, would be partially to fully obscured by roadside vegetation or berms, and such views would likely be of short duration given the probability of the viewers being in moving vehicles.

Source: County of Imperial 2016

3.2.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to aesthetics are considered significant if any of the following occur:

- Have a substantial adverse effect on a scenic vista
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway
- In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area

Methodology

This visual impact analysis is based on field observations conducted in January 2021, as well as a review of maps and aerial photographs for the project area. Evaluation of potential visual impacts and changes resulting from implementation of the proposed projects are based on the following criteria:

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Change in Visual Quality

The difference in visual quality between the existing environmental setting and post-project condition is considered visual quality change. Those changes are identified by studying site plans, which provide information on the various elements that will be removed from and incorporated into the current viewshed and the degree of change in the existing setting.

Impacts to Visual Resources

Visual resources from both the natural and built environments can enhance the visual character and aesthetic quality of an area. The project areas were studied for visual resources. Visual resources can be associated with local events and history that represent and enhance the visual character of the local area. A project that substantially alters important visual resources can result in significant visual impacts. Mitigation is typically implemented to remove or minimize significant visual impacts.

Light, Glare, Shade, and Shadow

The existing light environment serves as a baseline to conduct light analysis and compare potential impacts caused by the introduction of the proposed projects. Impacts relating to light, glare, shade, and shadow were examined during field observations conducted in January 2021, and by the photographs to help establish light conditions during various times of the day and night and estimate the potential changes in the environment from implementation of the proposed projects. New light sources and reduction or elimination of light could be considered impacts that could change the natural environmental setting of the project sites. Impacts are evaluated based on how much existing conditions change, the degree of those changes, and the sensitivity of the affected environment.

Compatibility with Visual Policies

The Imperial County General Plan and other regulations or policies relating to visual resources and setting that are applicable to the proposed projects have been identified, reviewed, and used in the preparation of this analysis. Proposed visual changes that conflict with the adopted County guidelines could be considered a significant impact; however as shown in Table 3.2-1, the proposed projects would be consistent with the General Plan.

Impact Analysis

Impact 3.2-1 Would the project have a substantial adverse effect on a scenic vista?

VEGA SES 2, 3, and 5

The Chocolate Mountains are located to the north and east of the project sites. The County has identified the Chocolate Mountains as a scenic resource; however, no scenic vista points are identified in the County General Plan and none of the roadways in the project area are designated as a scenic highway or roadways. During construction, the use of standard construction equipment including, but not limited to, trucks, cranes, and tractors would be required. The presence of this equipment within the project sites during construction would alter views of the area from undeveloped and fallow agricultural land to a construction site. However, the views of construction activity from the surrounding vicinity would be temporary and would not involve any designated scenic vistas. Therefore, no impacts to a scenic vista would occur during construction.

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Upon project operation, and with implementation of the solar infrastructure, the overall visual character of the project sites would change. However, given that there are no scenic resources or vistas within proximity to the project sites, project operation would not have a substantial adverse effect on a scenic vista. Impacts are considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.2-2 Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

VEGA SES 2, 3, and 5

The project sites are not located within a state scenic highway corridor, nor are there any state scenic highways located in proximity to the project sites. The nearest road segment considered eligible for a State Scenic Highway designation is the portion of SR 111 from Bombay Beach to the County line. The project sites are located approximately 19 miles south of Bombay Beach. Therefore, no impacts to scenic resources within a designated state scenic highway would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.2-3 In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

VEGA SES 2 and 3

Short-term visual impacts would occur in association with construction activities, including introducing heavy equipment (e.g., cranes), staging and materials storage areas and potential dust and exhaust to the project area. While construction equipment and activity may present a visual nuisance, it would be temporary (approximately 12-18 months) and would not represent a permanent change in views. Therefore, impacts associated with degrading the existing visual character or quality of the project sites during construction are considered less than significant.

As described in Section 3.2.1, four KVs were selected that reflect views of the VEGA SES 2 and 3 project sites and were taken from locations within the public right-of-way. The Visual Impact Assessment (Appendix B1 of this EIR) evaluated the potential visual impacts within these four KVs as a result of the proposed projects. The potential impacts on these KVs are discussed below.

KV 1. From KV 1 (Figure 3.2-2), the overall character and experience for a viewer would change substantially with implementation of the projects. Vegetation removal and grading of the project sites to accommodate the construction of solar apparatus and security fencing would result in the greatest physical change. Other facilities proposed such as roads, pads, underground utilities, and stormwater facilities would not be visible from the public ROW. The County has identified the Chocolate Mountains as a scenic resource; however, no scenic vista points are identified in the County General Plan.

Additional visual changes within this KV would be the installation of poles and electrical lines associated with the gen-tie line.

The proposed PV module frames when installed on pads would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. Currently, the existing vegetation on the project sites range from short shrubs to large bushes and views of the Chocolate Mountains in the background are already partially obstructed by the existing Coachella Canal berm and large bushes on the project sites. The installation of the new PV module frames would also result in the obstruction of the Chocolate Mountains as they are similar in height to existing large bushes on the site. PV module frames would be arranged in arrays spaced approximately 15 to 25 feet apart to maximize performance and allow access for maintenance and cleaning. As a result of the spacing of the arrays and relatively low-profile of the solar facility in general, view corridors of the Chocolate Mountains would be maintained throughout the site as a viewer travels along Coachella Canal Road. The construction of gen-tie poles and electrical lines would introduce manmade elements into the view; however, the profile of these structures and lines are slim and would not substantially obstruct existing views of the mountains.

KV 2. Similar to KV 1, the overall character and experience for the viewer would change substantially at KV 2 (Figure 3.2-3) with implementation of the proposed projects. The main physical change would be the removal of vegetation and grading of the project sites; as well as installation of poles and electrical lines associated with the gen-tie line.

The proposed onsite apparatus would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. The installation of the new PV module frames would also result in the obstruction of the Chocolate Mountains as they are similar in height to existing large bushes on the site; however, from this key view vantage point, the Chocolate Mountains in the background are relatively unobstructed.

Similar to KV 1, given the spacing of the arrays (15 to 25 feet apart) and relatively low-profile of the solar facility in general, view corridors of the Chocolate Mountains would be maintained throughout the site as a viewer travels along Coachella Canal Road. The construction of gen-tie poles and electrical lines would introduce manmade elements into the view; however, the profile of these structures and lines are slim and would not substantially obstruct existing views of the mountains.

KV 3. The overall character and experience for the viewer from KV 3 (Figure 3.2-4) would change moderately with implementation of the proposed projects. The main physical change would be the removal of vegetation and grading of the project sites; as well as installation of poles and electrical lines associated with the gen-tie.

The installation of the new PV module frames would result in the obstruction of the Chocolate Mountains as they are similar in height to existing large bushes on the site. However, views of the Chocolate Mountains from Coachella Canal Road and the viewshed to the west of the road would be maintained as no project-related facilities would be constructed that would obstruct views in those areas. Similar to KV1 and KV 2, the construction of gen-tie poles and electrical lines would introduce manmade elements into the view; however, the profile of these structures and lines are slim and would not substantially obstruct existing views of the mountains.

KV 4. The overall character and experience for the viewer from KV 4 (Figure 3.2-5) would change slightly with implementation of the proposed projects. The main physical change that would occur within KV 4 is the complete removal of vegetation and grading of the project site which is beyond the railroad tracks to accommodate the construction of solar apparatus and security fencing. The installation of the new PV module frames would not result in the obstruction of the Chocolate

Mountains and would align with the existing horizon due to the distance away from the KV 4 vantage point. Therefore, the views of the Chocolate Mountains would be maintained throughout the site as a viewer travels along Noffsinger Road.

VEGA SES 5

As described in Section 3.2.1, two KVs were selected that reflect views of the VEGA SES 5 project site and were taken from locations within the public right-of-way. The Visual Impact Assessment (Appendix B2 of this EIR) evaluated the potential visual impacts within these two KVs as a result of the proposed projects. The potential impacts on these KVs are discussed below.

KV 1. From KV 1 (Figure 3.2-7), the overall character and experience for the viewer would change substantially with implementation of the proposed project. Vegetation removal and grading of the VEGA SES 5 project site to accommodate the construction of solar apparatus and security fencing would result in the greatest physical change. Other facilities proposed such as roads, pads, underground utilities, and stormwater facilities would not be visible from the public right-of-way. Additionally, no scenic resources are visible within this KV.

Onsite vegetation would be completely removed, and the site would be graded to accommodate the installation of the PV module frames in arrays, substation, and BESS. The construction of gen-tie poles and electrical lines would not be visible from this KV.

KV 2. The overall character and experience for the viewer would change substantially at KV 2 (Figure 3.2-8) with implementation of the proposed project. The main physical change that would occur within this view is the complete removal of vegetation and the fallow agricultural field and grading of the project site to accommodate the construction of solar equipment and security fencing. The installation of the new PV module frames would result in the obstruction of the Chocolate Mountains due to the distance away from this vantage point. However, PV module frames would be arranged in arrays spaced approximately 15 to 25 feet apart and as a result of the spacing of the arrays, view corridors of the Chocolate Mountains would be maintained throughout the site as a viewer travels along Wiest Road. The construction of gen-tie poles and electrical lines would not be visible from this KV.

Conclusion

Implementation of the proposed projects would convert the project sites from vacant and fallow agricultural lands to solar energy facilities. As discussed above, depending on the vantage point, the existing visual character of the sites and the quality of views in terms of visibility beyond the sites would change given the existing nature of the sites which contain fallow agricultural and vacant desert land. However, these open space vegetated areas and agricultural areas impacted by the proposed projects are not considered to be scenic resources by the County of Imperial.

In the context of topographical conditions and relatively low profile of the project components, the proposed projects would not create an adverse or permanent visual obstruction of the background views of the desert or mountain areas to the north and east of the project sites. Existing views of the Chocolate Mountains are already partially obstructed by existing tall vegetation and masked by atmospheric conditions (e.g., haze). Additionally, as previously identified, proposed onsite apparatus would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. Solar PV arrays would be spaced approximately 15 to 25 feet apart allowing for views of the Chocolate Mountains from the public right-of-way. Further, views from project adjacent roadways that are publicly accessible, would be partially to fully obscured by roadside vegetation or

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berms, and such views would likely be of short duration given the probability of the viewers being in moving vehicles. Therefore, impacts to visual character would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.2-4 Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

VEGA SES 2, 3, and 5

The proposed projects would include new sources of nighttime lighting. In addition, given the nature of the project (e.g., solar facility), this discussion also considers potential glare- and glint-related impacts generated by the proposed solar arrays. This discussion considers each issue under the associated headings below.

NIGHTTIME LIGHTING

Minimal lighting would be required for project operation and would be limited to safety and security functions. All lighting would be directed downward and shielded to confine direct rays to the project sites and muted to the maximum extent consistent with safety and operational necessity (Title 9, Division 17, Chapter 2: Specific Standards for all Renewable Energy Projects, of the County's Zoning Ordinance).

If additional lighting should be required for nighttime maintenance, portable lighting equipment would be used. Based on these considerations, and the distance to potential viewers, the proposed projects are not anticipated to create a new source of substantial light which would adversely affect nighttime views in the project area, and the impact is considered less than significant.

GLARE AND GLINT

The proposed projects would involve the installation of PV solar arrays which have low reflectivity. Solar PV modules are specifically designed to reduce reflection as any reflected light cannot be converted into energy. Research has shown that reflectivity from PV panels are similar to reflections from water (Appendix B1 and B2 of this EIR). The projects would not use other reflective materials such a fiberglass, aluminum or vinyl/plastic siding, galvanized products, and brightly painted steel roofs that have the potential to create on- and off-site glare. Further, the proposed projects are located in an undeveloped area of Imperial County. There are also no established residential neighborhoods immediately adjacent to the project sites or airports within 2 miles of the project sites. Therefore, the PV panels would not create a new source of substantial light or glare that would affect day or nighttime views. This impact is considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

3.2.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

If at the end of the PPA term, no contract extension is available for a power purchaser, no other buyer of the energy emerges, or there is no further funding of the proposed projects, the proposed projects will be decommissioned and dismantled. The project sites are relatively flat and primarily characterized by a level elevation. Therefore, no grading or significant landform modifications would be required during decommissioning activities upon site restoration in the future. Although the project sites would be visually disrupted in the short-term during decommissioning activities, because extensive grading is not required and these activities would be temporary, the visual character of the project sites would not be substantially degraded in the short-term and related impacts would be less than significant.

Residual

Impacts related to glare and glint impacts to roadway travelers would be less than significant and no additional mitigation measures are required. Changes to visual character of the project areas would be less than significant and would be transitioned back to their prior (pre-solar project) conditions following site decommissioning. Based on these conclusions, implementation of the proposed projects would not result in residual significant unmitigable impacts to the visual character of the project sites or add substantial amounts of light and glare.

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3.3 Agricultural Resources

This section provides an overview of existing agricultural resources within the project sites and identifies applicable federal, state, and local policies related to the conservation of agricultural lands. This includes a summary of the production outputs, soil resources, and adjacent operations potentially affected by the projects. The impact assessment in Section 3.3.3 provides an evaluation of potential adverse effects on agricultural resources based on criteria derived from the CEQA Guidelines in conjunction with actions proposed in Chapter 2, Project Description. Section 3.3.4 provides a discussion of residual impacts, if any.

No forestry resources are present within the project sites and, therefore, this section focuses on issues related to agricultural resources.

3.3.1 Existing Conditions

Imperial County

Agriculture has been the single most important economic activity of Imperial County throughout the 1900s and is expected to play a major economic role in the foreseeable future. The gross annual value of agricultural production in the County has hovered around $1 billion for the last several years, making it the County's largest source of income and employment.

Imperial County agriculture is a major producer and supplier of high-quality plant and animal foods and non-food products. In 2019, agriculture contributed a total of $2.01 billion to the county economy. Vegetable and melon crops were the single largest production category by dollar value ($799 million). Livestock represented the second largest category ($522 million) and consisted mostly of feedlot cattle ($449 million). Field crops ranked third with $498 million (Imperial County Agricultural Commissioner 2019).

Project Sites

The VEGA SES 2 and 3 and a portion of the VEGA SES 5 Project sites east of the East Highline Canal are not currently under cultivation and contain scattered desert vegetation. Meanwhile, the VEGA SES 5 Project site west of the East Highline Canal contains fallow agricultural land.

The agricultural portion of VEGA SES 5 (APN 025-260-022) that is west of the East Highline Canal contains fallow agricultural land with scattered dry crop residue. The agricultural field is bounded by McDonald Road to the north, Schrimpf Road to the south, and Weist Road to the west. The East Highline Canal cuts across APN 025-260-022 diagonally in a northwest to southeast direction. Within the agricultural portion of the VEGA SES 5 Project site, there are subsurface tile drainage pipelines that are generally aligned north to south and carry irrigation wastewater to the N Drain at the southwest corner of the field.

Important Farmland

According to the California Department of Conservation's (DOC) California Important Farmland Finder, the majority of the project sites are designated as Other Land (DOC 2021). As shown in Figure 3.3-1, a portion of the VEGA SES 5 Project site (APN 025-260-022) is designated as Farmland of Local Importance. Farmland of Local Importance is not considered an "agricultural land"

per CEQA Statute Section 21060.1(a). The project sites do not contain Prime Farmland, Farmland of Statewide Importance, or Unique Farmland.

Soil types of the project site are provided in Section 3.7, Geology and Soils (see Figure 3.7-1).

Williamson Act Contract Land

According to the 2016/2017 Imperial County Williamson Act Map produced by the DOC, the project sites are not located on Williamson Act contracted land (DOC 2016).

3.3.2 Regulatory Setting

This section identifies and summarizes state and local laws, policies, and regulations that are applicable to the projects.

State

California Land Conservation Act

The Williamson Act (California Land Conservation Act, California Government Code, Section 51200 et seq.) is a statewide mechanism for the preservation of agricultural land and open space land. The Act provides a comprehensive method for local governments to protect farmland and open space by allowing land in agricultural use to be placed under contract (agricultural preserve) between a local government and a landowner.

Under the provisions of the Williamson Act (California Land Conservation Act 1965, Section 51200), landowners contract with the County to maintain agricultural or open space use of their lands in return for reduced property tax assessment. The contract is self-renewing and the landowner may notify the County at any time of intent to withdraw the land from its preserve status. Withdrawal involves a 10-year period of tax adjustment to full market value before protected open space can be converted to urban uses. Consequently, land under a Williamson Act Contract can be in either a renewal status or a nonrenewable status. Lands with a nonrenewable status indicate the farmer has withdrawn from the Williamson Act Contract and is waiting for a period of tax adjustment for the land to reach its full market value. Nonrenewable and cancellation lands are candidates for potential urbanization within a period of 10 years.

The requirements necessary for cancellation of land conservation contracts are outlined in Government Code Section 51282. The County must document the justification for the cancellation through a set of findings. Unless the land is covered by a farmland security zone contract, the Williamson Act requires that local agencies make both the Consistency with the Williamson Act and Public Interest findings.

On February 23, 2010, the Imperial County Board of Supervisors voted to not accept any new Williamson Act contracts and not to renew existing contracts because of the elimination of the subvention funding from the state budget. The County reaffirmed this decision in a vote on October 12, 2010, and notices of nonrenewal were sent to landowners with Williamson Act contracts following that vote. The applicable deadlines for challenging the County's actions have expired, and, therefore, all Williamson Act contracts in Imperial County will terminate on or before December 31, 2018.

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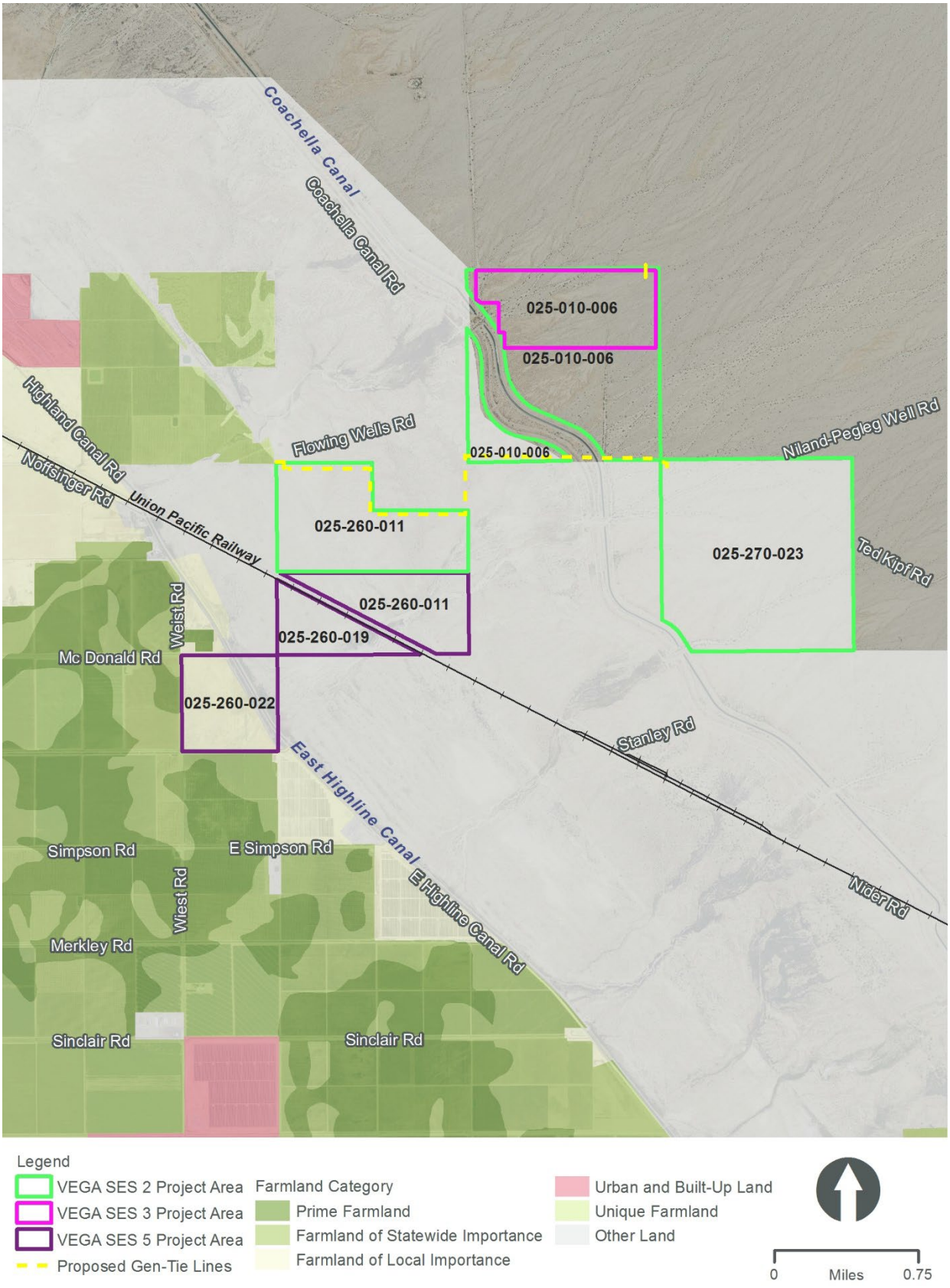
Figure 3.3-1. Important Farmland



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California Farmland Mapping and Monitoring Program

The California DOC, under the Division of Land Resource Protection, has set up the Farmland Mapping and Monitoring Program (FMMP), which monitors the conversion of the state's farmland to and from agricultural use. The map series identifies eight classifications, as defined below, and uses a minimum mapping unit size of 10 acres.

- Prime Farmland has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- Farmland of Statewide Importance is similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- Unique Farmland consists of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the 4 years prior to the mapping date.
- Farmland of Local Importance is land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- Grazing Land is land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.
- Urban and Built-up Land is occupied by structures with a building density of at least one unit to 1.5 acres or approximately six structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, prisons, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures.
- Water is defined as perennial water bodies with an extent of at least 40 acres.
- Other Land is land not included in any other mapping category. Common examples include low-density rural developments, vegetative and riparian areas not suitable for livestock grazing, confined animal agriculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land. More detailed data on these uses are available in counties containing the Rural Land Use Mapping categories.

The program also produces a biannual report on the amount of land converted from agricultural to non-agricultural use. The program maintains an inventory of state agricultural land and updates its "Important Farmland Series Maps" every 2 years. Table 3.3-1 provides a summary of agricultural land within Imperial County converted to non-agricultural uses during the time frame from 2016 to 2018.

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Table 3.3-1. Imperial County Change in Agricultural Land Use Summary (2016 to 2018)

Land Use Category	Total Acreage Inventoried		2016 to 2018 Acreage Changes			
	2016	2018	Acres Lost (-)	Gained (+)	Total Acreage Changed	Net Acreage Changed
Prime Farmland	190,206	189,163	1,699	656	2,355	-1,043
Farmland of Statewide Importance	297,272	291,596	6,330	654	6,984	-5,676
Unique Farmland	2,071	1,905	190	24	214	-166
Farmland of Local Importance	38,923	39,711	1,587	2,375	3,962	788
Important Farmland Subtotal	***528,472***	***522,375***	***9,806***	***3,709***	***13,515***	***-6,097***
Grazing Land	0	0	0	0	0	0
Agricultural Land Subtotal	528,472	522,375	9,806	3,709	13,515	-6,097
Urban and Built-Up Land	37,412	41,764	301	4,653	4,954	4,352
Other Land	461,891	463,488	712	2,309	3,021	1,597
Water Area	749	897	125	273	398	148
Total Area Inventoried	**1,028,524**	**1,028,524**	**10,944**	**10,944**	**21,888**	**0**

Source: DOC 2018

Local

County of Imperial General Plan

The Agricultural Element of the County's General Plan serves as the primary policy statement for implementing development policies for agricultural land use in Imperial County. The goals, objectives, implementation programs, and policies found in the Agricultural Element provide direction for new development as well as government actions and programs. Imperial County's Goals and Objectives are intended to serve as long-term principles and policy statements to guide agricultural use decision-making and uphold the community's ideals.

Agriculture has been the single most important economic activity in the County throughout its history. The County recognizes the area as one of the finest agricultural areas in the world because of several environmental and cultural factors including good soils, a year-round growing season, the availability of adequate water transported from the Colorado River, extensive areas committed to agricultural production, a gently sloping topography, and a climate that is well-suited for growing crops and raising livestock. The Agricultural Element in the County General Plan demonstrates the long-term commitment by the County to the full promotion, management, use, and development and protection of agricultural production, while allowing logical, organized growth of urban areas (County of Imperial 2015).

The County's Agricultural Element identifies several Implementation Programs and Policies for the preservation of agricultural resources. The Agricultural Element recognizes that the County can and should take additional steps to provide further protection for agricultural operations and at the same time provide for logical, organized growth of urban areas. The County must be specific and

consistent about which lands will be maintained for the production of food and fiber and for support of the County's economic base. The County's strategy and overall framework for maintaining agriculture includes the following policy directed at the preservation of Important Farmland:

> The overall economy of the County is expected to be dependent upon the agricultural industry for the foreseeable future. As such, all agricultural land in the County is considered as Important Farmland, as defined by federal and state agencies, and should be reserved for agricultural uses. Agricultural land may be converted to non-agricultural uses only where a clear and immediate need can be demonstrated, such as requirements for urban housing, commercial facilities, or employment opportunities. All existing agricultural land will be preserved for irrigation agriculture, livestock production, aquaculture, and other agriculture-related uses except for non-agricultural uses identified in this General Plan or in previously adopted City General Plans.

The following program is provided in the Agricultural Element:

> No agricultural land designated except as provided in Exhibit C [of the Agricultural Element] shall be removed from the Agriculture category except where needed for use by a public agency, for geothermal purposes, where a mapping error may have occurred, or where a clear long-term economic benefit to the County can be demonstrated through the planning and environmental review process. The Board (or Planning Commission) shall be required to prepare and make specific findings and circulate same for 60 days (30 days for parcels considered under Exhibit C of this [Agricultural] element) before granting final approval of any proposal, which removes land from the Agriculture category.

Also, the following policy addresses Development Patterns and Locations on Agricultural Land:

> "Leapfrogging" or "checkerboard" patterns of development have intensified recently and result in significant impacts on the efficient and economic production of adjacent agricultural land. It is a policy of the County that leapfrogging will not be allowed in the future. All new non-agricultural development will be confined to areas identified in this plan for such purposes or in cities' adopted Spheres of Influence, where new development must adjoin existing urban uses. Non-agricultural residential, commercial, or industrial uses will only be permitted if they adjoin at least one side of an existing urban use, and only if they do not significantly impact the ability to economically and conveniently farm adjacent agricultural land.

Agricultural Element Programs that address "leapfrogging" or "checkerboard" development include:

> All non-agricultural uses in any land use category shall be analyzed during the subdivision, zoning, and environmental impact review process for their potential impact on the movement of agricultural equipment and products on roads located in the Agriculture category, and for other existing agricultural conditions which might impact the projects, such as noise, dust, or odors.

The Planning and Development Services Department shall review all proposed development projects to ensure that any new residential or non-agricultural commercial uses located on agriculturally zoned land, except land designated as a Specific Plan Area, be adjoined on at least one entire property line to an area of existing urban uses. Developments that do not meet these criteria should not be approved.

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Table 3.3-2 provides a General Plan goal and policy consistency evaluation for the projects.

Table 3.3-2. Project Consistency with Applicable General Plan Agricultural Policies

General Plan Policies	Consistency with General Plan	Analysis
Goal 1. All Important Farmland, including the categories of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance, as defined by federal and state agencies, should be reserved for agricultural uses.	Consistent	The project sites do not contain Prime Farmland or Farmland of Statewide Importance. Therefore, the proposed projects would not convert land designated as Prime Farmland or Farmland of Statewide Importance to non-agricultural uses. A portion of the VEGA SES 5 Project site (APN 025-260-022) is designated as Farmland of Local Importance. The VEGA SES 5 Project would temporarily convert Farmland of Local Importance to non-agricultural uses. However, as part of the project, the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of its lifespan. The reclamation plan includes the removal, recycling, and/or disposal of all solar arrays, inverters, transformers, and other structures on the project site, as well as restoration of the site to pre-project condition. Therefore, the proposed VEGA SES 5 Project would not permanently convert Farmland of Local Importance to non-agricultural uses.
Objective 1.5.Direct development to less valuable farmland (i.e., Unique Farmland and Farmland of Local Importance rather than Prime Farmland or Farmland of Statewide Importance) when conversion of agricultural land is justified.	Consistent	The project sites are located within the County's designated Renewable Energy zone and are, therefore, considered to be located within an area that has been determined to be appropriate for the development of solar facilities. The majority of the project sites are designated as Other Land. A portion of the VEGA SES 5 Project site (APN 025-260-022) is designated as Farmland of Local Importance. A reclamation plan would be prepared for the project, which, when implemented, would return the site to pre-project conditions after the solar use is discontinued.
Objective 1.6. Recognize and preserve unincorporated areas of the County, outside of city sphere of influence areas, for irrigation agriculture, livestock production, aquaculture, and other special uses.	Consistent.	The project sites are located within the County's designated Renewable Energy zone and is, therefore, considered to be located within an area that has been determined to be appropriate for the development of solar facilities. The VEGA SES 5 Project would temporarily convert land located in an unincorporated area to non-agricultural uses; however, with the approval of the CUP, the VEGA SES 5 Project would be considered an allowable use in an agricultural zone as a conditionally-allowed use.
Objective 1.8. Allow conversion of agricultural land to non-agricultural uses including renewable energy only where a clear and immediate need can be demonstrated, based on economic benefits, population projections and lack of other available land (including land within incorporated cities) for such non-agricultural uses. Such conversion shall also be allowed only where such	Consistent	The project sites are located within the County's designated Renewable Energy zone and are, therefore, consistent with the General Plan. Additionally, with the approval of the CUPs, the projects would be consistent with the County's Land Use Ordinance. Therefore, the projects are consistent with the County's General Plan land use designation.

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Table 3.3-2. Project Consistency with Applicable General Plan Agricultural Policies

General Plan Policies	Consistency with General Plan	Analysis
uses have been identified for non-agricultural use in a city general plan or the County General Plan, and are supported by a study to show a lack of alternative sites.		
Objective 1.11. Control and prevent soil erosion when possible.	Consistent	The projects would implement BMPs within the site during construction and long-term operation of the project.
Goal 2. Adopt policies that prohibit "leapfrogging" or "checkerboard" patterns of nonagricultural development in agricultural areas and confine future urbanization to adopted Sphere of Influence area.	Consistent	The projects are located within the County's designated Renewable Energy zone, which identifies areas that are considered appropriate for the development of renewable energy. The projects do not include a residential component that would induce urbanization adjacent to the project. Furthermore, with the approval of the CUPs, the projects would be consistent with the County's Land Use Ordinance. Consistency with the Land Use Ordinance implies consistency with the General Plan land use designation.
Objective 2.1. Do not allow the placement of new non-agricultural land uses such that agricultural fields or parcels become isolated or more difficult to economically and conveniently farm.	Consistent	The projects are located within the County's designated Renewable Energy zone, which identifies areas that are considered appropriate for the development of renewable energy. Neither construction nor operation of the solar facility would not make it difficult to economically or conveniently farm.
Objective 2.2. Encourage the infilling of development in urban areas as an alternative to expanding urban boundaries.	Consistent	The projects are located within the County's designated Renewable Energy zone, which identifies areas that are considered appropriate for the development of renewable energy. The projects consist of the construction and operation of solar facilities. While the projects would introduce development in the area, it would not include residential uses that would, in turn, create a demand for other uses, such as commercial, employments centers, and supporting services.
Objective 2.3. Maintain agricultural lands in parcel size configurations that help assure that viable farming units are retained.	Consistent	The projects do not involve the subdivision of the property into smaller parcels. The projects are considered a temporary industrial use but would not induce growth in the area nor result in the expansion of urban boundaries. While the projects would temporarily convert agricultural land to non-agricultural uses; a reclamation plan would be prepared for the project sites, which, when implemented, would return the site to pre-project conditions after the solar uses are discontinued.
Objective 2.4. Discourage the parcelization of large holdings.	Consistent	The projects do not involve the subdivision of the property into smaller parcels. The size of the existing parcels would be retained for future agricultural use following site restoration.
Objective 2.6. Discourage the development of new residential or other non-agricultural areas outside of city "sphere of influence" unless	Consistent	The projects are located within the County's designated Renewable Energy zone, which identifies areas that are considered appropriate for the development of renewable energy.

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Table 3.3-2. Project Consistency with Applicable General Plan Agricultural Policies

General Plan Policies	Consistency with General Plan	Analysis
designated for non-agricultural use in the County General Plan, or for necessary public facilities.		
Goal 3. Limit the introduction of conflicting uses into farming areas, including residential development of existing parcels which may create the potential for conflict with continued agricultural use of adjacent property.	Consistent	Upon approval of the CUP, the VEGA SES 5 Project would be an allowable use within the applicable agricultural zone. Additionally, the projects do not include the development of housing. The solar development would be compatible with existing agricultural uses to the west.
Objective 3.2. Enforce the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031).	Consistent	The Imperial County Right-to-Farm Ordinance would be enforced. Existing nuisance issues, such as noise, dust, and odors from existing agricultural use would not impact the projects given the general lack of associated sensitive uses (e.g., residences). Likewise, with mitigation measures proposed in other resource sections (e.g., air quality, and noise) project-related activities would not adversely affect adjacent agricultural operations.
Objective 3.3. Enforce the provisions of the State nuisance law (California Code Sub-Section 3482).	Consistent	The provisions of the state nuisance law would be incorporated into the projects. As discussed below, there is the potential that weeds or other pests may occur within the solar field if these areas are not properly maintained and managed to control weeds and pests. Mitigation Measure AG-1 requires the project applicant to develop a Pest Management Plan prior to the issuance of a grading permit or building permit (whichever occurs first).

Source: County of Imperial 2015
BMP – best management practice; CUP – conditional use permit; DOC – Department of Conservation; IID – Imperial Irrigation District

3.3.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to agricultural resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to agricultural resources are considered significant if any of the following occur:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use.
- Conflict with existing zoning for agricultural use, or a Williamson Act contract.

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- Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.

Methodology

This analysis evaluates the potential for the projects, as described in Chapter 2, Project Description, to adversely impact agricultural resources within the project sites based on the applied significance criteria as identified above. The analysis prepared for this EIR relied on Important Farmland and Williamson Act maps for Imperial County produced by the California DOC's Division of Land Resource Protection. These sources were used to determine the agricultural significance of the land in the project sites. Per the County of Imperial General Plan, Farmland of Local Importance is also considered an important farmland.

Additionally, potential conflicts with existing agricultural zoning or other changes resulting from the implementation of the projects, which could indirectly remove Important Farmland from agricultural production or reduce agricultural productivity were considered. Sources used in this evaluation included, but were not limited to, the Imperial County General Plan and zoning ordinance. The conceptual site plans for the projects (Chapter 2) was also used to evaluate potential impacts.

Impact Analysis

Impact 3.3-1 Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use?

VEGA SES 2 and 3

According to the California DOC's California Important Farmland Finder, the VEGA SES 2 and 3 Project sites are designated as Other Land (DOC 2021). The VEGA SES 2 and 3 Project sites do not contain Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Therefore, the proposed projects would not convert land designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland to non-agricultural uses and no impact is identified.

VEGA SES 5

According to the California DOC's California Important Farmland Finder, the majority of the VEGA SES 5 Project site is designated as Other Land (DOC 2021). A portion of the VEGA SES 5 Project site (APN 025-260-022) is designated as Farmland of Local Importance. It should be noted that analysis of Other Land and Farmland of Local Importance is not required under CEQA significance criteria, as these designations are not considered an "agricultural land" per CEQA Statute Section 21060.1(a). The VEGA SES 5 Project would temporarily convert Farmland of Local Importance to non-agricultural uses. However, as a condition of project approval (CUP condition), the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of its lifespan. The reclamation plan includes the removal, recycling, and/or disposal of all solar arrays, inverters, transformers, and other structures on the project site, as well as restoration of the site to pre-project conditions. The County is responsible for approving the reclamation plan for the projects and confirming that financial assurances for the projects are in conformance with Imperial County ordinances prior to the issuance of any building permits. This shall be made a condition of approval and included in the CUPs. Implementation of the

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reclamation plan would reduce the impact associated with the temporary conversion of Farmland of Local Importance to non-agricultural uses to a level less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.3-2 Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

VEGA SES 2, 3 and 5

Williamson Act. The VEGA SES 2 and 3 Project sites are not located on Williamson Act contracted land (DOC 2016). Therefore, the projects would not conflict with a Williamson Act contract and no impact would occur.

Agricultural Zoning. The VEGA SES 2 and 3 Project sites are zoned Open Space/Preservation with a Renewable Energy Zone Overlay (S-2-RE). The VEGA SES 2 and 3 Projects would not conflict with existing zoning for agricultural use and no impact is identified.

VEGA SES 5

Williamson Act. The VEGA SES 5 Project site is not located on Williamson Act contracted land (DOC 2016). Therefore, the project would not conflict with a Williamson Act contract and no impact would occur.

Agricultural Zoning. The VEGA SES 5 Project site is zoned as General Agriculture with a Renewable Energy Zone Overlay (A-2-RE), Heavy Agriculture with a Renewable Energy Zone Overlay (A-3-RE) and S-2-RE Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

j) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)

s) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.

z) Electrical substations in an electrical transmission system (500 kV/230 kV/161 kV)

bb) Facilities for the transmission of electrical energy (100–200 kV)

ww) Resource extraction and energy development as per Division 17

aaa) Solar energy electrical generator

Pursuant to Title 9, Division 5, Chapter 9, the following uses are permitted in the A-3 zone subject to approval of a CUP from Imperial County:

i) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)

o) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.

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oo) Major facilities relating to the generation and transmission of electrical energy provided such facilities are not under State or Federal law, to be approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters, meeting the requirements in Division 17.

zz) Solar energy plants meeting the requirements in Division 17

Upon approval of the CUP, the project's use would be consistent with the Imperial County Land Use Ordinance and thus is also consistent with the General Plan land use designation of the site. Additionally, the operation of the solar generating facility is not expected to inhibit or adversely affect adjacent agricultural operations through the placement of sensitive land uses, generation of excessive dust or shading, or place additional development pressures on adjacent areas. Based on these considerations, the impact is considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.3-3 Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?

VEGA SES 2 and 3

As discussed under Impact 3.3-1, the VEGA 2 and 3 Project sites do not contain Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. Furthermore, the VEGA 2 and 3 Project sites are not zoned for agricultural uses. Therefore, the VEGA 2 and 3 Projects would not involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use. No impact is identified.

VEGA SES 5

The Agricultural Element of the County's General Plan serves as the primary policy statement for implementing development policies for agricultural land use in Imperial County. The goals, objectives, implementation programs, and policies found in the Agricultural Element provide direction for private development as well as government actions and programs. A summary of the relevant Agricultural goals and objectives and the project's consistency with applicable goals and objectives is summarized in Table 3.3-2. As provided, the projects are generally consistent with certain Agricultural Element Goals and Objectives of the County General Plan.

Per County policy, agricultural land may be converted to non-agricultural uses only where a clear and immediate need can be demonstrated, such as requirements for urban housing, commercial facilities, or employment opportunities. Further, no agricultural land designated exempt shall be removed from the agriculture category except where needed for use by a public agency, for geothermal purposes, where a mapping error may have occurred, or where a clear long-term economic benefit to the County can be demonstrated through the planning and environmental review process.

As discussed under Impact 3.3-1, the VEGA SES 5 Project site does not contain Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Furthermore, the project site is located

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within the Renewable Energy Zone and the project is, therefore, considered an appropriate use in this area. Additionally, as a condition of project approval (CUP condition), the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of its lifespan. The reclamation plan includes the removal, recycling, and/or disposal of all solar arrays, inverters, transformers, and other structures on the project site, as well as restoration of the site to pre-project conditions. The County is responsible for approving the reclamation plan for the project and confirming that financial assurances for the project are in conformance with Imperial County ordinances prior to the issuance of any building permits. This shall be made a condition of approval and included in the CUP.

The nature of the project warrants that it be located adjacent to existing electrical transmission infrastructure. The electrical energy produced by the VEGA SES 5 Project would be conducted through the project's interconnection facilities to the IID's 92 kV Midway Substation.

With the approval of the CUP, the project would be consistent with the County's Land Use Ordinance. Consistency with the Land Use Ordinance implies consistency with the General Plan land use designation.

The project would not directly impact the movement of agricultural equipment on roads located within the agriculture category and access to existing agriculture-serving roads would not be precluded or hindered by the project. No modifications to roadways are proposed in the project area that would otherwise affect other agricultural operations in the area. Furthermore, existing nuisance issues, such as noise, dust, and odors from existing agricultural use would not impact the project given the general lack of associated sensitive uses (e.g., residences). Likewise, with mitigation measures proposed in other resource sections (air quality, noise, etc.), project-related activities would not adversely affect adjacent agricultural operations. Further, the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031) and the State nuisance law (California Code Sub-Section 3482) would continue to be enforced.

With the implementation of the VEGA SES 5 Project, it is possible that the physical and chemical makeup of the soil materials within the upper soil horizon may change. For example, improper soil stockpiling and management of the stockpiles could result in increased decomposition of soil organic materials, increased leaching of plant available nitrogen, and depletion of soil biota communities (e.g., Rhizobium or Frankia). Any reductions in agricultural productivity could significantly limit the types of crops (deeper rooting crops, orchards, etc.) that may be grown within the project site in the future. However, as a condition of project approval (CUP condition), the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of their lifespan. The reclamation plan includes restoration of the site to pre-project conditions.

Additionally, there is the potential that weeds or other pests may occur within the solar fields if the area is not properly maintained and managed to control weeds and pests. This is considered a significant impact. Implementation of Mitigation Measure AG-1 would reduce this impact to a level less than significant.

Mitigation Measure(s)

This mitigation measure is applicable to the VEGA SES 5 project only.

AG-1 Prior to the issuance of a grading permit or building permit (whichever occurs first), a Pest Management Plan shall be developed by the project applicant and approved by the

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County of Imperial Agricultural Commissioner. The project applicant shall maintain a Pest Management Plan until reclamation is complete. The plan shall provide the following:

1. Monitoring, preventative, and management strategies for weed and pest control during construction activities at any portion of the project (e.g., transmission line);
2. Control and management of weeds and pests in areas temporarily disturbed during construction where native seed will aid in site revegetation as follows:

    - Monitor for all pests including insects, vertebrates, weeds, and pathogens. Promptly control or eradicate pests when found, or when notified by the Agricultural Commissioner's office that a pest problem is present on the project site. The assistance of a licensed pest control advisor is recommended. All treatments must be performed by a qualified applicator or a licensed pest control business.
    - All treatments must be performed by a qualified applicator or a licensed pest control operator.
    - "Control" means to reduce the population of common pests below economically damaging levels, and includes attempts to exclude pests before infestation, and effective control methods after infestation. Effective control methods may include physical/mechanical removal, bio control, cultural control, or chemical treatments.
    - Use of "permanent" soil sterilants to control weeds or other pests is prohibited because this would interfere with reclamation.
    - Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of Food Agriculture and the U.S. Department of Agriculture. Request a sample be taken by the Agricultural Commissioner's Office of a suspected invasive species. Eradication of exotic pests shall be done under the direction of the Agricultural Commissioner's Office and/or California Department of Food and Agriculture.
    - Obey all pesticide use laws, regulations, and permit conditions.
    - Allow access by Agricultural Commissioner staff for routine visual and trap pest surveys, compliance inspections, eradication of exotic pests, and other official duties.
    - Ensure all project employees that handle pest control issues are appropriately trained and certified, all required records are maintained and made available for inspection, and all required permits and other required legal documents are current.
    - Maintain records of pests found and treatments or pest management methods used. Records should include the date, location/block, project name (current and previous if changed), and methods used. For pesticides include the chemical(s) used, EPA Registration numbers, application rates, etc. A pesticide use report may be used for this.

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- Submit a report of monitoring, pest finds, and treatments, or other pest management methods to the Agricultural Commissioner quarterly within 15 days after the end of the previous quarter, and upon request. The report is required even if no pests were found or treatment occurred. It may consist of a copy of all records for the previous quarter, or may be a summary letter/ report as long as the original detailed records are available upon request.

3. A long-term strategy for weed and pest control and management during the operation of the proposed project. Such strategies may include, but are not limited to:
    - Use of specific types of herbicides and pesticides on a scheduled basis.
4. Maintenance and management of project site conditions to reduce the potential for a significant increase in pest-related nuisance conditions on surrounding agricultural lands.
5. The project shall reimburse the Agricultural Commissioner's office for the actual cost of investigations, inspections, or other required non-routine responses to the site that are not funded by other sources.

Significance after Mitigation

The project applicant would be required to adhere to the terms of the comprehensive reclamation plan that would restore the VEGA SES 5 Project site to preexisting (pre-project) conditions following decommissioning of the project (after its use for solar generation activities). In addition, the VEGA SES 5 Project would be required to implement a weed and pest management control plan per Mitigation Measure AG-1. Compliance with these measures would reduce this impact to a level less than significant.

3.3.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

In any land restoration project, it is necessary to minimize disruption to topsoil or stockpiled topsoil for later use during restoration following project decommissioning. With the implementation of the VEGA SES 5 Project, it is possible that the physical and chemical makeup of the soil materials within the upper soil horizon may change during construction and associated stockpiling operations. Improper soil stockpiling and management of the stockpiles could result in increased decomposition of soil organic materials, increased leaching of plant-available nitrogen, and depletion of soil biota communities (e.g., Rhizobium or Frankia). Each of these circumstances could have an adverse effect on the future productivity of the restored soils. Any reductions in agricultural productivity could significantly limit the types of crops (deeper rooting crops, orchards, etc.) that may be grown within the project site in the future. As a condition of project approval (CUP condition), the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of its lifespan. The reclamation plan includes restoration of the site to pre-project conditions. With implementation of the site reclamation plan, this impact is considered less than significant.

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Residual

The VEGA SES 5 Project would temporarily convert Farmland of Local Importance to non-agricultural uses. However, as a condition of project approval (CUP condition), the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of its lifespan. The reclamation plan includes the removal, recycling, and/or disposal of all solar arrays, inverters, transformers, and other structures on the project site, as well as restoration of the site to pre-project conditions. This shall be made a condition of approval and included in the CUP. Implementation of the reclamation plan would reduce the impact associated with the temporary conversion of Farmland of Local Importance to non-agricultural uses to a level less than significant. Based on these circumstances, the VEGA SES 5 Project would not result in any residual significant and unmitigable impacts to agricultural resources.

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3.4 Air Quality

This section includes an overview of the existing air quality within the project area and identifies applicable local, state, and federal policies related to air quality. The impact assessment provides an evaluation of potential adverse effects on air quality based on criteria derived from the CEQA Guidelines and Imperial County Air Pollution Control District's (ICAPCD) Air Quality Handbook in conjunction with actions proposed in Chapter 2, Project Description, of this EIR. ECORP Consulting, Inc. prepared an *Air Quality and Greenhouse Gas Assessment* that evaluates the potential air quality and climate change impacts of the VEGA SES 2, 3 & 5 Solar Energy Projects. This report is included in Appendix D of this EIR.

3.4.1 Existing Conditions

Regional Setting

The project area is located in Imperial County within the Salton Sea Air Basin (SSAB). The SSAB consists of all of Imperial County and a portion of Riverside County. Both the ICAPCD and South Coast Air Quality Management District (SCAQMD) have jurisdiction within the SSAB. The ICAPCD has full jurisdiction within all Imperial County and SCAQMD only has jurisdiction within Riverside County. As an arid desert region, the SSAB's climate is largely governed by the large-scale sinking and warming of air within the semi-permanent subtropical high-pressure center over the Pacific Ocean. When the fringes of mid-latitude storms pass through the Imperial Valley in winter, the coastal mountains create a strong "rain shadow" effect that makes Imperial Valley the second driest location in the U.S.

The lack of clouds and atmospheric moisture creates strong diurnal and seasonal temperature variations ranging from an average summer maximum of 108 degrees (°) Fahrenheit down to a winter morning minimum of 38° Fahrenheit. The most pleasant weather occurs from about mid-October to early May when daily highs are in the 70s and 80s with very infrequent cloudiness or rainfall. Imperial County experiences significant rainfall an average of only 4 times per year. The local area usually has three days of rain in winter and one thunderstorm day in August. The annual rainfall in this region is less than three inches per year (Appendix D of this EIR).

Temperature inversions and light nighttime winds trap any local air pollution emissions near the ground. As a result, the area is subject to frequent hazy conditions at sunrise, followed by rapid daytime dissipation as winds pick up and the temperature warms. During periods of strong solar heating and intense convection, turbulent motion creates good mixing and low levels of air pollution. The SSAB experiences surface inversions almost every day of the year. These inversions often last for long periods of time, which allows for air stagnation and buildup of pollutants, including ozone (O_3).

Winds in the area are driven by a complex pattern of local, regional, and global forces, but primarily reflect the temperature difference between the cool ocean to the west and the heated interior of the entire desert southwest. For much of the year, winds flow predominantly from the west to the east. In summer, intense solar heating in the Imperial Valley creates a more localized wind pattern, as air comes up from the southeast via the Gulf of California.

Imperial County is predominately agricultural land, which is a factor in the cumulative air quality of the SSAB. Agricultural production generates dust and small particulate matter through the use of agricultural equipment on unpaved roads, land preparation, and harvest practices. Imperial County

experiences unhealthful air quality from photochemical smog and from dust because of extensive surface disturbance and the very arid climate (Appendix D of this EIR).

Major Air Pollutants

Criteria Pollutants

Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health with a determined margin of safety. Ozone, coarse particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2) are considered to be local pollutants because they tend to accumulate in the air locally. PM is also considered a local pollutant. Health effects commonly associated with criteria pollutants are summarized in Table 3.4-1.

Table 3.4-1. Criteria Air Pollutants- Summary of Common Sources and Effects

Pollutant	Major Manmade Sources	Human Health and Welfare Effects
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO_2	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O_3	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (N2O) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
PM_{10} and $PM_{2.5}$	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze)
SO_2	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, and locomotives.	Respiratory irritant. Aggravates lung and heart problems. Can damage crops and natural vegetation. Impairs visibility.

Source: Appendix D of this EIR

Toxic Air Contaminants

Toxic air contaminants (TAC) are substances that have the potential to be emitted into the ambient air and that have been determined to present some level of acute or chronic health risk (cancer or non-

cancer) to the general public. These pollutants may be emitted in trace amounts from various types of sources, including combustion sources. There are almost 200 compounds that have been designated as TACs in California. The 10 TACs posing the greatest known health risk in California, based primarily on ambient air quality data, are acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, formaldehyde, methylene chloride, para-dichlorobenzene, perchloroethylene, and diesel particulate matter (DPM).

Most recently, CARB identified DPM as a TAC. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine (U.S. EPA 2002). Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs; due to their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung (Appendix D of this EIR).

Total organic gases (TOG) emissions are compounds of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. Specifically, TOG emissions include all organic gas compounds emitted to the atmosphere, including the low reactivity compounds (methane, ethane, various chlorinated fluorocarbons, acetone, perchloroethylene, volatile methyl siloxanes, etc.). TOG emissions also include low volatility or "low vapor pressure" organic compounds (e.g., some petroleum distillate mixtures). TOG includes all organic compounds that can become airborne (through evaporation, sublimation, as aerosols, etc.), excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. Various subsets of TOG cause headaches, dizziness, upper respiratory tract irritation, nausea, and cancer. Vehicular traffic traveling on area roadways, such as SR 98, are sources of TOG (Appendix D of this EIR).

Attainment Status

The U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB) designate air basins or portions of air basins and counties as being in “attainment” or “nonattainment” for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. The National Ambient Air Quality Standards (NAAQS) (other than O_3, PM_{10} and $PM_{2.5}$ and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The NAAQS for O_3, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards (CAAQS) are not to be exceeded during a three-year period.

The attainment status for the portion of the SSAB encompassing the project area is shown in Table 3.4-2. As shown in Table 3.4-2, the Imperial County portion of the SSAB is currently designated as nonattainment for O_3 and PM_{10} under State standards. Under federal standards, the Imperial County portion of the SSAB is in nonattainment for O_3, PM_{10}, and $PM_{2.5}$. The area is currently in attainment or unclassified status for CO, NO_2, and SO_2.

Table 3.4-2. Attainment Status of Criteria Pollutants in the Imperial County Portion of the Salton Sea Air Basin

Pollutant	State Designation	Federal Designation
O_3	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Nonattainment
$PM_{2.5}$	Attainment	Nonattainment
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	Unclassified/Attainment

Source: Appendix D of this EIR

Local Ambient Air Quality

Ambient air quality within the project area can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. CARB maintains more than 60 monitoring stations throughout California. Ozone, PM_{10} and $PM_{2.5}$ are the pollutants most potently affecting the project region. As described above, the project region is designated as a nonattainment area for the federal O_3, $PM_{2.5}$ and PM_{10} standards and is also a nonattainment area for the State standards for O_3 and PM_{10}. The Niland-English Road air quality monitoring station (7711 English Road, Niland), located approximately 7.27 miles west of the project area, monitors ambient concentrations of O_3 and PM_{10}. The Brawley-Main Street #2 air quality monitoring station (220 Main Street, Brawley), located approximately 17.8 miles southwest of the project area, monitors ambient concentrations of $PM_{2.5}$. Ambient emission concentrations will vary due to localized variations in emission sources and climate and should be considered "generally" representative of ambient concentrations in the project area.

Table 3.4-3 summarizes the published data concerning O_3, $PM_{2.5}$ and PM_{10} from the Niland-English Road and Brawley-Main Street #2 monitoring stations for monitoring years 2019-2021. As shown in Table 3.4-3, O_3, PM_{10} and $PM_{2.5}$ are the pollutants most potently affecting the project region.

Table 3.4-3. Summary of Local Ambient Air Quality Data

Pollutant Standards	2019	2020	2021
O_3 – Niland-English Road			
Max 1-hour concentration (ppm)	0.060	0.054	0.065
Max 8-hour concentration (ppm) (state/federal)	0.055 / 0.054	0.046 / 0.045	0.055 / 0.055
Number of days above 1-hour standard (state/federal)	0/0	0/0	0/0
Number of days above 8-hour standard (state/federal)	0/0	0/0	0/0

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Table 3.4-3. Summary of Local Ambient Air Quality Data

Pollutant Standards	2019	2020	2021
PM_{10} – Niland-English Road			
Max 24-hour concentration (µg/m^3) (state/federal)	156.3 / 155.7	241.3 / 239.8	218.2 / 211.2
Number of days above 24-hour standard (state/federal)	49.3 / 1.0	68.9 / 1.0	86.0 / 4.0
$PM_{2.5}$ – Brawley-Main Street			
Max 24-hour concentration (µg/m^3) (state/federal)	28.9 / 28.9	23.7 / 23.7	24.4 / 24.4
Number of days above federal 24-hour standard	0	0	*

Source: Appendix D of this EIR
Notes:
µg/m^3 = micrograms per cubic meter; ppm = parts per million
** = Insufficient data available*

Sensitive Receptors

High concentrations of air pollutants pose health hazards for the general population, but particularly for the young, the elderly, and the sick. Typical health problems attributed to smog include respiratory ailments, eye and throat irritations, headaches, coughing, and chest discomfort. Certain land uses are considered to be more sensitive to the effects of air pollution. Schools, hospitals, residences, and other facilities where people congregate, especially children, the elderly and infirm, are considered particularly sensitive to air pollutants.

The nearest existing sensitive land use to the project area is a single-family residence located approximately 523 feet from the southwestern corner of the VEGA SES 5 project site (APN 025-260-022).

3.4.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the projects.

Federal

Clean Air Act

The Federal Clean Air Act (CAA), passed in 1970 and last amended in 1990, is the primary federal law that governs air quality. The Federal CAA delegates primary responsibility for clean air to the U.S. EPA. The U.S. EPA develops rules and regulations to preserve and improve air quality and delegates specific responsibilities to state and local agencies. Under the act, the U.S. EPA has established the NAAQS for six criteria air pollutants that are pervasive in urban environments and for which state and national health-based ambient air quality standards have been established. Ozone, CO, NO_2, SO_2, Pb, and PM (Including both PM_{10}, and $PM_{2.5}$) are the six criteria air pollutants. Ozone is a secondary pollutant, nitrogen oxides (NO_x) and volatile organic compounds (VOCs) are of particular interest as they are precursors to ozone formation. In addition, national standards exist for Pb. The NAAQS

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standards are set at levels that protect public health with a margin of safety and are subject to periodic review and revision.

The Federal CAA requires U.S EPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The federal standards are summarized in Table 3.4-4.

State

California Clean Air Act

The California Clean Air Act (CCAA) was adopted by CARB in 1988. The CCAA is responsible for meeting the state requirements of the Federal CAA and for establishing the CAAQS. CARB oversees the functions of local air pollution control districts and air quality management districts, which, in turn, administer air quality activities at the regional and county levels. The CCAA, as amended in 1992, requires all air districts of the state to achieve and maintain the CAAQS by the earliest practical date.

The CCAA requires CARB to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous 3 calendar years. As shown in Table 3.4-4, the CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as nonattainment.

California State Implementation Plan

The CAA mandates that the state submit and implement a State Implementation Plan (SIP) for areas not meeting the NAAQS. These plans must include pollution control measures that demonstrate how the standards will be met. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the U.S. EPA for approval and publication in the Federal Register. The Code of Federal Regulations Title 40, Chapter I, Part 52, Subpart F, Section 52.220 lists all of the items which are included in the California SIP.

Table 3.4-4. Ambient Air Quality Standards

Air Pollutant	Averaging Time	California Standard	National Standard
O_3	1-hour 8-hour	0.09 ppm 0.070 ppm	-- 0.070 ppm
PM_{10}	24-hour Mean	50 µg/m^3 20 µg/m^3	150 µg/m^3 --
$PM_{2.5}$	24-hour Mean	-- 12 µg/m^3	35 µg/m^3 12.0 µg/m^3
CO	1-hour 8-hour	20 ppm 9.0 ppm	35 ppm 9 ppm

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Table 3.4-4. Ambient Air Quality Standards

Air Pollutant	Averaging Time	California Standard	National Standard
NO_2	1-hour Mean	0.18 ppm 0.030 ppm	100 ppb 0.053 ppm
SO_2	1-hour 24-hour	0.25 ppm 0.04 ppm	75 ppb --
Pb	30-day Rolling 3-month	1.5 µg/m^3	-- 0.15 µg/m^3
Sulfates	24-hour	25 µg/m^3	No federal standard
Hydrogen sulfide	1-hour	0.03 ppm	
Vinyl chloride	24-hour	0.01 ppm	
Visibility-reducing particles	8-hour	Extinction coefficient of 0.23 per kilometer, visibility of 10 miles or more because of particles when relative humidity is less than 70 percent	

Source: CARB 2016
Notes:
CO – carbon monoxide; mean – annual arithmetic mean; NO_2 – nitrogen dioxide; O_3 – ozone; Pb – lead; $PM_{2.5}$ – particulate matter less than 2.5 microns in diameter; PM_{10} - particulate matter less than 10 microns in diameter; ppb – parts per billion; ppm - parts per million; $S0_2$ – sulfur dioxide; µg/m^3 – micrograms per cubic meter

Toxic Air Contaminants Regulation

TAC sources include industrial processes, dry cleaners, gasoline stations, paint and solvent operations, and fossil fuel combustion sources. The TACs that are relevant to the implementation of the projects include DPM and airborne asbestos.

In August 1998, ARB identified DPM emissions from diesel-fueled engines as a TAC. In September 2000, ARB approved a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel fueled engines and vehicles. The goal of the plan is to reduce diesel PM_{10} (inhalable particulate matter) emissions and the associated health risk by 75 percent in 2010 and by 85 percent by 2020. The plan identified 14 measures that target new and existing on-road vehicles (e.g., heavy duty trucks and buses, etc.), off-road equipment (e.g., graders, tractors, forklifts, sweepers, and boats), portable equipment (e.g., pumps, etc.), and stationary engines (e.g., stand-by power generators, etc.).

Tanner Air Toxics Act & Air Toxics "Hot Spots" Information and Assessment Act

CARB's Statewide comprehensive air toxics program was established in 1983 with Assembly Bill (AB) 1807, the Toxic Air Contaminant Identification and Control Act (Tanner Air Toxics Act of 1983). AB 1807 created California's program to reduce exposure to air toxics and sets forth a formal procedure

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for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an airborne toxics control measure (ATCM) for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions.

CARB also administers the state's mobile source emissions control program and oversees air quality programs established by state statute, such as AB 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment (HRA) and, if specific thresholds are exceeded, required to communicate the results to the public in the form of notices and public meetings. In September 1992, the "Hot Spots" Act was amended by Senate Bill (SB) 1731, which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

Regional

Imperial County Air Pollution Control District

The ICAPCD is the agency responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards in the district. ICAPCD is responsible for regulating stationary sources of air emissions in Imperial County. Stationary sources that have the potential to emit air pollutants into the ambient air are subject to the Rules and Regulations adopted by ICAPCD. ICAPCD is responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases. Monitoring of ambient air quality in Imperial County began in 1976. Since that time, monitoring has been performed by ICAPCD, CARB, and by private industry. There are six monitoring sites in Imperial County from Niland to Calexico. The ICAPCD has developed the following plans to achieve attainment for air quality ambient standards.

- 2009 Imperial County Plan for PM_{10}
- 2013 Imperial County Plan for 2006 24-hour $PM_{2.5}$ for Moderate Nonattainment Area
- 2017 Imperial County Plan for 2008 8-hour Ozone Standard
- 2018 Imperial County Plan for PM_{10}
- 2018 Redesignation Request and Maintenance Plan for PM_{10}
- 2018 Imperial County Plan for $PM_{2.5}$

In addition to the above plans, the ICAPCD is working cooperatively with counterparts from Mexico to implement emissions reductions strategies and projects for air quality improvements at the border. The two countries strive to achieve these goals through local input from states, county governments, and citizens. Within the Mexicali and Imperial Valley area, the Air Quality Task Force has been organized to address those issues unique to the border region known as the Mexicali/Imperial air shed. The Air Quality Task Force membership includes representatives from federal, State, and local governments from both sides of the border, as well as representatives from academia, environmental organizations, and the general public. This group was created to promote regional efforts to improve

the air quality monitoring network, emissions inventories, and air pollution transport modeling development, as well as the creation of programs and strategies to improve air quality.

Imperial County Air Pollution Control District Rules and Regulations

ICAPCD has the authority to adopt and enforce regulations dealing with controls for specific types of sources, emissions or hazardous air pollutants, and New Source Review. The ICAPCD Rules and Regulations are part of the SIP and are separately enforceable by the EPA.

Rule 106 – Abatement. The Board may, after notice and a hearing, issue, or provide for the issuance by the Hearing Board, of an order for abatement whenever the District finds that any person is in violation of the rules and regulations limiting the discharge of air contaminants into the atmosphere.

Rule 107 – Land Use. The purpose of this rule is to provide ICAPCD the duty to review and advise the appropriate planning authorities within the District on all new construction or changes in land use which the Air Pollution Control Officer believes could become a source of air pollution problems.

Rule 201 – Permits Required. The construction, installation, modification, replacement, and operation of any equipment which may emit or control Air Contaminants require ICAPCD permits.

Rule 207 – New and Modified Stationary Source Review. Establishes preconstruction review requirements for new and modified stationary sources to ensure the operations of equipment does not interfere with attainment or maintenance of ambient air quality standards.

Rule 208 – Permit to Operate. The ICAPCD would inspect and evaluate the facility to ensure the facility has been constructed or installed and will operate to comply with the provisions of the Authority to Construct permit and comply with all applicable laws, rules, standards, and guidelines.

Rule 310 – Operational Development Fee. The purpose of this rule is to provide ICAPCD with a sound method for mitigating the emissions produced from the operation of new commercial and residential development projects throughout the County of Imperial and incorporated cities. All project proponents have the option to either provide off-site mitigation, pay the operational development fee, or do a combination of both. This rule will assist ICAPCD in attaining the state and federal ambient air quality standards for PM_{10} and O_3.

Rule 401 – Opacity of Emissions. Sets limits for release or discharge of emissions into the atmosphere, other than uncombined water vapor, that are dark or darker in shade as designated as No.1 on the Ringelmann Chart[1] or obscure an observer's view to a degree equal to or greater than smoke does as compared to No.1 on the Ringelmann Chart, for a period or aggregated period of more than three minutes in any hour.

Rule 403 – General Limitations on the Discharge of Air Contaminants. Rule 403 sets forth limitations on emissions of pollutants, including particulate matter, from individual sources.

Rule 407 – Nuisance. Rule 407 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

[1] The Ringelmann scale is a scale for measuring the apparent density or opacity of smoke.

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Rule 801 – Construction and Earthmoving Activities. Rule 801 aims to reduce the amount of PM_{10} entrained in the ambient air as a result of emissions generated from construction and other earthmoving activities by requiring actions to prevent, reduce, or mitigate PM_{10} emissions. This rule applies to any construction and other earthmoving activities, including, but not limited to, land clearing, excavation related to construction, land leveling, grading, cut and fill grading, erection or demolition of any structure, cutting and filling, trenching, loading or unloading of bulk materials, demolishing, drilling, adding to or removing bulk of materials from open storage piles, weed abatement through disking, back filling, travel on-site and travel on access roads to and from the site.

Regulation VIII – Fugitive Dust Rules. Regulation VIII sets forth rules regarding the control of fugitive dust, including fugitive dust from construction activities. The regulation requires implementation of fugitive dust control measures to reduce emissions from earthmoving, unpaved roads, handling of bulk materials, and control of track-out/carry-out dust from active construction sites. Best Available Control Measures to reduce fugitive dust during construction and earthmoving activities include but are not limited to:

- Phasing of work in order to minimize disturbed surface area
- Application of water or chemical stabilizers to disturbed soils
- Construction and maintenance of wind barriers
- Use of a track-out control device or wash down system at access points to paved roads.

Compliance with Regulation VIII is mandatory for all construction sites, regardless of size; however, compliance with Regulation VIII does not constitute mitigation under the reductions attributed to environmental impacts. In addition, compliance for a project includes: (1) the development of a dust control plan for the construction and operational phase; and (2) notification to the Air District is required 10 days prior to the commencement of any construction activity. Furthermore, any use of engine(s) and/or generator(s) of 50 horsepower or greater may require a permit through ICAPCD.

Southern California Association of Governments – 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy

The Southern California Association of Governments (SCAG) is the designated metropolitan planning organization for Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial Counties. CEQA requires that regional agencies like SCAG review projects and plans throughout its jurisdiction. SCAG, as the region's "Clearinghouse," collects information on projects of varying size and scope to provide a central point to monitor regional activity. SCAG has the responsibility of reviewing dozens of projects, plans, and programs every month. Projects and plans that are regionally significant must demonstrate to SCAG their consistency with a range of adopted regional plans and policies.

On September 3, 2020, SCAG adopted the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (SCAG 2020). The RTP/SCS or "Connect SoCal" includes a strong commitment to reduce emissions from transportation sources to comply with Senate Bill 375, improve public health, and meet the NAAQS as set forth by the federal CAA. The following SCAG goal is applicable to the VEGA SES 2, 3 & 5 projects:

- Reduce greenhouse gas emissions and improve air quality

As a solar generation facility, the proposed projects would improve air quality by reducing the use of fossil fuels in energy production. With mitigation, construction of the proposed projects would not exceed any ICAPCD thresholds or result in significant impacts to air quality. Additionally, all construction projects within Imperial County must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. PM_{10} emissions associated with construction of the projects would be reduced through compliance with ICAPCD Regulation VIII. Operation of the proposed projects would not exceed any ICAPCD thresholds or result in significant impacts to air quality. Therefore, the proposed projects would be consistent with this SCAG goal.

Imperial County General Plan

The Imperial County General Plan serves as the overall guiding policy for the County. The Conservation and Open Space Element includes objectives for helping the County achieve the goal of improving and maintaining the quality of air in the region. Table 3.4-5 summarizes the projects' consistency with the applicable air quality goal and objectives from the Conservation and Open Space Element. While this EIR analyzes the projects' consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

Table 3.4-5. Project Consistency with Applicable Plan Policies

Applicable Policies	Consistency Determination	Analysis
Conservation and Open Space Element		
Protection of Air Quality and Addressing Climate Change Goal 7: The County shall actively seek to improve the quality of air in the region.	Consistent	The proposed projects would be required to comply with all applicable ICAPCD rules and requirements during construction and operation to reduce air emissions. Overall, the proposed projects would not significantly impact air quality and would reduce GHG emissions by reducing the amount of emissions that would be generated in association with electricity production from fossil fuel burning facilities. Therefore, the proposed projects are consistent with this goal.
Objective 7.1: Ensure that all project and facilities comply with current Federal, State and local requirements for attainment of air quality objectives.	Consistent	The proposed projects would comply with current federal and State requirements for attainment for air quality objectives through conformance with all applicable ICAPCD rules and requirements to reduce fugitive dust and emissions. Further, the projects would comply with the ICAPCD Air Quality CEQA Handbook's Mandatory Standard, Discretionary and Enhanced Air Quality Measures (Mitigation Measure AQ-1). Therefore, the proposed projects are consistent with this objective.

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Table 3.4-5. Project Consistency with Applicable Plan Policies

Applicable Policies	Consistency Determination	Analysis
Objective 7.2: Develop management strategies to mitigate fugitive dust. Cooperate with all federal and state agencies in the effort to attain air quality objectives.	Consistent	The Applicant would cooperate with all federal and State agencies in the effort to attain air quality objectives through compliance with the ICAPCD Air Quality CEQA Handbook's Mandatory Standard, Discretionary and Enhanced Air Quality Measures (Mitigation Measure AQ-1). Therefore, the proposed projects are consistent with this objective.

Source: County of Imperial 2016

3.4.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to air quality, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to air quality are considered significant if any of the following occur:

- Conflict with or obstruct implementation of the applicable air quality plan
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O_3 precursors)
- Expose sensitive receptors to substantial pollutant concentrations
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people

Imperial County Air Pollution Control District

ICAPCD amended the Air Quality Handbook: Guidelines for the Implementation of CEQA on December 12, 2017 (ICAPCD 2017b). ICAPCD established significance thresholds based on the state CEQA thresholds. The handbook was used to determine the proper level of analysis for the project.

Significance thresholds for evaluation of construction and operational air quality impacts are listed in Table 3.4-6.

Projects that are predicted to exceed Tier I thresholds require implementation of applicable ICAPCD standard mitigation measures to be considered less than significant. Projects exceeding Tier II thresholds are required to implement applicable ICAPCD standard mitigation measures, as well as applicable discretionary mitigation measures. Projects that exceed the Tier II thresholds after implementation of standard and discretionary mitigation measures would be considered to have a potentially significant impact to human health and welfare.

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual

emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

Table 3.4-6. Imperial County Air Pollution Control District Significance Thresholds – Pounds per Day

Criteria Pollutant and Precursors	Construction Activities	Tier 2 Thresholds	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	
		Tier I Threshold	Tier II Threshold
ROG	75	<137	>137
NO_x	100	<137	>137
PM_{10}	150	<150	>150
$PM_{2.5}$	N/A	<550	>550
CO	550	<550	>550
SO_2	N/A	<150	>150

Source: ICAPCD 2017b

Notes:

CO – carbon monoxide; NO_x – nitrogen oxide; O_3 – ozone; Pb – lead; $PM_{2.5}$ – particulate matter less than 2.5 microns in diameter; PM_{10} - particulate matter less than 10 microns in diameter; ROG - reactive organic gas; S0x – sulfur oxide

Methodology

Air quality impacts were assessed in accordance with methodologies recommended by the ICAPCD. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2020.4.0.[2] Project construction-generated air pollutant emissions were calculated using CalEEMod model defaults for Imperial County as well as timing and equipment identified by the project proponent. For instance, construction is estimated to take 12-18 months. According to the Traffic Impact Study prepared for the projects (Appendix K1 and K2 of this EIR), the number of on–site construction workers for the VEGA SES 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the VEGA SES 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on–site construction workers for the VEGA SES 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the VEGA SES 5 battery storage facility and substation is not expected to exceed 50 workers at any one time (Appendix D of this EIR).

Construction workers would access the project area from McDonald Road, a paved road off SR 111. The VEGA SES 5 project site is located at the eastern end of McDonald Road. As such, vehicle travel to the VEGA SES 5 project site would not occur on any unpaved roads. Access to the VEGA SES 2

[2] CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects.

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and 3 project sites would require an additional 1.65 miles of travel on Wiest Road and Flowing Wells Road, both of which are unpaved.

Operational air pollutant emissions account for a conservative estimate of two worker trips per day. Such visits include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules if needed to maintain power generation efficiency.

Impact Analysis

Impact 3.4-1 Would the project conflict with or obstruct implementation of the applicable air quality plan?

The air quality attainment plan (AQAP) for the SSAB, through the implementation of the AQMP (previously AQAP) and SIP for PM_{10}, sets forth a comprehensive program that will lead the SSAB into compliance with all federal and state air quality standards. The AQMP control measures and related emission reduction estimates are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Conformance with the AQMP for development projects is determined by demonstrating compliance with local land use plans and/or population projections, meeting the land use designation set forth in the local General Plan, and comparing assumed emissions in the AQMP to proposed emissions.

The projects must demonstrate compliance with all ICAPCD applicable rules and regulations, as well as local land use plans and population projections. As the projects do not contain a residential component, the projects would not result in an increase in the regional population. While the projects would contribute to energy supply, which is one factor of population growth, the proposed projects are solar energy projects and would not significantly increase employment or growth within the region. Moreover, development of the proposed projects would increase the amount of renewable energy and help California meet its Renewable Portfolio Standard (RPS).

As shown in Table 3.4-5, the projects are consistent with the applicable air quality goal and objectives from the Conservation and Open Space Element of the General Plan. The proposed projects would be required to comply with all applicable ICAPCD rules and requirements during construction and operation to reduce air emissions. Overall, the proposed projects would improve air quality by reducing the amount of emissions that would be generated in association with electricity production from fossil fuel burning facilities.

Furthermore, the thresholds of significance adopted by the air district (ICAPCD), determine compliance with the goals of the attainment plans in the region. As such, emissions below the ICAPCD thresholds presented in Table 3.4-6 would not conflict with or obstruct implementation of the applicable air quality plans. The following analysis is broken out by a discussion of potential impacts during construction of the projects followed by a discussion of potential impacts during operation of the projects.

Construction Emissions

Air emissions are generated during construction through activities. Two basic sources of short-term emissions will be generated through project construction: operation of heavy-duty equipment (i.e., excavators, loaders, haul trucks) and the creation of fugitive dust during clearing and grading, and committing on any exposed surfaces. Construction activities such as excavation and grading operations, construction vehicle traffic, and wind blowing over exposed soils would generate exhaust

emissions and fugitive PM emissions that affect local air quality at various times during construction. Construction emissions vary from day-to-day depending on the number of workers, number, and types of active heavy-duty vehicles and equipment, level of activity, the prevailing meteorological conditions, and the length over which these activities occur.

The construction of each individual project is anticipated to take approximately 12 to 18 months from the commencement of the construction process to complete. Construction is anticipated to begin in 2023. Construction activities would primarily involve demolition and grubbing, grading of the project sites to establish access roads and pads for electrical equipment, trenching for underground electrical collection lines, and the installation of solar equipment and security fencing. The construction emissions were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements.

The total unmitigated emissions generated within each year of project construction are shown in Table 3.4-7.

Table 3.4-7. Unmitigated Project Construction-Generated Emissions

Construction Year	Pollutant (pounds per day)					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction of VEGA SES 2 and 3 (2023)	5.46	35.12	50.94	0.08	1,210.25	122.54
Construction of VEGA SES 5 (2024)	3.96	32.64	41.48	0.07	11.51	5.14
ICAPCD Significance Threshold	75	100	550	—	150	—
Exceed ICAPCD Significance Threshold?	**No**	**No**	**No**	**No**	**Yes**	**No**

Source: Appendix D of this EIR.
Notes:
Pounds per day taken from the season (summer or winter) with the highest output.

VEGA SES 2 AND 3

As shown in Table 3.4-7, the VEGA SES 2 and 3 projects' daily construction emissions would not exceed the ICAPCD thresholds for ROG, NOx, CO, SO_2, and $PM_{2.5}$. However, emissions of PM_{10} would exceed the ICAPCD significance threshold on the peak day(s). The predominant source of the projects' PM_{10} emissions is workers commuting to and from the project sites on unpaved roads. Commute vehicles traveling over the exposed soils of unpaved roads generates substantial amounts of fugitive PM_{10} emissions. The access route on McDonald Road leading to the VEGA SES 2 and 3 project sites are paved; however, there are approximately 1.65 miles of unpaved roadway that would be used by commuting workers and vendors, specifically Wiest Road and Flowing Wells Road.

Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII – Fugitive Dust Control Measures. The project must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. Regulation VIII requires all unpaved roadways, on- and off-site, to be conditioned and maintained with soil stabilizers to reduce

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dust opacity to no more than 20 percent; all unpaved disturbed surfaces, on- and off-site, to be stabilized with a dust suppressant, watering, or soil stabilizers to reduce opacity to no greater than 20 percent; and to reduce vehicle speed to no greater than 15 mph on all unpaved surfaces. Table 3.4-8 shows the projects' emissions with implementation of the Regulation VIII fugitive dust control measures (Mitigation Measure AQ-1). With implementation of Mitigation Measure AQ-1, the project would not exceed the ICAPCD's thresholds of significance for PM_{10} emissions.

In addition, as described in Mitigation Measure AQ-2, construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at the project site by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit. The equipment list shall be submitted periodically to ICAPCD to perform a NO_x analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds.

Table 3.4-8. Mitigated Project Construction-Generated Emissions

Construction Year	Pollutant (pounds per day)					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction of VEGA SES 2 and 3 (2023)	5.46	35.12	50.94	0.08	115.51	13.52
Construction of VEGA SES 5 (2024)	3.96	32.64	41.48	0.07	5.89	2.91
ICAPCD Significance Threshold	75	100	550	—	150	—
Exceed ICAPCD Significance Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Appendix D of this EIR.
Notes:
Pounds per day taken from the season with the highest output.

VEGA SES 5

As shown in Table 3.4-7, the VEGA SES 5 project's daily construction emissions would not exceed the ICAPCD thresholds and a less than significant impact is identified. However, pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII – Fugitive Dust Control Measures. The VEGA SES 5 must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. Therefore, implementation of the Regulation VIII fugitive dust control measures (Mitigation Measure AQ-1) is required for the VEGA SES 5 project.

In addition, as described in Mitigation Measure AQ-2, construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at the project site by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit. The

equipment list shall be submitted periodically to ICAPCD to perform a NO_x analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds.

Operational Emissions

VEGA SES 2, 3 AND 5

Although limited, implementation of the projects would result in long-term operational emissions of criteria air pollutants such as PM_{10}, $PM_{2.5}$, CO, and SO_2 as well as O_3 precursors such as ROG and NOx. Project-generated increases in emissions would be predominately associated with motor vehicle use for routine maintenance work and site security as well as panel upkeep and cleaning. Long-term combined operational emissions attributable to the projects are identified in Table 3.4-9 and compared to the operational significance thresholds promulgated by the ICAPCD.

Table 3.4-9. Project Operational Emissions

Emission Source	Pollutant (pounds per day)					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer Emissions						
Area	50.85	0.00	0.24	0.00	0.00	0.00
Energy	0.66	6.05	5.08	0.03	0.46	0.46
Mobile	0.01	0.01	0.10	0.00	3.54	0.35
Total	**51.52**	**6.06**	**5.42**	**0.03**	**4.00**	**0.81**
ICAPCD Significance Threshold	137	137	150	550	550	150
Exceed ICAPCD Significance Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Winter Emissions						
Area	50.85	0.00	0.24	0.00	0.00	0.00
Energy	0.66	6.05	5.08	0.03	0.46	0.46
Mobile	0.00	0.01	0.08	0.00	3.54	0.35
Total	**51.51**	**6.06**	**5.42**	**0.03**	**4.00**	**0.81**
ICAPCD Significance Threshold	137	137	150	550	550	150

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Table 3.4-9. Project Operational Emissions

Emission Source	Pollutant (pounds per day)					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Exceed ICAPCD Significance Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Appendix D of this EIR.

Notes:

Operational emissions account for two vehicle trips per day. It is noted that this is a conservative estimate as many days will have no operational related vehicle trips. Additionally, it accounts for the energy usage used for the battery energy storage system and the pumping of 32-acre feet of water per year.

As shown in Table 3.4-9, the projects' combined operational emissions would not exceed the ICAPCD thresholds for CO, ROG, NO_x, $PM_{10,}$ SO_2 and $PM_{2.5}$. Although no significant air quality impact would occur during operation, the project applicant is required to submit a Dust Suppression Management Plan for both construction and operation in order to reduce fugitive dust emissions. Implementation of Mitigation Measures AQ-3 and AQ-4 would ensure that a Dust Suppression Management Plan is implemented, thereby ensuring that this potential impact would remain less than significant.

As solar generation facilities, the proposed projects would improve air quality by reducing the use of fossil fuels in energy production. The energy produced by the projects would displace the criteria pollutant emissions which would otherwise be produced by existing business-as-usual power generation resources (including natural gas and coal).

Table 3.4-10 shows the emissions that would potentially be displaced by the proposed projects. Displacement of fossil fuel emissions has a direct beneficial effect on human health for those receptors downwind of the location of the fossil fuel power plants. As shown in Table 3.4-10, the projects would potentially displace approximately 148 tons of NO_x, 11 tons of CO, 19 tons of SO_2, 18 tons of PM_{10}, and 8 tons of $PM_{2.5}$ over the course of 30 years.

Table 3.4-10. Proposed Project Displaced Criteria Pollutant Emissions (Tons)

Source of Displaced Emissions	Emissions (tons)					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Emissions Displaced Annually (tons)						
Displaced Natural Gas-Source Emissions	0	0.61	0.19	0.42	0.58	0.23
Displaced Coal-Source Emissions	0	4.31	0.18	0.20	0.03	0.02
Total	**0**	**4.92**	**0.37**	**0.62**	**0.61**	**0.26**
Emissions Displaced over 30 Years (tons)						
Displaced Natural Gas-Source Emissions	0	18.36	5.56	12.61	17.43	7.05

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Table 3.4-10. Proposed Project Displaced Criteria Pollutant Emissions (Tons)

Source of Displaced Emissions	Emissions (tons)					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Displaced Coal-Source Emissions	0	129.38	5.39	6.15	0.91	0.65
Total	**0**	**147.74**	**10.95**	**18.76**	**18.34**	**7.69**

Source: Appendix D of this EIR.

As described above, conformance with the AQMP for development projects is determined by demonstrating compliance with local land use plans and/or population projections and comparing assumed emissions in the AQMP to proposed emissions. Because the proposed projects comply with local land use plans and population projections and would not exceed ICAPCD's regional mass daily emissions thresholds during construction (with implementation of Mitigation Measure AQ-1) and operation, the proposed projects would not conflict with or obstruct implementation of the applicable air quality plan. Furthermore, the projects would also have a direct beneficial effect on human health by displacing criteria pollutants. Impacts would be than significant impact with mitigation incorporated.

Mitigation Measure(s)

AQ-1 **Fugitive Dust Control.** During construction activities, the constructor contractor shall employ the following PM_{10} reducing measures:

1. All unpaved roads associated with construction shall be effectively stabilized of dust emissions using Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant before the commencement of construction, and every 30 days thereafter until the end of all construction activities. Unpaved roads associated with construction include:
    - The 1.65 miles of unpaved road on Weist Road and Flowing Wells Road to the VEGA SES 2 and 3 project sites. Monthly application of Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant shall be applied at a rate of 0.1 gallon/square yard of chemical dust suppressant.
2. Prior to any earthmoving activity, the applicant shall submit a construction dust control plan and obtain Imperial County Air Pollution Control District and Imperial County Planning and Development Services Department (ICPDS) approval.
3. Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII – Fugitive Dust Control Measures. Whereas these Regulation VIII measures are mandatory and are not considered project environmental mitigation measures, the ICAPCD CEQA Handbook's required additional standard and enhanced mitigation measures listed below shall be implemented prior to and during construction. ICAPCD will verify implementation and compliance with these measures as part of the grading permit review/approval process.

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ICAPCD Standard Measures for Fugitive Dust (PM_{10}) Control

- All disturbed areas, including bulk material storage, which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material, such as vegetative ground cover.
- All on-site and off-site unpaved roads will be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material.
- All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.
- Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.
- The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants, and/or watering.

ICAPCD “Discretionary” Measures for Fugitive Dust (PM_{10}) Control

- Water exposed soil only in those areas where active grading and vehicle movement occurs with adequate frequency to control dust.
- Replace ground cover in disturbed areas as quickly as possible.
- Automatic sprinkler system installed on all soil piles.
- Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site.
- Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees.
- Implement a shuttle service to and from retail services and food establishments during lunch hours.

Standard Mitigation Measures for Construction Combustion Equipment

- Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum.
- Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

Enhanced Mitigation Measures for Construction Equipment

To help provide a greater degree of reduction of PM emissions from construction combustion equipment, ICAPCD recommends the following enhanced measures.

- Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways.
- Implement activity management (e.g., rescheduling activities to reduce short-term impacts).

AQ-2 **Construction Equipment.** Construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at the project sites by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit. The equipment list shall be submitted periodically to ICAPCD to perform a NO_x analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds. The Planning and Development Services Department and ICAPCD shall verify implementation of this measure.

AQ-3 **Dust Suppression.** The project applicant shall employ a method of dust suppression (such as water or chemical stabilization) approved by ICAPCD. The project applicant shall apply chemical stabilization as directed by the product manufacturer to control dust between the panels as approved by ICAPCD, and other non-used areas (exceptions will be the paved entrance and parking area, and Fire Department access/ emergency entry/exit points as approved by Fire/Office of Emergency Services [OES] Department). All chemicals used for stabilization of Flowing Wells Road must be approved by BLM.

AQ-4 **Operational Dust Control Plan.** Prior to issuance of a Certificate of Occupancy, the applicant shall submit an operations dust control plan and obtain ICAPCD and ICPDS approval.

ICAPCD Rule 301 Operational Fees apply to any project applying for a building permit. At the time that building permits are submitted for the proposed projects, ICAPCD shall review the project to determine if Rule 310 fees are applicable to the projects.

Significance After Mitigation

With implementation of the Regulation VIII fugitive dust control measures (Mitigation Measure AQ-1), the projects would not exceed the ICAPCD's thresholds of significance for PM_{10} emissions. Mitigation Measures AQ-2 through AQ-4 would provide additional reduction strategies to further improve air quality and reductions in criteria pollutants (O_3 precursors) and ensure that this potential impact would remain less than significant. Given the above, the proposed projects would not conflict with implementation of applicable air quality plans, and impacts would be less than significant impact.

Impact 3.4-2 Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O_3 precursors)?

VEGA SES 2, 3 AND 5

As shown in Table 3.4-2, the criteria pollutants for which the project area is in State non-attainment under applicable air quality standards are O_3 and PM_{10}. The ICAPCD's application of thresholds of significance for criteria air pollutants is relevant to the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality. As discussed above in Impact 3.4-1, the projects' daily construction emissions would not exceed the ICAPCD thresholds for ROG, NOx, CO, SO_2, and $PM_{2.5}$. However, the VEGA SES 2 and 3 projects would exceed the ICAPCD threshold for PM_{10}. To mitigate the potential impacts associated with construction-generated emissions with regard to PM_{10}, the VEGA SES 2 and 3 projects would adhere to the requirements of ICAPCD Regulation VIII for the control of fugitive dust. As shown in Table 3.4-8, with implementation of the Regulation VIII fugitive dust control measures, the VEGA SES 2 and 3 projects would not exceed the ICAPCD's threshold of significance for PM_{10} emissions. Although, the VEGA SES 5 project's construction emissions would not exceed the ICAPCD thresholds, it must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. Therefore, implementation of the Regulation VIII fugitive dust control measures (Mitigation Measure AQ-1) is required for the VEGA SES 5 project. Furthermore, implementation of Mitigation Measures AQ-1 through AQ-4 will ensure compliance with ICAPCD rules and regulations and applicable air quality plan control measures. Therefore, the projects' potential to result in a cumulatively considerable net increase of any criteria pollutant is considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.4-3 Would the project expose sensitive receptors to substantial pollutant concentrations?

VEGA SES 2, 3 AND 5

The nearest existing sensitive land use to the project area is a single-family residence located approximately 523 feet from the southwestern corner of the VEGA SES 5 project site (APN 025-260-022).

Construction-Generated Air Contaminants. Construction of the projects would result in temporary, short-term project-generated emissions of DPM, ROG, NO_x, CO, and PM_{10} from the exhaust of off-road, heavy-duty diesel equipment; soil hauling truck traffic; paving; and other miscellaneous activities.

The portion of the SSAB which encompasses the project area is designated as a nonattainment area for federal O_3, $PM_{2.5}$ and PM_{10} standards and is also a nonattainment area for the state standards for O_3 and PM_{10}. Thus, existing O_3 and PM_{10} levels in the SSAB are at unhealthy levels during certain periods. However, as shown in Table 3.4-8, the projects would not exceed the ICAPCD significance thresholds for construction emissions with mitigation incorporated.

The health effects associated with O_3 are generally associated with reduced lung function. Because the projects would not involve construction activities that would result in O_3 precursor emissions (ROG or NO_x) in excess of the ICAPCD thresholds, the projects are not anticipated to substantially contribute to regional O_3 concentrations and the associated health impacts.

CO tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. The projects would not involve activities that would result in CO emissions in excess of the ICAPCD thresholds. Thus, the projects' CO emissions would not contribute to the health effects associated with this pollutant.

Particulate matter (PM_{10} and $PM_{2.5}$) contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. For construction-type activity, DPM is the primary TAC of concern. PM_{10} exhaust is considered a surrogate for DPM as all diesel exhaust is considered to be DPM.

As with O_3 and NO_x, the projects would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed the ICAPCD's thresholds with implementation of mitigation. Accordingly, the projects' PM_{10} and $PM_{2.5}$ emissions are not expected to cause any increase in related regional health effects for these pollutants.

Operational Air Contaminants. Operation of the proposed projects would not result in the development of any substantial sources of air toxics. There would be no stationary sources associated project operations; nor would the projects attract additional mobile sources that spend long periods queuing and idling at the site. Onsite combined project emissions would not result in significant concentrations of pollutants at nearby sensitive receptors as the predominant operational emissions associated with the proposed projects would be routine maintenance work and site security as well as panel upkeep and cleaning. Therefore, the projects would not be a substantial source of TACs. The proposed projects would not result in a high carcinogenic or non-carcinogenic risk during operation.

CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours. CO concentration in the SSAB is designated as an attainment area. Detailed modeling of Project-specific CO "hot spots" is not necessary and thus this potential impact is addressed qualitatively.

The proposed project is anticipated to result in no more than two daily traffic trips. It is noted that this is a conservative estimate, and many days will have no operational related vehicle trips. Thus, the proposed projects would not generate traffic volumes at any intersection of more than 100,000 vehicles

per day (or 44,000 vehicles per day) and there is no likelihood of the project traffic exceeding CO values.

In summary, project construction and operations would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants. Impacts would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.4-4 Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

VEGA SES 2, 3 AND 5

An odor impact depends on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies.

Among possible physical harms is inhalation of VOCs that cause smell sensations in humans. These odors can affect human health in four primary ways:

- The VOCs can produce toxicological effects
- The odorant compounds can cause irritations in the eye, nose, and throat
- The VOCs can stimulate sensory nerves that can cause potentially harmful health effects
- The exposure to perceived unpleasant odors can stimulate negative cognitive and emotional responses based on previous experiences with such odors

Land uses commonly considered to be potential sources of odorous emissions include wastewater treatment plants, sanitary landfills, food processing facilities, chemical manufacturing plants, rendering plants, paint/coating operations, and concentrated agricultural feeding operations and dairies. The operation of a solar farm is not an odor producer.

During construction, the proposed projects present the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the sites. However, these emissions are short-term in nature and would rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the project area. Therefore, odors generated during project construction would not adversely affect a substantial number of people to odor emissions. Impacts would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

3.4.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

If at the end of the PPA term, no contract extension is available for a power purchaser, no other buyer of the energy emerges, or there is no further funding of the projects, the projects will be decommissioned and dismantled. Similar to construction activities, decommissioning and restoration of the projects would generate air emissions. A summary of the daily combined mitigated construction emissions for the project is provided in Table 3.4-8. Solar equipment has a lifespan of approximately 30 years. The emissions from on- and off-road equipment during decommissioning are expected to be significantly lower than project construction emissions, as the overall activity would be anticipated to be lower than project construction activity. No significant air quality impacts are anticipated during decommissioning and restoration of the project sites. However, all construction projects within Imperial County must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. In addition, the ICAPCD's Air Quality Handbook lists additional feasible mitigation measures that may be warranted to control emissions of fugitive dust and combustion exhaust. Mitigation Measures AQ-1 through AQ-4 would provide additional reduction strategies to further improve air quality. Therefore, a less than significant impact is identified during decommissioning and site restoration of the project sites.

Residual

The proposed projects would not result in short-term significant air quality impacts during construction. Implementation of Mitigation Measure AQ-1 would reduce NO_x emissions to levels below the significance threshold. Implementation of Mitigation Measures AQ-1 and AQ-2 would provide additional reduction strategies to reduce ROG, NOx, PM_{10}, and CO emissions during construction. Operation of the projects, subject to the approval of CUPs, would be consistent with applicable federal, state, regional, and local plans and policies. Implementation of Mitigation Measures AQ-3, AQ-4, and AQ-5 would ensure that fugitive dust emissions would be reduced during construction and operations. The projects would not result in any residual operational significant and unavoidable impacts with regards to air quality.

The proposed project's daily construction emissions would not exceed the ICAPCD's thresholds for ROG, NOx, CO, SO_2, and $PM_{2.5}$. However, the VEGA SES 2 and 3 projects would exceed the ICAPCD's threshold for $PM_{10.}$ To mitigate the potential impacts associated with construction-generated emissions with regard to $PM_{10,}$ the projects would adhere to the requirements of ICAPCD Regulation VIII for the control of fugitive dust (Mitigation Measure AQ-1). Thus, the VEGA SES 2 and 3 projects would not result in short-term significant air quality impacts during construction. Although, the VEGA SES 5 project's construction emissions would not exceed the ICAPCD thresholds, it must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. Therefore, implementation of the Regulation VIII fugitive dust control measures (Mitigation Measure AQ-1) is required for the VEGA SES 5 project. Furthermore, implementation of Mitigation Measure AQ-2 would ensure construction equipment will be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). ICAPCD will utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds. Operation of the projects, subject to the approval of CUPs, would be consistent with applicable federal, state, regional, and local plans and policies. Implementation of Mitigation Measures AQ-1, AQ-3, and AQ-4 would ensure that fugitive dust emissions would be reduced during construction and operations. The projects would not result in any residual operational significant and unavoidable impacts with regards to air quality.

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3.5 Biological Resources

This section identifies the biological and jurisdictional aquatic resources that may be impacted by the proposed VEGA SES 2, 3, and 5 projects. The following identifies the existing biological and jurisdictional aquatic resources in the project area, analyzes potential impacts of the proposed projects, and recommends mitigation measures to avoid or reduce potential impacts of the proposed projects.

The information for this section is summarized from the following technical reports:

- *Biological Resources Technical Report for the Vega SES 2 and 3 Solar Projects* prepared by ECORP Consulting, Inc. (Appendix E1 of this EIR)
- *Biological Resources Technical Report for the Vega SES 5 Solar Project* prepared by ECORP Consulting, Inc. (Appendix E2 of this EIR)
- *Aquatic Resources Delineation Report for the Vega SES 2 and 3 Solar Projects* prepared by ECORP Consulting, Inc. (Appendix F1 of this EIR)
- *Aquatic Resources Delineation Report for the Vega SES 5 Solar Project* prepared by ECORP Consulting, Inc. (Appendix F2 of this EIR)

The analysis of biological resources in this section is separated into two distinct segments: 1) the VEGA SES 2 and 3 project sites, and 2) the VEGA SES 5 project site, where applicable.

As part of the Biological Resources Technical Reports prepared for the projects, ECORP Consulting Inc. conducted a literature review, small unmanned aircraft system survey, and biological reconnaissance survey of the project sites to document existing biological resources, assess habitat suitability for sensitive plant and wildlife species, and determine potential impacts of the projects on biological resources.

For the purposes of this EIR, the term biological study area (BSA) refers to the project sites' boundaries and a 500-foot buffer around the project sites' boundaries.

The Aquatic Resources Delineation Reports identify the aquatic resources occurring within the project sites that may be regulated by the Porter-Cologne Water Quality Act, California Fish and Game Code Sections 1600 and 1602, and the U.S. Army Corps of Engineers (USACE) pursuant to Sections 401 and 404 of the federal Clean Water Act (CWA).

3.5.1 Existing Conditions

Project Location

VEGA SES 2 and 3

The VEGA SES 2 and 3 project sites consist of undeveloped land traversed by an extensive alluvial fan system and associated riparian community. This system begins at the Chocolate Mountains to the northeast and heads southwest across the VEGA SES 2 and 3 project sites. The BSA is bordered by an active railroad right-of-way to the southwest, agricultural land to the west, and undeveloped land to the north, south, and east.

Topography generally consists of gentle slopes with a gradual increase in elevation from the western extent to the eastern extent of the VEGA SES 2 and 3 project sites.

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VEGA SES 5

The VEGA SES 5 project site consists of an old agricultural field and undeveloped land that appears to have been historically altered. The northeastern section is comprised of an ephemeral drainage and associated wetland and riparian habitats on undeveloped land. The northern border of the site appears to have been graded and/or filled in several areas near the railroad tracks. An intermittent drainage flows south under the railroad track via a concrete underpass and riparian habitat lines the banks and bed of the intermittent drainage directly north and east of the East Highland Canal. Wetlands exist within the riparian habitat directly south of the railroad right-of-way, abutting the ephemeral drainages, connected with Siphon 5. The southern portion of the VEGA SES 5 project site consists of a fallow agricultural field with ruderal vegetation. The fallow field is bordered to the north and south by two offshoot canals and a wetland associated with the East Highland Canal to the northeast. The site is surrounded to the west, south, and north by agricultural fields and undeveloped land to the east (Appendix E2 of this EIR).

Topography throughout the VEGA SES 5 project site is relatively flat, but gently slopes from northeast to southwest away from the railroad right-of-way.

Vegetation Communities and Land Cover Types

VEGA SES 2 and 3

The majority of vegetation communities and land cover types mapped within the VEGA SES 2 and 3 BSA consist of creosote bush scrub and blue palo verde/ironwood woodland. Vegetation communities and land cover types within the BSA for the VEGA SES 2 and 3 projects are depicted on Figure 3.5-1. The acreage of each vegetation community and land cover type within the VEGA SES 2 and 3 project sites is summarized in Table 3.5-1.

Table 3.5-1. Vegetation Communities or Land Cover Types within the VEGA SES 2 and 3 Project Sites

Vegetation Community or Land Cover Type	Acres within VEGA SES 2 and 3 Project Sites[a]
Bush Seepweed Scrub	7.44
Creosote Bush Scrub	881.97
Disturbed Creosote Bush Scrub	11.30
Blue Palo Verde/Ironwood Woodland	230.73
Tamarisk Thickets	1.57
Urban/Developed Roads	8.50

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Table 3.5-1. Vegetation Communities or Land Cover Types within the VEGA SES 2 and 3 Project Sites

Vegetation Community or Land Cover Type	Acres within VEGA SES 2 and 3 Project Sites[a]
Project Area Total	**1,141.51**

Source: Appendix E1 of this EIR
Notes:
[a] Vegetation and land cover type acreages are rounded to the nearest hundredth of an acre.

VEGA SES 5

The majority of vegetation communities and land cover types mapped within the VEGA SES 5 BSA consist of creosote bush scrub and fallow agricultural land. Vegetation communities and land cover types within the VEGA SES 5 BSA are depicted on Table 3.5-2. The acreage of each vegetation community and land cover type within the VEGA SES 5 project site is summarized in Table 3.5-2.

Table 3.5-2. Vegetation Communities or Land Cover Types within the VEGA SES 5 Project Site

Vegetation Community or Land Cover Type	Acres within the VEGA SES 5 Project Site[a]
Bush Seepweed Scrub	60.25
Creosote Bush Scrub	103.26
Fallow Agricultural Land	101.27
Tamarisk Thickets	1.54
Urban/Developed	2.49
Urban/Developed Roads	0.30
Project Area Total	**269.11**

Source: Appendix E2 of this EIR
Notes:
[a] Vegetation and land cover type acreages are rounded to the nearest hundredth of an acre.

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Figure 3.5-1. Vegetation Communities and Land Cover Types in the VEGA SES 2 and 3 BSA

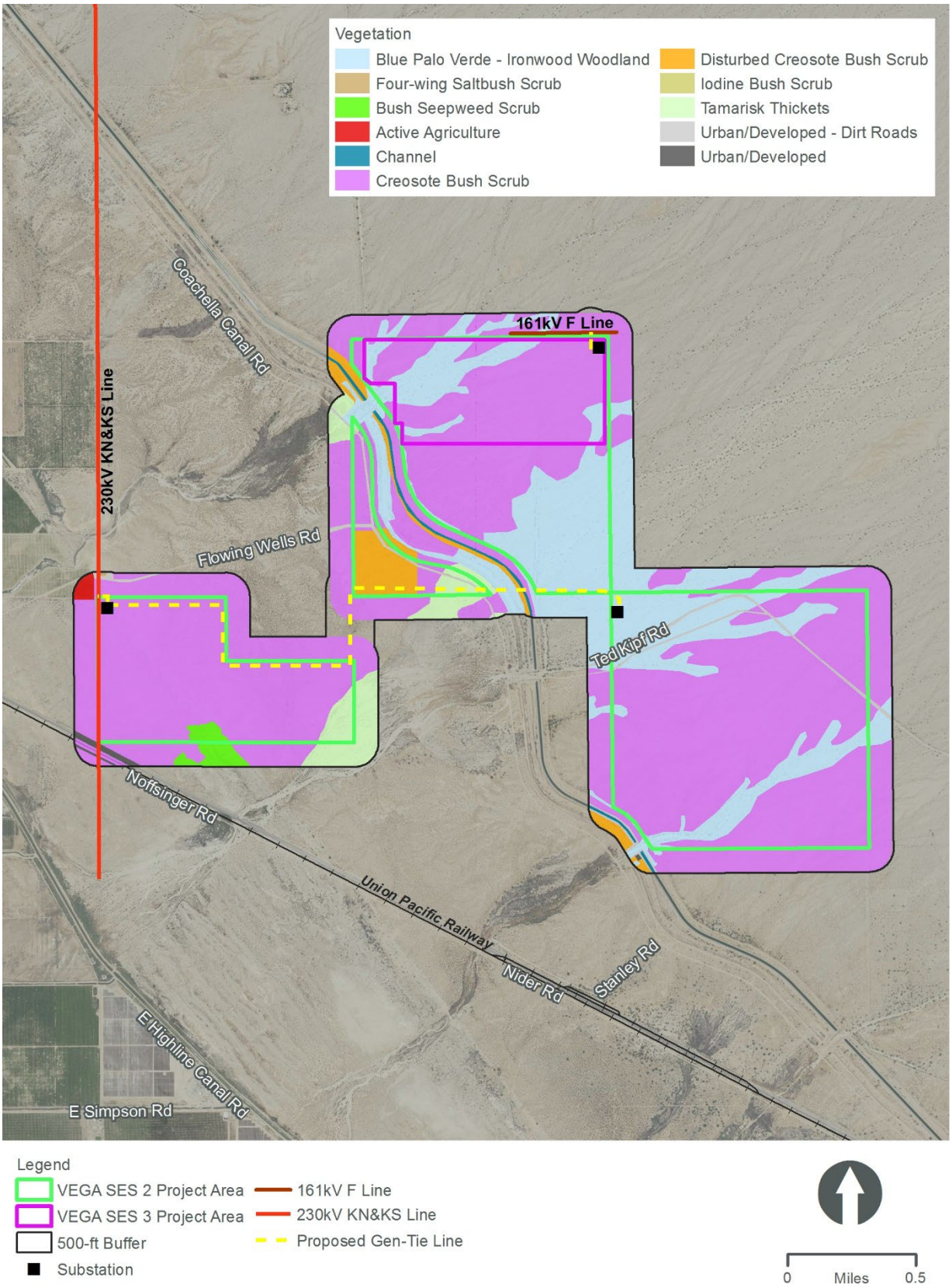

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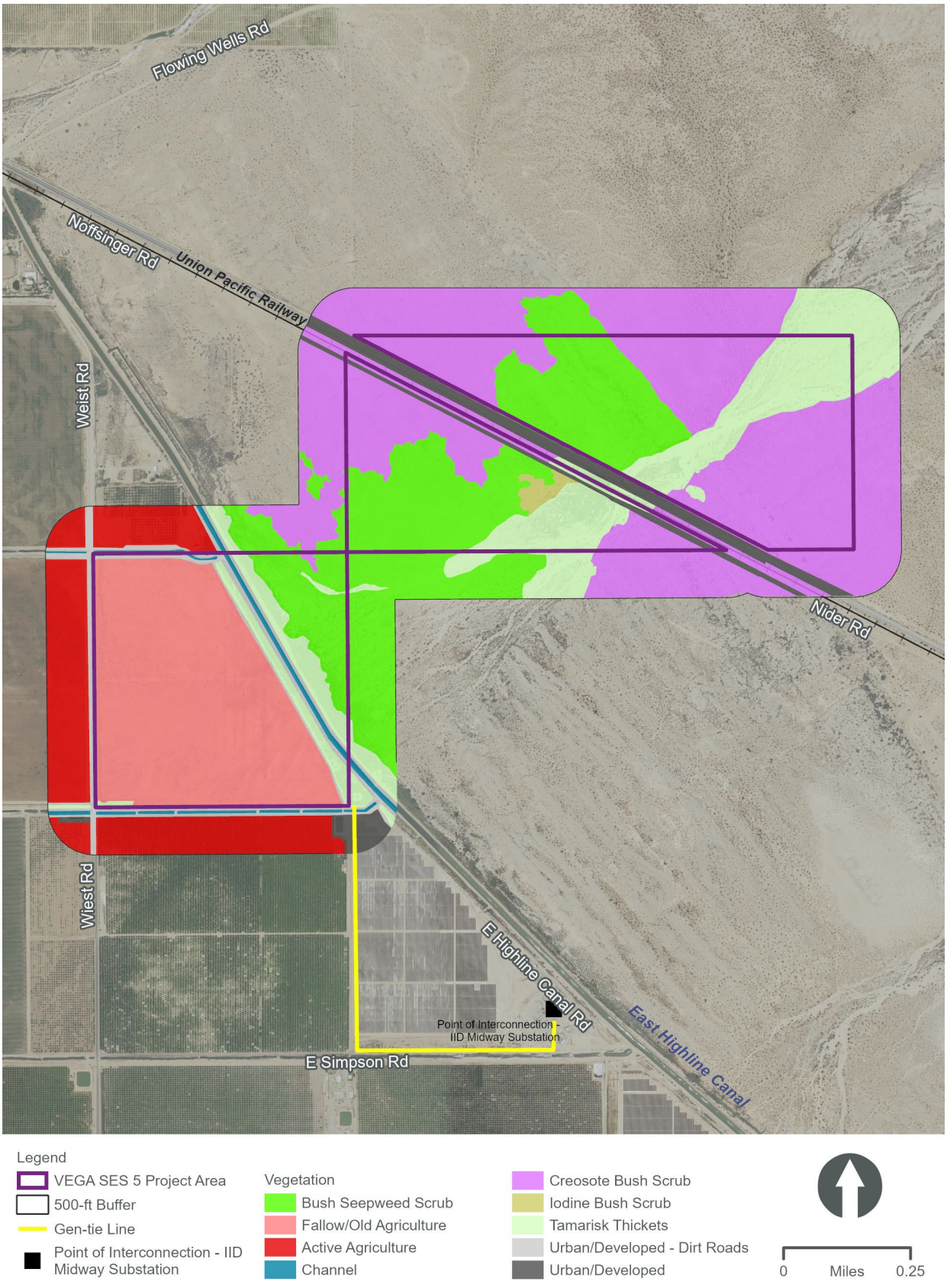
Figure 3.5-2. Vegetation Communities and Land Cover Types in the VEGA SES 5 BSA



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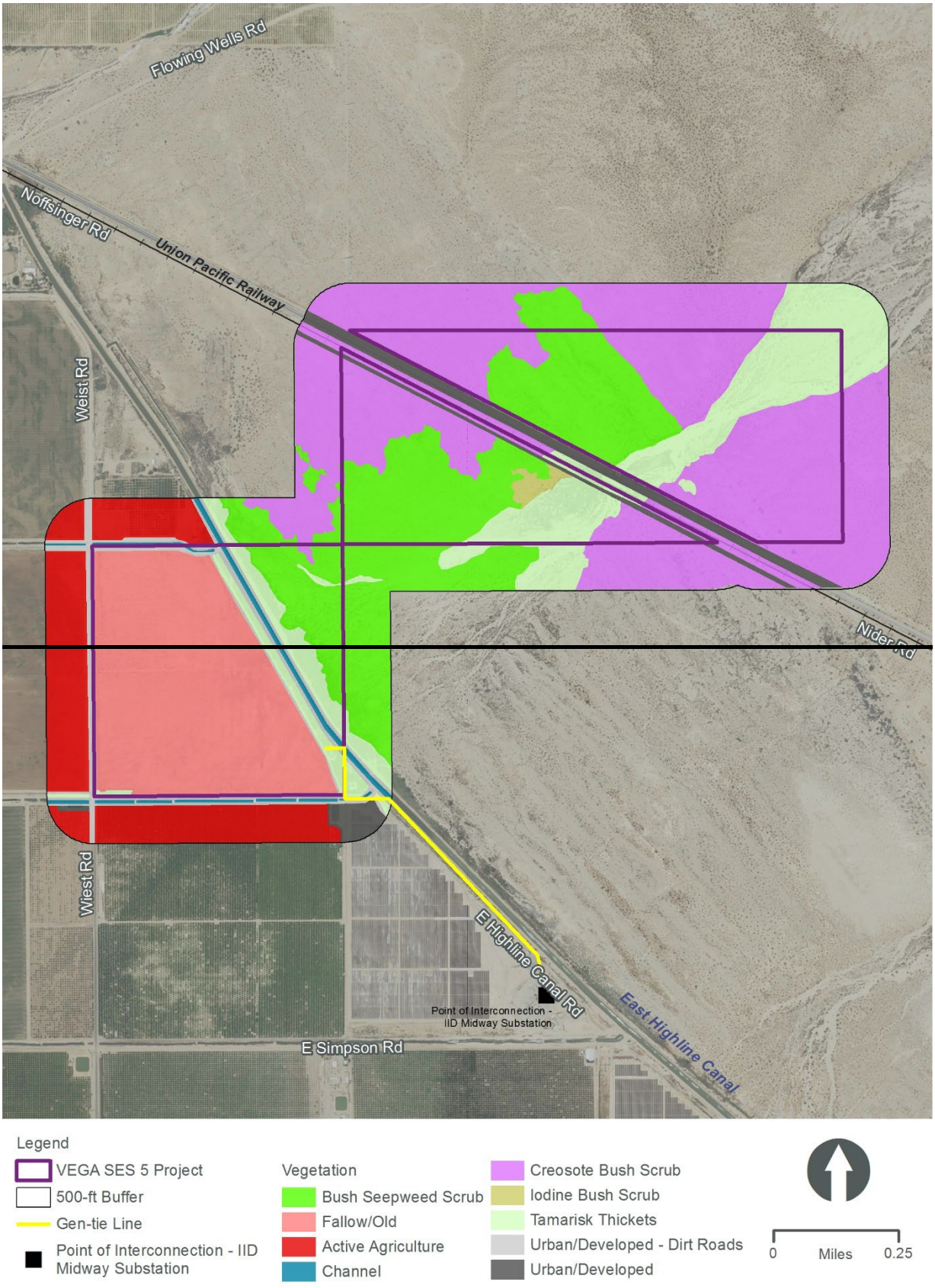

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Detailed descriptions of the applicable vegetation communities and land cover types occurring within the BSAs are described below.

BUSH SEEPWEED SCRUB (*SUAEDA [MOQUINII] NIGRA* SHRUBLAND ALLIANCE)

Bush sweepweed scrub is found on flat to gently sloping valley bottoms, bajadas, and toe slopes adjacent to alluvial fans. Bush seepweed scrub is dominated by bush seepweed, a USFWS Wetland Inventory obligate species (see Appendix E2 of this EIR), and can be co-dominant with four-wing saltbush (*Atriplex canescens*) and/or alkali goldenbush (*Isocoma acradenia*). This vegetation community typically has a sparse to intermittent herbaceous layer. Within the VEGA SES 2, 3, and 5 BSAs, bush seepweed dominated the shrub cover with occasional occurrences of four-wing saltbush, arrow weed (*Pluchea sericea*), big saltbush (*Atriplex lentiformis*), alkali goldenbush, and tamarisk.

CREOSOTE BUSH SCRUB (*LARREA TRIDENTATA* SHRUBLAND ALLIANCE)

Creosote bush scrub is the most characteristic vegetation of the California desert and is found on alluvial fans, bajadas, upland slopes, and washes. Creosote bush scrub is dominated by a nearly monotypic stand of creosote bush with an open canopy and an herbaceous layer of seasonal annuals and perennials. This community was dominant in the VEGA SES 2, 3, and 5 BSAs. Other species that were observed within this community included burrobush (*Ambrosia dumosa*), four-wing saltbush, big saltbush, narrow leaved cryptantha (*Cryptantha angustifolia*), desert plantain (*Plantago ovata*), Mediterranean grass (*Schismus barbatus*), and occasional bush seepweed on the banks of established drainages.

DISTURBED CREOSOTE BUSH SCRUB (DISTURBED *LARREA TRIDENTATA* SHRUBLAND ALLIANCE)

Disturbed creosote bush is creosote bush scrub that has been previously altered. Within the VEGA SES 2 and 3 BSA, this vegetation cover is characterized as sparser with a high percentage of non-native plant species including common Mediterranean grass and Saharan mustard (*Brassica tournefortii*). Within the VEGA SES 5 BSA, creosote was typically dominant in the shrub canopy, but occasionally was co-dominant with white bursage, with an absent to intermittent herbaceous layer of seasonal annuals.

BLUE PALO VERDE/IRONWOOD WOODLAND (PARKINSONIA FLORIDA - OLNEYA TESOTA WOODLAND ALLIANCE)

Blue palo verde/ironwood woodland is characterized by blue palo verde or ironwood as a dominant or co-dominant plant species in the tree or tall shrub canopy that is open to continuous. The shrub layer is intermittent or open, while the herbaceous layer is sparse with seasonal annuals. It occurs in desert arroyo margins, seasonal watercourses, desert washes, bottomlands, bajadas, alluvial fans, and lower slopes. Blue palo verde/ironwood woodland take up large portions of the VEGA SES 2 and 3 BSAs. Other plant species observed within this community included creosote bush, cheesebush (*Ambrosia salsola*), and burrobush.

TAMARISK THICKETS (TAMARIX SPP. SHRUBLAND SEMI-NATURAL ALLIANCE)

Tamarisk thickets are characterized by a weedy monoculture of tamarisk. This habitat is typically in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. Within the VEGA SES 2, 3, and 5 BSAs, tamarisk was often the dominant species, with arrow weed occasionally as a co-dominant plant species. Other species observed within this community included four-wing saltbush,

bis saltbush, popcorn flower (*Cryptantha* spp.), screw bean mesquite (*Prosopis pubescens*), bush seepweed, and Mediterranean grass.

IODINE BUSH SCRUB (*ALLENROLFEA OCCIDENTALIS* SHRUBLAND ALLIANCE)

Iodine bush scrub is found on playas perched above drainages, seep, and dry lakebed margins. Iodine bush, a USFWS Wetland Inventory obligate species (see Appendix E2 of this EIR), is dominant in the shrub and herbaceous layers in an open to continuous canopy in the VEGA SES 5 BSA. Other plant species observed within this community include four-wing saltbush, tamarisk, and bush seepweed.

OTHER LAND COVER TYPES

Fallow Agricultural Land. Fallow agricultural lands include remnant signs of row crops with open space between rows. Agricultural lands often occur in upland areas with high soil quality, or floodplains and are almost always artificially irrigated. This land cover was observed in the southern portion of the VEGA SES 5 project site where the area consisted primarily of ruderal vegetation including bush seepweed, amaranth (*Amaranthus* sp.), and sudangrass (*Sorghum bicolor* ssp. *drummondii*) and occasional big saltbush.

Active Agricultural Land. Active agriculture consists of row crops that include planted, typically monotypic rows of crops of annual and perennial species with open space between rows. Species composition frequently changes by season and year. Row crops often occur in upland areas with high soil quality or floodplains and are almost always artificially irrigated (see Appendices E1 and E2 of this EIR). Active agricultural land was observed in the western portion of the VEGA SES 2 and 3 BSA, and the western and southern portion of the VEGA SES 5 BSA.

Urban/Developed. Areas mapped as developed have been constructed upon or otherwise physically altered to an extent that natural vegetation communities are no longer supported. In the VEGA SES 2, 3, and 5 BSAs, this land cover consisted primarily of compacted dirt roads and structures (see Appendices E1 and E2 of this EIR).

Sensitive Natural Communities

Iodine bush scrub, bush seepweed scrub, tamarisk thickets, and blue palo verde-ironwood woodland occur within the project sites and are considered sensitive natural communities by the California Department of Fish and Wildlife (CDFW).

Special-Status Species

Literature Review

Prior to conducting field surveys, a literature search was conducted to identify special-status plant and wildlife species with potential to occur within the BSAs. Special-status plants were evaluated for their potential to occur within the project sites (project footprint) where impacts could potentially occur. Special-status wildlife species were evaluated for their potential to occur within the BSAs, a broader area, where direct and indirect impacts could potentially occur.

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Using information from the literature review and observations in the field, a list of special-status plant and animal species that have potential to occur within the BSAs was generated. For the purposes of this assessment, special-status species are defined as plants or wildlife that:

- have been designated as either rare, threatened, or endangered by CDFW, CNPS, or the USFWS, and/or are protected under either the federal or California Endangered Species Acts (ESAs);
- are candidate species being considered or proposed for listing under the federal or California ESAs;
- are fully protected by the California Fish and Game Code (FGC) Sections 3511, 4700, 5050, or 5515; and
- are of expressed concern to resource and regulatory agencies or local jurisdictions.

Biological Reconnaissance Survey

A biological reconnaissance survey was conducted by ECORP Consulting Inc. on September 29 and 30, 2020 for the VEGA SES 2 and 3 project sites and on September 29 and 30 and November 9 through 13, 2020 for the VEGA 5 project site by walking the BSAs to determine the existing vegetation communities and wildlife habitats on the project sites. The biologists documented the plant and wildlife species present and the conditions within the BSAs were assessed for their potential to provide habitat for special-status plant and wildlife species, including those identified in the literature review. All plant and wildlife species observed during the survey, including special-status species, were recorded (see Appendices E1 and E2 of this EIR).

Special-Status Plant Species

VEGA SES 2 AND 3

Of the 22 special-status plant species analyzed for their potential to occur, 1 was present within the project sites and 17 additional species were identified as having the potential to occur within the vicinity of the VEGA SES 2 and 3 project sites. The remaining 9 species are presumed absent from the VEGA SES 2 and 3 project sites due to a lack of suitable habitat (Appendix E1 of this EIR).

Present. One special-status plant species was observed within the VEGA SES 2 and 3 BSA during the biological reconnaissance survey:

- Munz's cholla (*Cylindropuntia munzii,* California Rare Plant Rank [CRPR][1] 1B.3)

Potential to Occur. The remaining 17 special-status plant species with potential to occur within the VEGA SES 2 and 3 project sites and their sensitivity statuses are:

- Gravel milk-vetch (*Astragalus sabulonum,* CRPR 2B.2)
- Wiggins' croton (*Croton wigginsii,* CRPR 2B.2)
- Glandular ditaxis (*Ditaxis claryana,* CRPR 2B.2)

[1] California Rare Plant Rank (CRPR) 1B=Plants rare, threatened, or endangered in California and elsewhere; CRPR 2B=Plants rare, threatened or endangered in California but more common elsewhere; CRPR 3=Plants needing more information; CRPR 4=Plants of limited distribution. Threat ranks: 0.1=Seriously endangered in California. 0.2=Fairly endangered in California.

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    - Sand food (*Pholisma sonorae,* CRPR 1B.2)
    - Salton milk-vetch (*Astragalus crotalariae*, CRPR 4.3)
    - Harwood's milk-vetch (*Astragalus insularis var. harwoodii*, CRPR 2B.2)
- Borrego milk-vetch (*Astragalus lentiginosus var. borreganus*, CRPR 4.3)
    - pink fairy-duster (*Calliandra eriophylla*, CRPR 2B.3)
- sand evening-primrose (*Chylismia arenaria*, CRPR 2B.2)
- spiny abrojo (*Condalia globosa var. pubescens*, CRPR 4.2)
- Abrams' spurge (*Euphorbia abramsiana*, CRPR 2B.2)
- ribbed cryptantha (*Johnstonella costata*, CRPR 4.3)
- slender-spined all thorn (*Koeberlinia spinosa var. tenuispina*, CRPR 2B.2)
- slender cottonheads (*Nemacaulis denudata var. gracilis*, CRPR 2B.2)
- roughstalk witch grass (*Panicum hirticaule var. hirticaule*, CRPR 2B.1)
- Coves' cassia (*Senna covesii*, CRPR 2B.1)
- Mecca-aster (*Xylorhiza cognata*, CRPR 1B.2)

VEGA SES 5

Of the 22 special-status plant species analyzed for their potential to occur, all were identified as having the potential to occur within the vicinity of the VEGA SES 5 project site (Appendix E2 of this EIR).

Potential to Occur. The 22 special-status plant species with potential to occur within the VEGA SES 5 project site and their sensitivity statuses are:

- Gravel milk-vetch (CRPR 2B.2)
- Glandular ditaxis (CRPR 2B.2)
- Salton milk-vetch (CRPR 4.3)
- Borrego milk-vetch (CRPR 4.3)
- Spiny abrojo (CRPR 4.2)
- Abrams' spurge (CRPR 2B.2)
- Ribbed cryptantha (CRPR 4.3)
- Slender-spined all thorn (CRPR 2B.2)
- Slender cottonheads (CRPR 2B.2)
- Sand food (CRPR 1B.2)
- Mecca-aster (CRPR 1B.2)
- chaparral sand-verbena (CRPR 1B.1)
- Harwood's milk-vetch (*Astragalus insularis* var. *harwoodii*, CRPR 2B.2)
- Peirson's milk-vetch (CRPR 1B.2)

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- pink fairy-duster (CRPR 2B.3)
- sand evening-primrose (CRPR 2B.2)
- Wiggins' croton (CRPR 2B.2)
- Munz's cholla (CRPR 1B.3)
- Algodones Dunes sunflower (CRPR 1B.2)
- giant Spanish-needle (CRPR 1B.3)
- roughstalk witch grass (CRPR 2B.1)
- Coves' cassia (CRPR 2B.1)

Special-Status Wildlife Species

VEGA SES 2 AND 3

The literature search documented 27 special-status wildlife species in the vicinity of the VEGA SES 2 and 3 project sites, 4 of which are federally and/or state listed. Of the 27 special-status wildlife species identified in the literature review, 2 were present within the project sites and 15 additional species were found to have the potential to occur. The remaining 10 species are presumed absent from the VEGA SES 2 and 3 project sites due to a lack of suitable habitat (Appendix E1 of this EIR).

Present. The following species were observed on the VEGA SES 2 and 3 project sites during the biological reconnaissance survey:

- Black-tailed gnatcatcher (*Polioptila melanura*, CDFW Watch List [WL])
- Loggerhead shrike (*Lanius ludovicianus*, USFWS Bird of Conservation Concern [BCC], CDFW Species of Special Concern [SSC])

Potential to Occur. Of the 27 special-status wildlife species identified in the literature review, 15 have the potential to occur in the vicinity of the VEGA SES 2 and 3 project sites.

- Burrowing owl (*Athene cunicularia,* BCC, SSC, and Imperial County Species of Conservation Focus)
- Flat-tailed horned lizard (*Phrynosoma mcallii,* SSC and Imperial County Species of Conservation Focus])
- Desert tortoise (*Gopherus agassizii*, federally and state threatened)
- Northern harrier (*Circus hudsonius,* SSC)
- California horned lark (*Eremophila alpestris ssp. actia,* WL)
- Merlin (*Falco columbarius,* WL)
- Crissal thrasher (*Toxostoma crissale,* SSC)
- California black rail (*Laterallus jamaicensis coturniculus*, USFWS BCC, state threatened, and CDFW fully protected)
- Yuma hispid cotton rat (*Sigmodon hispidus eremicus,* SSC)
- Palm Springs pocket mouse (*Perognathus longimembris bangsi,* SSC)

- mountain plover (*Charadrius montanus*, BCC, SSC)
- Gila woodpecker (*Melanerpes uropygialis*, USFWS BCC, and state endangered)
- Yuma Ridgway's rail (*Rallus obsoletus yumanensis*, federally endangered, state threatened, and CDFW fully protected)
- California leaf-nosed bat (*Macrotus californicus*, SSC)
- pallid bat (*Antrozous pallidus*, SSC)
- western yellow bat (*Lasiurus xanthinus*, SSC)

VEGA SES 5

The literature search documented 23 special-status wildlife species in the vicinity of the VEGA SES 5 project site, 3 of which are federally and/or state listed. Of the 23 special-status wildlife species identified in the literature review, 3 were present within the VEGA SES 5 project site and 11 were found to have the potential to occur. The remaining 9 species are presumed absent from the VEGA SES 5 project site due to a lack of suitable habitat (Appendix E2 of this EIR).

Present. The following 3 species were observed on the VEGA SES 5 project site during the biological reconnaissance survey:

- Burrowing owl (BCC, SSC, and Imperial County Species of Conservation Focus)
- Black-tailed gnatcatcher (WL)
- Loggerhead shrike (BBC, SSC)

Potential to Occur. Of the 23 special-status wildlife species identified in the literature review, 11 have the potential to occur in the vicinity of the VEGA SES 5 project site.

- Mountain plover (*Charadrius montanus,* BCC and SCC)
- California black rail (BCC, state threatened, CDFW fully protected)
- Merlin (WL)
- Yuma hispid cotton rat (*Sigmodon hispidus eremicus,* SSC)
- desert tortoise (federally and state threatened)
- flat-tailed horned lizard (SSC)
- northern harrier (SSC)
- Yuma Ridgway's rail (*Rallus obsoletus ssp. yumanensis*, federally endangered, state threatened, and CDFW fully protected)
- California leaf-nosed bat (*Macrotus californicus*, SSC)
- pallid bat (*Antrozous pallidus*, SSC)
- western yellow bat (*Lasiurus xanthinus*, SSC)

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Aquatic Resources

The boundaries of aquatic resources were delineated through standard field methods (e.g., paired sample set analyses) and aerial photograph interpretation. Field data was recorded on Wetland Determination Data Forms - Arid West Region and Arid West Ordinary High Water Mark (OHWM) Datasheets (see Appendix F1 of this EIR). ESRI© and sUAS aerial imagery were used to assist with mapping and ground-truthing.

Where jurisdictional features were present, the extent of potential Waters of the State and CDFW-regulated streambed and top-of-bank limits were determined using the OHWM in accordance with USACE requirements and guidelines, as well as SWRCB and CDFW delineation guidance (see Appendix F1 of this EIR for details). Streambed widths were based on evidence of an OHWM as observed during the field survey. In addition, each of the drainages were evaluated for the presence or absence of sediment deposits, litter/debris, water stains, soil shelving, and/or exposed roots indicating active hydrology within the channel. Streambed widths and other lateral limits of jurisdiction were calculated and recorded. The extent of associated riparian habitat was based on the extent of the canopy of the riparian community within or directly adjacent to the feature. Bank-to-bank width measures were also recorded and used as a measure of CDFW jurisdictional boundary where features lacked riparian vegetation.

VEGA SES 2 and 3

A total of 50.83 acres of aquatic resources were mapped within the Vega 2 and 3 BSAs. Aquatic resources are summarized in Appendix F1 of this EIR and depicted on Figure 4 in Appendix F1. These results are subject to agency verification.

Features identified as an aquatic resource had wetland indicators present and/or physical evidence of flow including OHWM, defined bed and bank, presence of a clear and natural line impressed on the bank, the presence or absence of sediment deposits, litter/debris, and/or exposed roots indicating active hydrology within the channel. Associated riparian habitat identified within the project sites consisted of hydrophytic vegetation and hydrological indicators but lacked hydric soil indicators.

WETLAND FEATURES

No wetlands were delineated within the VEGA SES 2 or 3 project sites.

OTHER AQUATIC RESOURCES (NON-WETLAND WATERS)

Ephemeral Drainages

Ephemeral drainages are linear features that exhibit a bed and bank and an OHWM. These features typically convey runoff for short periods of time, during and immediately following rain events, and are not influenced by groundwater sources at any time during the year. The VEGA SES 2 and 3 project sites and adjacent upslope areas are within an alluvial fan drainage system that produces ephemeral conditions with surface waters flowing in direct response to large rain events for short durations. A number of these ephemeral drainages were determined to be inactive, as they do not actively transport water during rain events and are therefore assumed to be relic features on the landscape. Drainages determined to be active transport surface flow water from the direction of the Chocolate Mountains to the southwest and have connectivity to the intermittent drainages within the VEGA SES 2 and 3 project sites.

At the time of the field assessment, all ephemeral features contained no surface flow. The OHWM was delineated in the field primarily by the changes in sediment texture, vegetation, a natural scour line, bank erosion, and the presence of litter and debris. Some of the ephemeral drainages are associated with the Siphons and contained no surface flow at the time of the field assessment and had sparse vegetation within the bed. The ephemeral drainage systems divert surface flow from the direction of the Chocolate Mountains to the southwest, bypassing the Coachella Canal and railroad right-of-way and ultimately connecting to the East Highline Canal and/or associated wetlands. The East Highline Canal supplies water to the Imperial Valley via smaller lateral canals and drains that ultimately drain to the Salton Sea.

MANMADE FEATURES

Canals

The Coachella Canal is adjacent to and outside of the VEGA SES 2 and 3 project sites and is assumed to flow perennially. This concrete-lined canal is used for the purpose of year-round water transport throughout the Coachella Valley. It is maintained by the Coachella Valley Water District to be free of vegetation for water conveyance efficiency and ultimately flows into the Lake Cahuilla storage reservoir. Lake Cahuilla is an artificial soil-cement-lined temporal reservoir that is not connected to a traditional navigable water.

POTENTIAL CDFW REGULATED HABITATS

The following vegetation communities or habitat features could be regulated by CDFW but are not expected to be regulated by the USACE because they do not appear to meet the current definition of waters of the U.S.

Alkali Sinks

Alkali sinks are composed of poorly drained soils with high salinity and/or alkalinity from evaporation of water that accumulates in closed drainages. These sinks are often seasonally inundated and lose water through evaporation. Alkali sink habitat occurs within the southwestern portion of the VEGA SES 2 project site. Plant species observed included bush seepweed and wetland hydrology indicators (soil surface cracks) were observed.

Riparian Habitat

Riparian habitat associated with the drainage systems throughout the VEGA SES 2 and 3 project sites consists of blue palo verde-ironwood woodland and tamarisk thickets. This habitat is typically found in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. There were scattered riparian trees associated with active ephemeral drainages within the creosote scrub habitat due to the alluvial nature of the sites.

VEGA SES 5

A total of 1.54 acres of aquatic resources were mapped within the VEGA SES 5 project BSA. Aquatic resources are summarized in Appendix F2 of this EIR and depicted on Figure 4 of Appendix F2. These results are subject to agency verification.

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WETLAND FEATURES

Freshwater Forested/Shrub Wetland

Freshwater forested/shrub wetlands are dominated by woody vegetation such as shrubs, young trees (saplings), and trees or shrubs that are stunted due to environmental conditions. In seasonally flooded wetlands, surface water is present for extended periods, particularly in the early growing season, but is absent by the end of the growing season in most years. The water table can be variable after a flooding event, and ranges from saturation at the ground surface to a water table well below the ground surface.

Three freshwater forested/shrub wetlands were identified and mapped within the VEGA SES 5 project site. Two of these features are located adjacent to the East Highline Canal in the southwest parcel, and one feature is associated with the ephemeral drainage in the northeast parcel of the VEGA SES 5 project site. Freshwater forested/shrub wetlands within the project site were sparsely vegetated and dominated by hydrophytic vegetation characterized as tamarisk scrub and contained the F8 (redox depressions) hydric soil indicator. Hydrologic indicators within each wetland feature primarily included surface soil cracks (B6) with some areas exhibiting water marks (B1) and sediment deposits (B3) as primary indicators.

Freshwater Pond

Freshwater ponds are non-tidal wetlands that are typically dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens. They consist of unconsolidated substrates with less than 75 percent cover of stones, boulders, or bedrock and less than 30 percent cover of vegetation. In intermittently flooded wetlands, substrate is usually exposed but surface water is present for variable periods without detectable seasonal periodicity. Weeks, months, or years may pass between periods of inundation.

One freshwater pond was identified and mapped within the northeast portion of the VEGA SES 5 project site. The pond was dominated by hydrophytic vegetation, tamarisk and iodine bush, and contained the hydric soil indicator for redox depressions (F8). Wetland hydrology indicators met included surface soil cracks (B6).

OTHER AQUATIC RESOURCES (NON-WETLAND WATERS)

Ephemeral Drainage

The VEGA 5 project site and adjacent upslope areas are within an alluvial fan drainage system. Multiple ephemeral drainages that are part of this system flow through the VEGA SES 5 project site and appear to transport surface water from the direction of the Chocolate Mountains to the East Highline Canal, the ephemeral drainage (ED-3001), and/or the freshwater forested/shrub wetland directly northeast of the East Highline Canal. These features lack connectivity to the intermittent system further upstream due to the presence of the railroad right-of-way.

At the time of the field assessment, these features contained no surface flow. The OHWM was delineated in the field primarily by the changes in vegetation, sediment changes, and the break in bank slope. Other features observed included mud cracks and surface relief caused by flowing water. Channel surface features within ephemeral drainages indicated weak bed and bank along with a narrow, scoured area that varied in width. Other indicators present included drainage patterns and sediment deposits.

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MANMADE FEATURES

Canals

One major canal, the East Highline Canal, is located within the VEGA SES 5 project site. The East Highline Canal is managed by the Imperial Irrigation District (IID) and was constructed for the purposes of water delivery. It is an unvegetated, concrete (or other impervious material)-lined channel that transports water year-round. Within the VEGA SES 5 project site, lateral canals transport water from the East Highline Canal east towards active agricultural land within the buffer area. The East Highline Canal ultimately flows into the Salton Sea through a series of lateral canals and drains.

Irrigation Channels

Features classified as irrigation channels include concrete-lined lateral canals and concrete-lined irrigation ditches. The irrigation channels within the VEGA SES 5 project site are used for agricultural purposes and are part of a larger interconnected system that supplies water throughout the Imperial Valley.

Lateral Canals

The lateral canals within the VEGA SES 5 project site are managed by IID and supply water to irrigation ditches that are used by private farming operations. The concrete-lined lateral canals are managed by IID to be free of vegetation and therefore lack habitat for wildlife species. Lateral canals that fall within the VEGA SES 5 project site include the O Lateral along the northern end and the N Lateral along the southern end of the VEGA SES 5 project site.

Irrigation Ditches

There is one concrete-lined irrigation ditch within the VEGA SES 5 project site that is associated with a fallow agricultural field and is no longer in use. This irrigation ditch runs parallel to the East Highline Canal and associated wetlands. The concrete-lined irrigation ditch is free of vegetation and therefore lacks habitat for wildlife species.

POTENTIAL CDFW REGULATED HABITATS

The following vegetation communities or habitat features could be regulated by CDFW but are not expected to be regulated by the USACE because they do not appear to meet the current definition of waters of the U.S.

Alkali Sink

Alkali sink habitat was documented within the VEGA SES 5 project site. Hydrophytic vegetation within the akali sink included iodine bush, arrow weed, bush seepweed, and big saltbush. Wetland hydrologic indicators observed within the akali sink habitat included soil cracks (B6), with secondary indicators of sediment deposits (B2), drift deposits (B3), and drainage patterns (B10). No hydric soil indicators were observed within the akali sink habitat.

Riparian Habitat

Riparian habitat associated with the drainage systems throughout the VEGA SES 5 project site consists of tamarisk thickets. This habitat is typically found in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. Throughout the VEGA SES 5 project site, other species observed included four-wing saltbush and arrow weed. There is additional riparian habitat within the

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southwest portion of the VEGA SES 5 project site near the N Lateral canal that is not associated with an active aquatic feature. This habitat likely established opportunistically in areas that were recently left fallow and consists of tamarisk thickets. This area was determined to be remnant of a relic unlined irrigation channel that is no longer in use.

Wildlife Movement Corridors, Linkages, and Significant Ecological Areas

The concept of habitat corridors addresses the linkage between large blocks of habitat that allow the safe movement of mammals and other wildlife species from one habitat area to another. In general, a corridor is described as a linear habitat, embedded in a dissimilar matrix, which connects two or more large blocks of habitat. Wildlife movement corridors are critical for the overall health and function of ecological systems for several reasons. Corridors can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas provides for the potential of genetic exchange between wildlife species populations, thereby maintaining genetic variability and adaptability to maximize the success of wildlife responses to changing environmental conditions, which is especially critical for small populations subject to loss of variability from genetic drift and effects of inbreeding. The nature of corridor use and wildlife movement patterns varies greatly among species. The VEGA SES 2, 3, 5 BSAs were assessed for their ability to function as wildlife corridors.

VEGA SES 2 and 3

The VEGA SES 2 and 3 BSAs have an alluvial fan system, which stems from the Chocolate Mountains and spreads across the landscape in the lowland areas. This interconnected drainage system has associated riparian corridors, which occur throughout the BSAs. These areas provide cover for migrating and nesting birds, and also provide foraging habitat for raptors and small and large mammals, including rodents, felids, and canids.

The large drainages and canal lined with tamarisk thickets and blue palo verde/ironwood woodlands are likely utilized by wildlife moving through the area. During field surveys, a lone bobcat was spotted using the tamarisk thickets for movement. Therefore, these features and associated riparian habitat would be considered linkages between natural habitat areas.

A portion of the BSA is restricted by the Coachella Canal and railroad tracks. Due to the location between the canal and railroad, the VEGA SES 2 and 3 project sites are already disconnected and act as more of a buffer between agricultural lands and wildlands to the northeast, but not as a corridor for mammals.

The blue palo verde – ironwood woodland provides shelter and good-quality foraging habitat. This habitat would function as a corridor for wildlife movement from the Chocolate Mountains. The bush seepweed scrub provides moderate shelter and little to moderate-quality foraging habitat. The creosote bush scrub habitats offer little shelter, but moderate-quality foraging habitat. The eastern portion of the BSA, east of Coachella Canal, currently provides wildlife movement opportunities because it consists of open and relatively unimpeded land.

VEGA SES 5

The VEGA SES 5 project site has an ephemeral drainage braided system with an associated riparian corridor in the eastern section of the site that provides cover for migrating and nesting birds. It also provides foraging habitat for raptors and small and large mammals, including rodents and canids. The tamarisk thicket-dominated wetlands located near the East Highline Canal boundaries are likely

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utilized by wildlife moving through the area. Therefore, these features and associated riparian habitat would be considered necessary linkages between natural habitat areas to the north and east. The southern portion is restricted by the East Highline Canal, off-shoot channels, roads, and agricultural fields. Although the canals, roads, and agricultural fields inhibit or deter large mammal movement, avian species and small mammals may forage and pass through these features.

The bush seepweed scrub, iodine scrub, and creosote bush scrub habitats offer little shelter, but moderate-quality foraging habitat. This natural pocket of habitat is semi-open with barriers to the north and south, leaving the terrain accessibility constrained for wildlife access. The eastern portion of the site currently provides wildlife movement opportunities to the northwest and southeast because it consists of open and relatively unimpeded land. However, this portion of the site would not be considered a wildlife movement corridor that would need to be preserved to allow wildlife to move between important natural habitat areas due to the lack of conserved natural lands in the immediate vicinity and the site's proximity to farmlands. The VEGA SES 5 project site is surrounded to the north, west, and south by agriculture. The scrub habitat within the project site is exposed and does not contain any major features that would be considered critical movement corridors for wildlife. Therefore, the scrub habitat acts as more of a buffer between agricultural lands and wildlands to the northeast, but not as a corridor for mammals.

Habitat Conservation Plans

The VEGA SES 2, 3, and 5 project sites are not located in a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

3.5.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the proposed projects.

Federal

Bald and Golden Eagle Protection Act of 1940

The Bald Eagle Protection Act of 1940 protects bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this Act. 'Take' is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." 'Disturb' is defined as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior" (72 *Federal Register* [FR] 31132; 50 CFR 22.3). All activities that may disturb or incidentally take an eagle or its nest as a result of an otherwise legal activity must be permitted by the USFWS under this Act.

Federal Endangered Species Act

The Federal ESA protects federally listed threatened and endangered species and their habitats from unlawful take and ensures that federal actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Under the Federal ESA, "take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or

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collect, or to attempt to engage in any such conduct. USFWS regulations define harm to mean “an act which actually kills or injures wildlife” (50 CFR 17.3).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the kill or transport of native migratory birds, or any part, nest, or egg of any such bird unless allowed by another regulation adopted in accordance with the MBTA. The prohibition applies to birds included in the respective international conventions between the U.S. and Great Britain, the U.S. and Mexico, the U.S. and Japan, and the U.S. and Russia. Disturbances that cause nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the MBTA. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

Section 404 Permit (Clean Water Act)

The purpose of the CWA is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Section 404 of the CWA prohibits the discharge of dredge and fill material into waters of the U.S., including wetlands, without a permit from the USACE. Activities regulated under this program include fills for development, water resource projects (e.g., dams and levees), infrastructure development (e.g., highways and airports), and conversion of wetlands to uplands for farming and forestry. Either an individual 404 permit or authorization to use an existing USACE Nationwide Permit will need to be obtained if any portion of the construction requires fill into a river, stream, or stream bed that has been determined to be a jurisdictional waterway.

Farmland Protection Policy Act

The Farmland Protection Policy Act is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It also stipulates that federal programs be compatible with state, local, and private efforts to protect farmland. The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) is charged with oversight of the Farmland Protection Policy Act.

State

California Endangered Species Act

Provisions of the California ESA protect state-listed threatened and endangered species. CDFW regulates activities that may result in “take” of individuals (“take” means “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”). Habitat degradation or modification is not expressly included in the definition of “take” under the California FGC. Additionally, California FGC contains lists of vertebrate species designated as “fully protected” (California FGC Sections 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], and 5515 [fish]). Such species may not be taken or possessed.

In addition to state-listed species, CDFW has also produced a list of Species of Special Concern to serve as a “watch list.” Species on this list are of limited distribution or the extent of their habitats has

been reduced substantially such that threats to their populations may be imminent. Species of Special Concern may receive special attention during environmental review, but they do not have statutory protection.

Birds of prey are protected in California under California FGC. Section 3503.5 states it is "unlawful to take, possess, or destroy any birds of prey (in the order Falconiformes or Strigiformes) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment.

California Fish and Game Code Section1600 et. seq (as amended)

The California FGC Section 1600 et. seq. requires that a Notification of Lake or Streambed Alteration be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant is the Streambed Alteration Agreement (SAA). Often, projects that require an SAA also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the SAA may overlap.

California Fish and Game Code Sections 3503, 3503.5, and 3513

Under Sections 3503, 3503.5, and 3513 of the California FGC, activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking or possessing of any migratory nongame bird as designated by the MBTA, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the MBTA, or the taking of any non-game bird pursuant to FGC Section 3800 are prohibited. Additionally, the state further protects certain species of Fully Protected fish, mammals, amphibians, reptiles, birds, and mammals by prohibiting any take or possession of classified species.

California Fish and Game Code Sections 1900-1913 (Native Plant Protection Act)

California's Native Plant Protection Act prohibits the taking, possessing, or sale within the state of any plant listed by CDFW as rare, threatened, or endangered. This allows CDFW to salvage listed plant species that would otherwise be destroyed.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, all projects proposing to discharge waste that could affect waters of the State must file a waste discharge report with the appropriate Regional Water Quality Control Board (RWQCB). The project falls under the jurisdiction of the Colorado River RWQCB.

California Environmental Quality Act

Title 14 CCR, Section 15380 requires the identification of endangered, rare, or threatened species or subspecies of animals or plants that may be impacted by a project. If any such species are found, appropriate measures should be identified to avoid, minimize, or mitigate the potential effects of projects.

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Local

Imperial County General Plan

The Conservation and Open Space Element of the Imperial County General Plan provides detailed plans and measures for the preservation and management of biological resources. The purpose of this element is to recognize that natural resources must be maintained for their ecological value for the direct benefit to the public and to protect open space for the preservation of natural resources, the managed production of resources, outdoor recreation, and for public health and safety. In addition, the purpose of this element is to promote the protection, maintenance, and use of the County's natural resources with particular emphasis on scarce resources, and to prevent wasteful exploitation, destruction, and neglect of the state's natural resources. Table 3.5-3 analyzes the consistency of the VEGA SES 2, 3, and 5 projects with specific policies contained in the Imperial County General Plan associated with biological resources.

Table 3.5-3. Project Consistency with General Plan Goals and Policies

General Plan Policies	Consistency with General Plan	Analysis
Conservation and Open Space Element - *Open Space and Recreation Conservation* **Policy No. 2 -** The County shall participate in conducting detailed investigations into the significance, location, extent, and condition of natural resources in the County. **Program:** Notify any agency responsible for protecting plant and wildlife before approving a project which would impact a rare, sensitive, or unique plant or wildlife habitat.	Consistent	A biological assessment has been conducted at the project sites to evaluate the proposed projects' potential impacts on biological resources. Although special-status plant species and habitat for special-status wildlife species were identified within the projects' BSAs, implementation of Mitigation Measures BIO-1 through BIO-8 would reduce potential impacts on these species to a level that is less than significant. Applicable agencies responsible for protecting plants and wildlife will be notified of the proposed projects and provided an opportunity to comment on this EIR prior to the County's consideration of any approvals for the projects. As described in Chapter 2, Project Description, implementation of the projects would require the approval of CUPs by the County to allow for the construction and operation of the projects.
Conservation of Environmental Resources for Future Generations **Goal 1 -** Environmental resources shall be conserved for future generations by minimizing environmental impacts in all land use decisions and educating the public on their value. **Objective 1.6 -** Promote the conservation of ecological sites and preservation of cultural resource sites through scientific investigation and public education.	Consistent	A biological assessment has been conducted at the project sites to evaluate the projects' potential impacts on biological resources. Although special-status plant species and habitat for special-status wildlife species were identified within the BSA, implementation of Mitigation Measures BIO-1 through BIO-8 would reduce potential impacts on these species to a level that is less than significant. With implementation of Mitigation Measures BIO-1 through BIO-8, the projects would not result in residual significant and unmitigable impacts on biological resources.

Source: County of Imperial 2016
BLM=Bureau of Land Management; CDFW – California Department of Fish and Wildlife; EIR – environmental impact report; USFWS – U.S. Fish and Wildlife Service

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3.5.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering the respective project's impacts on biological resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to biological resources are considered significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on state or federally protected wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

Methodology

This analysis evaluates the potential for the projects, as described in Chapter 2, Project Description, to interact with local biological resources on the project sites. Based on the extent of these interactions, this analysis considers whether these conditions would result in an exceedance of one or more of the applied significance criteria as identified above.

Biological resources technical reports (Appendices E1 and E2) and aquatic resources delineation reports (Appendices F1 and F2) were prepared for each project. The information obtained from the sources was reviewed and summarized to present the existing conditions and to identify potential environmental impacts, based on the significance criteria presented in this section. Impacts associated with biological resources that could result from project construction and operational activities were evaluated qualitatively based on on-site conditions; expected construction practices; and materials, locations, and duration of project construction and related activities.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations.

Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of an important resource on a population-wide or region-wide basis.

Impact Analysis

Impact 3.5-1 Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

Construction

VEGA SES 2 and 3

SPECIAL-STATUS PLANTS

The literature review identified 18 special-status plant species that have the potential to occur within the VEGA SES 2 and 3 project sites. A total of 13 plant species have a low potential to occur due to the limited suitable habitat within the VEGA SES 2 and 3 project sites. A total of 4 plant species have a moderate potential to occur due to the presence of suitable habitat within the VEGA SES 2 and 3 project sites: gravel milk-vetch, Wiggins' croton, glandular ditaxis, and sand food. One rare plant species, Munz's cholla (CRPR 1B.3), was found to be present within the VEGA SES 2 and 3 project sites. Potential impacts that may occur on special-status species during construction of the VEGA SES 2 and 3 projects include loss of individuals, habitat, and seedbank. Depending on the size of the population, impacts on special-status plant species within the project impact area may be considered significant. Implementation of Mitigation Measures BIO-1a, BIO-2, and BIO-3 would reduce potential impacts on special-status plant species to a level less than significant.

SPECIAL-STATUS WILDLIFE

The literature review identified 27 special-status wildlife species that have the potential to occur within the VEGA SES 2 and 3 BSA. Fifteen (15) of these species have a low or no potential to occur due to the lack of suitable and/or limited habitat within the BSA. Of the 27 special-status species identified, 10 species have a moderate or high potential to occur on the VEGA SES 2 and 3 project sites: flat-tailed horned lizard, Mojave desert tortoise, northern harrier, California horned lark, merlin, Crissal thrasher, California black rail, Yuma hispid cotton rat, Palm Springs pocket mouse, and burrowing owl. Additionally, two special-status wildlife species were observed onsite during the habitat assessment; loggerhead shrike and black-tailed gnatcatcher were observed in the tamarisk thickets, bush seepweed scrub, blue palo verde-ironwood woodland, and creosote bush scrub on the VEGA SES 2 and 3 project sites. Direct impacts on these species that could occur include injury, mortality, nest failures, and loss of young. Indirect impacts include loss of nesting and foraging habitat and an increase in anthropogenic effects (i.e., noise levels, introduction of invasive and non-native species, increase in human activity, increase in dust). Potential impacts on these special-status wildlife species may be considered significant. Implementation of Mitigation Measures BIO-2, BIO-3, BIO-4, BIO-5, BIO-6a, and BIO-7a would reduce potential impacts on special-status wildlife species to a level less than significant.

VEGA SES 5

SPECIAL-STATUS PLANTS

The literature review identified 22 special-status plant species that have the potential to occur within the VEGA SES 5 project site. Eleven (11) of these plant species have a low potential to occur due to the limited suitable habitat within the site. There is moderate or high potential for 11 rare plant species to occur on the VEGA SES 5 project site: Salton's milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster. Suitable habitat for these species is present within the existing washes and creosote bush scrub habitats. Potential impacts that may occur on these species include loss of individuals, habitat, and seedbank. Depending on the size of the population, potential impacts may be considered significant. Implementation of Mitigation Measure BIO-1b, BIO-2, and BIO-3 would reduce potential impacts on special-status plant species to a level less than significant.

SPECIAL-STATUS WILDLIFE

The literature review identified 23 special-status wildlife species that have the potential to occur within the VEGA SES 5 project site. Sixteen (16) of these species have a low or no potential to occur due to the lack of suitable and limited habitat on the site. The following four species have a moderate or high potential to occur onsite: mountain plover, merlin, California black rail, and Yuma hispid cotton rat. Additionally, 3 special-status wildlife species were observed onsite during the habitat assessment. Black-tailed gnatcatchers, burrowing owl, and loggerhead strikes were observed in the tamarisk thickets and creosote bush scrub in the northern portion of the VEGA SES 5 project site.

Direct impacts on these species that could occur include injury, mortality, nest failures, and loss of young. Indirect impacts include loss of nesting and foraging habitat, increase in anthropogenic effects (i.e., noise levels, introduction of invasive/non-native species, increase in human activity, increase in dust). Potential impacts on these species may be considered significant. Implementation of Mitigation Measures BIO-2, BIO-3, BIO-4, BIO-5, BIO-6b, and BIO-7b would reduce potential impacts on special-status wildlife species to a level less than significant.

Operation

VEGA SES 2, 3 and 5

All electrical components on the project sites shall be either underground or protected so that there will be no exposure to wildlife and therefore no potential for electrocution. Additionally, based on the Avian Powerline Interaction Committee's (APLIC) 1996 report on power line electrocution in the U.S., avian electrocution risk is highest along distribution lines (generally less than 69 kV) where the distance between energized phases, ground wires, transformers, and other components of an electrical distribution system are less than the length or skin-to-skin contact distance of birds. The distance between energized components along transmission lines (greater than 69 kV) is generally insufficient to present avian electrocution risk. Therefore, no impact on avian species is anticipated to occur due to electrocution along the proposed gen-tie line.

Mitigation Measure(s)

BIO-1a **Rare Plant Surveys.** Prior to initiating ground disturbance, rare plant surveys shall be conducted within suitable habitat on the VEGA SES 2 and 3 project sites during the appropriate blooming period for gravel milk-vetch, Wiggins' croton, glandular ditaxis,

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sand food, and Munz's cholla. The surveys shall be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If project-related impacts to rare plants on the project sites are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements.

BIO-1b **Rare Plant Surveys.** Prior to initiating ground disturbance, rare plant surveys shall be conducted within suitable habitat on the VEGA SES 5 project site during the appropriate blooming period for Salton milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster. The surveys shall be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If project-related impacts to rare plants on the project sites are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements.

BIO-2 **General Impact Avoidance and Minimization Measures.** The following measures will be applicable throughout the life of the projects:

- To reduce the potential indirect impact on migratory birds, bats and raptors, the project shall comply with the APLIC 2012 Guidelines for overhead utilities, as appropriate, to minimize avian collisions with transmission facilities (APLIC 2012)
- All electrical components on the project sites shall be either undergrounded or protected so that there will be no exposure to wildlife and therefore no potential for electrocution.
- The project proponent shall designate a Project Biologist who shall be responsible for overseeing compliance with protective measures for biological resources during vegetation clearing and work activities within and adjacent to areas of native habitat. The Project Biologist shall be familiar with the local habitats, plants, and wildlife. The Project Biologist shall also maintain communications with the Contractor to ensure that issues relating to biological resources are appropriately and lawfully managed and

shall monitor construction. The Project Biologist shall monitor activities within construction areas during ~~critical times~~nesting bird season (generally February 1 to September 15), such as vegetation removal, the implementation of Best Management Practices (BMPs), and installation of security fencing to protect native species. The Project Biologist shall ensure that all wildlife and regulatory agency permit requirements, conservation measures, and general avoidance and minimization measures are properly implemented and followed.

- The boundaries of all areas to be newly disturbed (including solar facility areas, staging areas, access roads, and sites for temporary placement of construction materials and spoils) shall be delineated with stakes and flagging prior to disturbance. All disturbances, vehicles, and equipment shall be confined to the flagged areas.
- No potential wildlife entrapments (e.g., trenches, bores) shall be left uncovered overnight. Any uncovered pitfalls will be excavated to 3:1 slopes at the ends to provide wildlife escape ramps. Alternatively, man-made ramps may be installed. Covered pitfalls will be covered completely to prevent access by small mammals or reptiles.
- To avoid wildlife entrapment (including birds), all pipes or other construction materials or supplies shall be covered or capped in storage or laydown areas, and at the end of each work day in construction, quarrying and processing/handling areas. No pipes or tubing of sizes or inside diameters ranging from 1 to 10 inches shall be left open either temporarily or permanently.
- No anticoagulant rodenticides, such as Warfarin and related compounds (indandiones and hydroxycoumarins), shall be used within the project sites, on off-site project facilities and activities, or in support of any other project activities.
- Avoid wildlife attractants. All trash and food-related waste shall be placed in self-closing containers and removed regularly from the sites to prevent overflow. Workers shall not feed wildlife. Water applied to dirt roads and construction areas for dust abatement shall use the minimal amount needed to meet safety and air quality standards to prevent the formation of puddles, which could attract wildlife. Pooled rainwater or floodwater within retention basins shall be removed to avoid attracting wildlife to the active work areas.
- To minimize the likelihood for vehicle strikes on wildlife, speed limits shall not exceed 15 miles per hour when driving on access roads. All vehicles required for O&M must remain on designated access/maintenance roads.
- Avoid nighttime construction lighting or if nighttime construction cannot be avoided, use shielded directional lighting pointed downward and towards the interior of the project sites, thereby avoiding illumination of adjacent natural areas and the night sky.
- All construction equipment used for the projects shall be equipped with properly operating and maintained mufflers.
- Hazardous materials and equipment stored overnight, including small amounts of fuel to refuel hand-held equipment, shall be stored within secondary containment when within 50 feet of open water to the fullest extent practicable. Secondary containment shall consist of a ring of sand bags around each piece of stored equipment/structure. A plastic tarp/visqueen lining with no seams shall be placed under the equipment and

over the edges of the sandbags, or a plastic hazardous materials secondary containment unit shall be utilized by the Contractor.

- The Contractor will be required to conduct vehicle refueling in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species. Any fuel containers, repair materials, including creosote-treated wood, and/or stockpiled material that is left on site overnight, shall be secured in secondary containment within the work area and staging/assembly area and covered with plastic at the end of each work day.
- In the event that no activity is to occur in the work area for the weekend and/or a period of time greater than 48 hours, the Contractor shall ensure that all portable fuel containers are removed from the project sites.
- All equipment shall be maintained in accordance with manufacturer's recommendations and requirements.
- Equipment and containers shall be inspected daily for leaks. Should a leak occur, contaminated soils and surfaces will be cleaned up and disposed of following the guidelines identified in the Stormwater Pollution Prevention Plan or equivalent, Materials Safety Data Sheets, and any specifications required by other permits issued for the projects.
- The Contractor shall utilize off-site maintenance and repair shops as much as possible for maintenance and repair of equipment.
- If maintenance of equipment must occur onsite, fuel/oil pans, absorbent pads, or appropriate containment will be used to capture spills/leaks within all areas. Where feasible, maintenance of equipment shall occur in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species.
- Appropriate BMPs shall be used by the Contractor to control erosion and sedimentation and to capture debris and contaminants from construction to prevent their deposition in waterways.
- Erosion and sediment control devices used for the proposed projects, including fiber rolls and bonded fiber matrix, shall be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.
- Firearms, open fires, and pets shall be prohibited at all work locations and access roads. Smoking shall be prohibited along the project alignment.
- Cross-country vehicle and equipment use outside of approved designated work areas and access roads shall be prohibited to prevent unnecessary ground and vegetation disturbance.
- Any injured or dead wildlife encountered during project-related activities shall be reported to the project biologist, biological monitor, CDFW, or a CDFW-approved veterinary facility as soon as possible to report the observation and determine the best course of action. For special-status species, the Project Biologist shall notify the County, USFWS, and/or CDFW, as appropriate, within 24 hours of the discovery.
- Stockpiling of material shall only be allowed within established work areas.

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- The Contractor shall actively manage the spread of noxious weeds by implementing weed control activities, including, but not limited to, cleaning equipment and inspecting equipment prior to transport to the sites and cleaning of tires and equipment prior to leaving the sites. The introduction of exotic, nonnative, weed, and/or invasive plant species will be avoided and controlled wherever possible, and may be achieved through physical or chemical removal and prevention, limiting the size of any vegetation and/or ground disturbance to the absolute minimum, and limiting ingress and egress to defined routes. Preventing exotic plants from entering the sites via vehicular sources will include measures such as cleaning vehicles coming into and going from the sites.
- The ground beneath all parked equipment and vehicles shall be inspected for wildlife before moving.

BIO-3 **Worker Environmental Awareness Program.** Prior to project construction, a Worker Environmental Awareness Program shall be developed and implemented by a qualified biologist and shall be available in both English and Spanish. Handouts summarizing potential impacts on special-status biological resources and the potential penalties for impacts on these resources shall be provided to all construction personnel. At a minimum, the education program shall including the following:

- the purpose for resource protection;
- a description of special-status species including representative photographs and general ecology;
- occurrences of USACE, RWQCB, and CDFW regulated features in the project study area;
- regulatory framework for biological resource protection and consequences if violated
- sensitivity of the species to human activities;
- avoidance and minimization measures designed to reduce the impacts on special-status biological resources
- environmentally responsible construction practices;
- reporting requirements;
- the protocol to resolve conflicts that may arise at any time during the construction process; and
- workers sign acknowledgement form indicating that the Environmental Awareness Training and Education Program that has been completed, which shall be kept on record.

BIO-4 **Burrowing Owl Avoidance and Minimization.** Take avoidance (pre-construction) surveys for burrowing owl shall be completed prior to project construction. Surveys shall be conducted as detailed within Appendix D of the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game [CDFG] 2012). If burrowing owl is not detected, construction may proceed.

- If burrowing owl is identified during the non-breeding season (September 1 through January 31), then a 50-meter buffer will be established by the biological monitor.

Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until a CDFW-approved exclusion plan has been implemented. The buffer distance may be reduced if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities.

- If burrowing owl is identified during the breeding season (February 1 through August 31), then an appropriate buffer will be established by the biological monitor in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until young have fledged. The buffer distance may be reduced in consultation with CDFW if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities.

BIO-5 **Pre-Construction Nesting Bird Survey.** If construction or other project activities are scheduled to occur during the bird breeding season (typically February 1 through August 31 for raptors and ~~March~~ February 15 through August 31 for the majority of migratory bird species), a pre-construction nesting-bird survey shall be conducted by a qualified avian biologist to ensure that active bird nests, including those for loggerhead shrike, black-tailed gnatcatcher, and burrowing owl, will not be disturbed or destroyed. The survey shall be completed no more than three days prior to initial ground disturbance. The nesting-bird survey shall include the project site and adjacent areas where project activities have the potential to affect active nests, either directly or indirectly, due to construction activity or noise. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist. If construction activities cease for a period of greater than three days during the bird breeding season, a pre-construction nesting bird survey shall be conducted prior to the commencement of activities. Final construction buffers or setback distances shall be determined by the qualified biologist in coordination with USFWS and CDFW on a case-by-case basis, depending on the species, season in which disturbance shall occur, the type of disturbance, and other factors that could influence susceptibility to disturbance (e.g., topography, vegetation, existing disturbance levels, etc.).

BIO-6a **Pre-Construction Survey for Special-Status Species.** A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 2 and 3 project sites or that were identified as having a high potential to occur on the sites. These species include, but are not limited to, burrowing owl, loggerhead shrike, California black rail, and black-tailed gnatcatcher. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.

BIO-6b **Pre-Construction Survey for Special-Status Species.** A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential

permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 5 project site or that were identified as having a high potential to occur on the site. These species include, but are not limited to, mountain plover, California black rail, merlin, Yuma hispid cotton rat, burrowing owl, black-tailed gnatcatcher, and loggerhead strike. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.

BIO-7a **Sensitive Habitat Avoidance.** To the greatest extent possible, plans should avoid impacts on blue palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets habitats within the VEGA SES 2 and 3 project sites to minimize potential impacts on special-status species. Excluding these habitats from the projects should also minimize mitigation and permitting requirements to meet the less-than-significance threshold.

BIO-7b **Sensitive Habitat Avoidance.** To the greatest extent possible, plans should avoid impacts on bush seepweed scrub and tamarisk thicket habitats within the VEGA SES 5 project site to minimize potential impacts to special-status species. Excluding these habitats from the project should also minimize mitigation and permitting requirements to meet the less-than-significance threshold.

Significance After Mitigation

Project construction has the potential to directly impact special-status plant and wildlife species. However, implementation of Mitigation Measures BIO-1 through BIO-7 would reduce potential impacts on special-status plant and wildlife species to a level less than significant.

Impact 3.5-2 Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?

VEGA SES 2 and 3

Riparian Habitat

Both alkali sinks and riparian habitat are present within the VEGA SES 2 and 3 BSAs. These sensitive natural communities are regulated under Section 1600 of the California FGC. Impacts on features that fall under the definition of streambed and associated riparian habitat would trigger the need for Streambed Alteration Notification and the VEGA SES 2 and 3 projects may need to enter into formal Agreements with CDFW. This is a potentially significant impact. However, implementation of Mitigation Measures BIO-7a, BIO-8, and BIO-9 would reduce potential impacts on riparian habitat to a level less than significant (see Appendix E1 of this EIR).

Sensitive Natural Communities

Blue palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets occur within the VEGA SES 2 and 3 project sites and are considered sensitive natural communities by CDFW. During project construction, sensitive natural communities would be directly impacted by grading activities.

However, the proposed project would comply with mitigation requirements recommended through consultation with CDFW, including the in-kind replacement of palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets. Implementation of BIO-7a, BIO-8, and BIO-9 is recommended to reduce potential impacts on sensitive natural communities to a level less than significant.

VEGA SES 5

Riparian Habitat

Both alkali sinks and riparian habitat are present within the VEGA SES 5 BSA. These sensitive natural communities are regulated under Section 1600 of the California FGC. Impacts on features that fall under the definition of streambed and associated riparian habitat would trigger the need for Streambed Alteration Notification and the VEGA SES 5 project may need to enter into formal Agreements with CDFW. This is a potentially significant impact. However, implementation of Mitigation Measures BIO-7b, BIO-8, and BIO-9 would reduce potential impacts on riparian habitat to a level less than significant (see Appendix E2 of this EIR).

Sensitive Natural Communities

Bush seepweed scrub and tamarisk thickets occur within the VEGA SES 5 project site and are considered sensitive natural communities by CDFW. During project construction, sensitive natural communities would be directly impacted by grading activities. However, the proposed project would comply with mitigation requirements recommended through consultation with CDFW, including the in-kind replacement of bush seepweed scrub and tamarisk thickets. Implementation of BIO-7b, BIO-8, and BIO-9 is recommended to reduce potential impacts on sensitive natural communities to a level less than significant.

Mitigation Measure(s)

BIO-8 **Aquatic Resources Regulatory Permitting.** If project-related impacts occur to the riparian areas that may also fall under the jurisdiction of the USACE, CDFW, or RWQCB a regulatory permit with those agencies will be needed prior to the impact occurring. Refer to the ECORP Jurisdiction Delineation Report (2022) for preliminary determination of regulatory limits of areas that may be regulated by the USACE, CDFW, or RWRCB. Permitting includes preparation and submittal of a Pre-Construction Notification under Section 404 of the federal CWA, an Application for Water Quality Certification under Section 401 of the federal CWA, and a Notification of Lake or Streambed Alteration under Section 1600 of the California Fish and Game Code. A completed CEQA document, and Notice of Determination, will be necessary to submit along with the applications. Other items such as finalized project plans, quantities of fill material, supporting technical studies, etc., are also submitted along with the applications. As a part of this process, the projects must also identify and approve mitigation through the respective agencies. Mitigation can include onsite or offsite options or could include purchase of credits from an existing mitigation or conservation bank or payment of an in-lieu fee to a conservation organization. Types of mitigation can include restoration, creation, rehabilitation, enhancement, or other types of habitat improvement. Typically, the type of mitigation and acreage of mitigation is negotiated with the regulatory agencies during the permitting process.

BIO-9 **Minimization of Impacts to Wetland/Riparian Habitat.** Solar panels, structures, and new access roads should not be placed within 50 feet of wetland and riparian habitat boundaries. A construction buffer of 300 feet shall be established around the wetlands and riparian habitat during the bird breading season (February 1 – August 31). Prior to construction, fencing should be installed approximately 10 feet from the wetland and riparian habitat boundaries within 50 feet of the projects. Fencing should be easily visible to construction. The extensive alluvial fan systems should not be used as access roads between the projects.

Significance After Mitigation

Construction of the VEGA SES 2, 3, and 5 projects has the potential to directly impact riparian habitat and sensitive natural communities. However, implementation of Mitigation Measures BIO-7 through BIO-9 would reduce potential impacts to a level less than significant.

Impact 3.5-3 Would the project have a substantial adverse effect on state or federally-protected wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means?

Construction

VEGA SES 2 AND 3

The Aquatic Resources Delineation report prepared for the VEGA SES 2 and 3 projects identified numerous aquatic resources on the project site (see Appendix F1 of this EIR). Construction of the project has the potential to directly impact these resources; this is a potentially significant impact. However, impacts on aquatic features may require permits from several regulatory agencies pursuant to federal and State laws. Wetlands and perennial drainages connected to navigable waters would require a permit pursuant to Section 404 of the CWA (USACE), certification compliance with Section 401 of the CWA (USACE) and the Porter-Cologne Act (RWQCB), and an agreement pursuant to California FGC Sections 1600 and 1602 (CDFW). Ephemeral drainages are only subject to state and local jurisdiction, and associated riparian habitats are subject to an agreement pursuant to California FGC Sections 1600 and 1602 (CDFW). With implementation of Mitigation Measures BIO-7a, BIO-8, and BIO-9, which ensure the project's adherence to applicable permitting requirements for impacts on jurisdictional waters and which implement avoidance and minimization measures, the project's construction-related impacts on jurisdictional waters would be reduced to a level less than significant.

VEGA SES 5

The Aquatic Resources Delineation report prepared for the VEGA SES 5 project identified numerous aquatic resources on the project site (see Appendix F2 of this EIR). Construction of the project has the potential to directly impact these resources; this is a potentially significant impact. However, impacts on aquatic features may require permits from several regulatory agencies pursuant to federal and State laws. Wetlands and perennial drainages connected to navigable waters would require a permit pursuant to Section 404 of the CWA (USACE), certification compliance with Section 401 of the CWA (USACE) and the Porter-Cologne Act (RWQCB), and an agreement pursuant to California FGC Sections 1600 and 1602 (CDFW). Ephemeral drainages are only subject to state and local jurisdiction, and associated riparian habitats are subject to an agreement pursuant to California FGC Sections 1600 and 1602 (CDFW). With implementation of Mitigation Measures BIO-7b, BIO-8, and BIO-9, which

ensure the project's adherence to applicable permitting requirements for impacts on jurisdictional waters and which implement avoidance and minimization measures, the project's construction-related impacts on wetlands and other jurisdictional waters would be reduced to a level less than significant.

Operation

VEGA 2, 3, AND 5

Project operations would result in minimal, if any, disturbance to protected wetlands on the VEGA SES 2, 3, and 5 project sites. During ongoing operations, personnel would only visit the site as needed for maintenance. Additionally, the proposed project would comply with the necessary permitting requirements of the USACE, CDFW, and RWQCB, per Mitigation Measures BIO-7a, BIO-7b, BIO-8, and BIO-9, which include coordination with the applicable regulatory agency. Therefore, project operations are not expected to have a substantial adverse effect on any state or federally protected wetlands. Implementation of mitigation measures would reduce potential operations impacts on state or federally protected wetlands to a level less than significant.

Mitigation Measure(s)

No additional mitigation measures beyond Mitigation Measures BIO-7a, BIO-7b, BIO-8, and BIO-9 are required.

Significance After Mitigation

Project construction has the potential to directly impact state and federally protected wetlands. However, implementation of Mitigation Measures BIO-7a, BIO-7b, BIO-8, and BIO-9 would reduce potential operations related impacts on state and federally protected wetlands to a level less than significant.

Impact 3.5-4 Would the project interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Construction

VEGA 2 AND 3

As previously indicated, the project site was assessed for its ability to function as a wildlife corridor. The VEGA SES 2 and 3 BSAs are located adjacent to areas containing existing disturbances (i.e., roads, railroad tracks, and active agricultural land). The majority of the project sites do not contain suitable vegetation or cover to support wildlife movement and are nestled between agricultural and development; therefore, wildlife movement opportunities connecting the project sites to large, undeveloped natural areas is limited. However, the existing riparian corridor could act as a potential corridor and nursey site for migrating wildlife species. Implementation of Mitigation measures BIO-2, BIO-4, BIO-5, BIO-6a, and BIO-7a would reduce potential construction-related impacts on wildlife movement to a level less than significant.

Foraging habitat for a number of raptor species and breeding habitat for numerous passerine species that are protected by the MBTA occurs throughout the project sites. The sites provide nesting habitat for ground-nesting species as well as species that nest in riparian scrub habitat. The presence of large ironwood and palo verde trees within the BSA provides suitable nesting habitat for raptor species.

Additionally, northern harriers are ground nesters, and the existing tamarisk thickets and other dense habitats provide potential nesting habitat for this species. Project construction has the potential to result in both direct and indirect impacts on nesting birds. Direct impacts on nesting avian species include injury, mortality, loss of young, and nest failure. Indirect impacts include loss of foraging and nesting habitat for passerine and raptors species, increase in noise and human activities, and potential introduction of invasive or non-native species. Impacts on species protected by the MBTA would be potentially significant during project construction. However, implementation of Mitigation Measures BIO-2, BIO-4, BIO-5, and BIO-7a would reduce potential construction-related impacts on species protected by the MBTA to a level less than significant.

VEGA 5

As previously indicated, the project site was assessed for its ability to function as a wildlife corridor. The VEGA SES 5 BSA is located adjacent to areas containing existing disturbances (i.e., roads, railroad tracks, and active agricultural land). The majority of the project site does not contain suitable vegetation or cover to support wildlife movement and are nestled between agricultural and development; therefore, wildlife movement opportunities connecting the project site to large, undeveloped natural areas is limited. However, the existing riparian corridor could act as a potential corridor and nursey site for migrating wildlife species. Implementation of Mitigation Measures BIO-2, BIO-4, BIO-5, BIO-6b, and BIO-7b would reduce potential construction-related impacts on wildlife movement to a level less than significant.

Foraging habitat for a number of raptor species and breeding habitat for numerous passerine species that are protected by the MBTA occurs throughout the VEGA SES 5 BSA. The site provides nesting habitat for ground-nesting species as well as species that nest in creosote scrub and riparian scrub habitats. Due to the lack of large trees within the BSA, there is no suitable nesting habitat for tree-nesting raptor species. However, project construction has the potential to result in both direct and indirect impacts on nesting birds. Direct impacts on nesting avian species include injury, mortality, loss of young, and nest failure. Indirect impacts include loss of foraging and nesting habitat for passerine species, increase in noise and human activities, potential introduction of invasive/non-native species. Impacts on species protected by the MBTA would be potentially significant during project construction. However, implementation of Mitigation Measures BIO-2, BIO-4, BIO-5, and BIO-7b would reduce potential construction-related impacts on species protected by the MBTA to a level less than significant.

Operation

VEGA 2, 3, AND 5

Project operations would result in minimal, if any, disturbance to the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors and nursery sites. During ongoing operations, personnel would only visit the site as needed for maintenance. Following construction of the project, ground dwelling wildlife will continue to be able to move locally through the area using the surrounding agricultural lands, undeveloped lands, and margins of the irrigation canals. Operation impacts on wildlife movement would be considered less than significant.

Mitigation Measure(s)

No mitigation measures beyond Mitigation Measures BIO-2, BIO-4, BIO-5, BIO-6a, BIO-6b, BIO-7a, and BIO-7b are required.

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Significance After Mitigation

Project construction has the potential to directly interfere with the movement of native resident or migratory wildlife species, established native resident or migratory wildlife corridors, and impede the use of native wildlife nursery sites. However, implementation of Mitigation Measures BIO-2, BIO-4, BIO-5, BIO-6a, BIO-6b, BIO-7a, and BIO-7b would reduce potential construction-related impacts on wildlife movement and species protected by the MBTA to a level less than significant.

Impact 3.5-5 Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

VEGA 2, 3, AND 5

The proposed projects consist of the construction and operation of solar energy facilities and associated electrical transmission lines. Development of the solar facilities would be subject to the County's zoning ordinance.

The VEGA SES 2, 3, and 5 projects are located on seven privately owned legal parcels zoned Heavy Agriculture with a Renewable Energy Zone Overlay (A-3-RE), General Agriculture with a Renewable Energy Zone Overlay A-2-RE, and Open Space/Preservation with a Renewable Energy Zone Overlay (S-2-RE). Pursuant to Title 9, Division 5, Chapter 9, "Solar Energy Plants" and "Transmission lines, including supporting towers, poles microwave towers, utility substations" are uses that are permitted in the A-3 Zone, subject to approval of a CUP from Imperial County.

As demonstrated in Table 3.5-3 and discussed further in Section 3.11, Land Use Planning, with approval of a CUP and General Plan Amendment, the projects would be consistent with Imperial County General Plan, and with biological resources policies contained therein. Therefore, implementation of the proposed projects would not result in a significant impact associated with the projects' potential to conflict with local policies protecting biological resources.

Mitigation Measure(s)

No mitigation is required.

Impact 3.5-6 Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

VEGA 2, 3, AND 5

The VEGA SES 2, 3, and 5 project sites are not located in a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Implementation of the proposed projects would result in no impact associated with the potential to conflict with local conservation plans. No impact would occur.

Mitigation Measure(s)

No mitigation is required.

3.5.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

If at the end of the PPA term, no contract extension is available for a power purchaser, no other buyer of the energy emerges, or there is no further funding of the projects, the projects will be decommissioned and dismantled. Project decommissioning activities will require construction vehicles to drive across the solar facility, transmission line, and access roads. Concrete footings, foundations, and pads would be removed using heavy equipment and recycled at an off-site location. All remaining components would be removed, and all disturbed areas would be reclaimed and recontoured. Similar to project construction, decommissioning activities have the potential to directly impact special-status species, sensitive vegetation and habitats, aquatic resources, and wildlife habitat linkages. This is a potentially significant impact; however, implementation of Mitigation Measures BIO-1 through BIO-9 at the time of decommissioning would reduce potential impacts to a level less than significant.

Residual

With implementation of Mitigation Measures BIO-1 through BIO-9, the projects would not significantly impact state or federally protected wetlands, conflict with any local policies or ordinances protecting biological resources, or conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

With the implementation of Mitigation Measures BIO-1 through BIO-9, potential impacts on special-status species, sensitive vegetation and habitats, aquatic resources, and wildlife habitat linkages would be reduced to a level less than significant.

Therefore, the VEGA SES 2, 3, and 5 projects would not result in residual significant and unmitigable impacts related to biological resources.

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3.6 Cultural Resources

This section discusses cultural resources that may be potentially impacted by the proposed projects. The following identifies the existing cultural resources within the project sites, analyzes potential impacts of the proposed projects, and recommends mitigation measures to avoid or reduce potential impacts of the proposed projects.

Information for this section is summarized from the Archaeological and Built Environment Resources Inventory Report for the VEGA SES 2, 3, 5 Solar Energy Storage Projects prepared by ECORP Consulting, Inc. This report is included as Appendix G of this EIR. The cultural resources inventory included a records search, literature review, and field survey.

The Area of Potential Effects (APE), or project area, consists of the horizontal and vertical limits of a project and includes the area within which significant impacts to historical resources or historic properties could occur as a result of the project. The APE is defined for projects subject to regulations implementing Section 106 (federal law and regulations). For projects subject to CEQA and for the purposes of this EIR, the term “project area” is used rather than APE.

The horizontal limit of the project area includes areas proposed for construction, vegetation removal, grading, trenching, stockpiling, staging, and paving. The horizontal limit of the VEGA SES 2 and 3 project area measures approximately 1,553 acres. The horizontal limit of the VEGA SES 5 project area measures approximately 410 acres.

The vertical limit of the project area is described as the maximum depth below the surface to which excavations for project foundations and facilities will extend. Therefore, the vertical limit includes all subsurface areas where archaeological deposits could be affected. The subsurface vertical limit varies across the project, depending on the depth of the grading or trenching for installation of facilities. The Cultural Resources Inventory assumes it could extend as deep as 10 feet below the current surface; therefore, review of geologic and soils maps was necessary to determine the potential for buried archaeological sites that cannot be seen on the surface.

The vertical limit also is described as the maximum height of structures that could impact the physical integrity and integrity of setting of cultural resources, including districts and traditional cultural properties. The Archaeological and Built Environment Resources Inventory Report assumes the above-surface vertical limit is up to 7.5 feet above the surface, which his anticipated to be the maximum height of the solar arrays.

3.6.1 Existing Conditions

Cultural Setting

Regional Pre-contact History

EARLY HOLOCENE (10,000-6,500 BP) AND MIDDLE HOLOCENE (6,500-3,500 BP)

The Salton Trough area of the Colorado Desert has little archaeological material dating to the Early and Middle Holocene. The only indications of use of this area during this period of time consist of large bifacial dart points found on relic lake beds of Lake Cahuilla and on desert pavement. These include projectile point types common in the Mojave Desert such as Lake Mojave, Pinto, and Elko (Schaefer and Laylander 2007:249). The sparse occupation during the Middle Holocene may be

related to extremely arid climatic conditions and of the lack of water in the Salton Trough (absence of Lake Cahuilla). The Salton Sea Naval Test Base study (Apple et al. 1997) has produced evidence for Archaic occupation on the west side of the Salton Trough. Pinto and Elko series projectile points recovered during investigations at the Test Base yielded a date of 5,840 ±250 years BP (Apple et al. 1997). This data suggests that the desert area of southeastern California was not entirely abandoned during the Middle Holocene. While the population of the region was probably sparse, small bands of mobile people most likely moved among areas where water (at springs) and plant food resources were available (Appendix G of this EIR).

LATE ARCHAIC PERIOD (3,000 TO 1,300 BP)

A few temporary camps with living surfaces and hearths dating to the period 3,000 to 1,300 BP (Late Archaic Period) are located away from the lakebed in canyons and in the upper Coachella Valley above the maximum lake level. However, two temporary camps dating to the first millennium BC that contain fish and waterfowl bone in the Coachella Valley along the maximum Lake Cahuilla shoreline indicate there may have been a lake stand during this period ([Schaefer and Laylander 2007:249], [Appendix G of this EIR]).

LATE PERIOD (1,300 BP TO CONTACT)

Higher population and greater numbers of sites appear to correlate with the presence of Lake Cahuilla, which filled the Salton Trough when water flowed into the trough from the Colorado River. When water ceased to flow from the river, the lake dried, markedly reducing the availability of resources. When the lake was present, lacustrine resources such as fish, shellfish, and waterfowl were available. When the lake was absent, very few resources were available and human population was low. To the northwest, in the Coachella Valley, the intermittent Whitewater River entered Lake Cahuilla near Point Happy between what is now Indian Wells and Indio. Several late pre-contact archaeological sites have been investigated along the ancient Lake Cahuilla shoreline in this area. To the south, the entire Imperial Valley between East Mesa and West Mesa was underwater when Lake Cahuilla was present (Appendix G of this EIR).

During the Late Period, the northern part of the Salton Trough (northern Salton Sea area and the Coachella Valley) was occupied by ancestors of the Takic-speaking Cahuilla. They also occupied the adjacent Santa Rosa and San Jacinto mountains. Floral remains indicated use of these sites during all four seasons. These large multi-seasonal residential bases were likely occupied during the three Lake Cahuilla lake stands between AD 1200 and 1680 (Schaefer and Laylander 2007), along the ancient shorelines in the Coachella Valley. These sites also contain abundant fish bone, waterfowl bone, and shell from freshwater shellfish which indicate use of both lowland and upland resources. Typical artifacts at these sites include cottonwood and desert side-notched arrow points, buff ware ceramics, and late pre-contact marine shell beads (Warren 1984: 407).

The Colorado Desert area northeast of the Salton Trough, including the Chuckwalla Valley area, was probably used intermittently prior to AD 1200 by small groups of Yuman-speaking hunter-gatherers who had residential bases or villages along the Colorado River. These sites would consist of small temporary camps and lithic scatters. Ancestors of the Numic-speaking Chemehuevi moved into the southeastern Mojave Desert and northeastern Colorado Desert (including Chuckwalla Valley) on the west side of the Colorado River about AD 1200 (Sutton et al, 2007: 244). Because the Chemehuevi did not have access to the Colorado River Valley, which was still occupied by Yuman speakers, their use of the desert area was more intensive. Therefore, temporary camps used by ancestors of the Chemehuevi as well as lithic scatters, should be larger than those dating

prior to AD 1200. Pottery is present in some of the temporary camps and consists of either locally made brown ware or buff ware that was obtained through trade with the Colorado River groups.

The southern part of the Salton Trough was occupied by ancestors of the Yuman-speaking Tipai, Kumeyaay, or Kamia (Schaefer and Laylander 2007). This area included the Imperial Valley, the Yuha Desert, and the mountains to the west and east. The lower Colorado River area was occupied by ancestors of the Yuman-speaking Quechan. However, Late Prehistoric archaeological sites in this area belong to the Patayan. Patayan I begins about 1,300 BP and is indicated archaeologically by the presence of small arrow points and by the appearance of Black Mesa Buff and Colorado Beige ceramics along the Colorado River. Patayan ceramics first appeared about 1,200 BP on the east shore of Lake Cahuilla and were probably introduced by Yuman people from the Colorado River. Within other areas of the the southern Salton Trough, ceramics first appear about 1,000 BP at the beginning of Patayan II. Later Patayan II (AD 1000 – 1700) and III (AD 1700 – 1850) ceramics include Tumco Buff and Colorado Buff (Schaefer and Laylander 2007: 252).

Along the lower Colorado River, the Patayan settlement-subsistence system consisted of horticulture, hunting, and gathering in riparian habitats. People lived in multi-seasonal residential bases along the river. When Lake Cahuilla was present in the Salton Trough, they also occupied temporary camps for fishing, hunting, and gathering on the eastern shore of Lake Cahuilla. On the west side of the Salton Trough, the Patayan pattern consisted of a seasonal round among upland and lowland habitats. When Lake Cahuilla was present, seasonal residential bases and temporary camps were occupied on the western shore of Lake Cahuilla in order to obtain lacustrine resources including fish, shellfish, and waterfowl (Schaefer and Laylander 2007: 253).

Obsidian from the Obsidian Butte source on the southeast margin of the Salton Sea was used for making flaked-stone tools throughout southern California during the Late Period. However, obsidian from Obsidian Butte could only be obtained when lake levels were low, since it is at an elevation of -40 meters (130 feet) below sea level. It is possible that the Imperial Valley Yumans traded obsidian for food resources from other groups when lacustrine resources from Lake Cahuilla were not available. Exchange patterns are also indicated by the presence of numerous marine shell beads (made in the coastal Chumash area) in late pre-contact Takic-speaking Cahuilla sites, but not in Yuman-speaking areas (Schaefer and Laylander 2007: 253).

Ethnohistory

The Kumeyaay (also known as Ipai and Tipai) are the Yuman-speaking native people of central and southwestern Imperial County, central and southern San Diego County, and the northern Baja Peninsula in Mexico (Luomala 1978). The ancestral lands of the Kumeyaay extend north from Todos Santos Bay near Ensenada, Mexico to Agua Hedionda Lagoon in north San Diego County, and east to the Imperial Valley. Village locations were selected for seasonal use and were occupied by exogamous, patrilineal clans or bands. Kumeyaay lived in residential bases during the winter and subsisted on stored resources. No permanent houses were built. Brush shelters were temporary and were not reused the next year. Ceremonies, including rites of passage and ceremonies were held in the winter residential bases (Christenson 1990: 58, 62). The Kumeyaay were geographically and linguistically divided into western and eastern Kumeyaay (Chistenson 1990: 64). The western Kumeyaay lived along the coast and in the valleys along the drainages west of the mountains. The eastern Kumeyaay lived in the canyons and desert east of the mountains. The eastern and western Kumeyaay met in the mountains in the fall, where they gathered black oak acorns, traded, and held ceremonies ([Luomala 1978], [Appendix G of this EIR]).

Beginning in 1775, the seminomadic life of the Kumeyaay began to change as a result of contact with Euro-Americans, particularly from the influence of the Spanish missions. Through successive Spanish, Mexican, and Anglo-American control, the Kumeyaay were forced to adopt a sedentary lifestyle and accept Christianity (Luomala 1978).

Regional History

In September of 1771, Father Francisco Garcés followed the Gila River west to its confluence with the Colorado River, traveled south to the Laguna de Salada in Baja California, then turned northwest until he reached the southern end of Imperial Valley. Garcés and his party were the first Europeans to see the Salton Sink region. After his return to Mexico, Garcés talked of his discovery to Captain Juan Bautista de Anza, the commander of the Spanish presidio at Tubac, in what is now southern Arizona. Anza wrote to the Viceroy of Mexico, Antonio María Bucareli Ursúa, and received permission to mount an expedition to cross the Colorado River into California (Bannon 1974; Dowd 1960; Hoyt 1948; Pourade 1971).

The Anza expedition crossed the Colorado River near Yuma, entering the Colorado Desert. Rather than crossing or skirting the extensive sand dunes that lie west of Yuma, Anza followed the river south into Baja California, then turned north. After about three weeks of hardship, the expedition reached Imperial Valley west of the future site of Calexico. After crossing Borrego Valley and the Santa Rosa Mountains, Anza and his men reached Mission San Gabriel in Los Angeles on March 22, 1774, having become the first Europeans to cross the Colorado Desert and what would later be known as Imperial Valley ([Bannon 1974; Dowd 1960; Hoyt 1948; Pourade 1971], [Appendix G of this EIR]).

The first proposal to irrigate the Colorado Desert for agriculture came from Dr. Oliver M. Wozencraft after he saw Indians cultivating plots during an exploratory trip in May of 1849. Wozencraft secured the rights to 1,600 square miles of desert land in the Salton Sink from the California Legislature in 1859 with engineer Charles R. Rockwood directing operations. In 1891, the Colorado River Irrigation Company was formed. In 1896, Rockwood formed the California Development Company and Canadian capitalist George Chaffey, the founder of Ontario, California, provided funding and promotion for the company in 1900. By 1902, the Central Main Canal (Imperial Canal) had been built and water began flowing from the Colorado River just south of the U.S.-Mexico border, via the Alamo River, to the canal (Athens 2007a; Cory 1915; De Stanley 1966; Fitch 1961; Harris 1956-58; Kennan 1917; Nordland 1977; Simon 2007a)

Agricultural development of the sink as a result of irrigation and real estate promotion by Chaffey and the California Development Company exceeded expectations. The population of 2,000 in 1902 grew to 7,000 by 1903 and to more than 10,000 by 1904; and from little or no cultivation in 1900, agriculture in the Salton Sink grew to 120,000 acres under cultivation by January of 1905 (Fitch 1961; Kennan 1917). During the winter of 1904-1905, greater than usual rainfall in the watershed area of the Gila River caused a high rate of discharge into the Colorado River and resulted in the clogging of canal intake systems with a disproportionate amount of silt. After four floods, the Alamo River-Imperial Canal system overflowed, and the entire discharge of the Colorado River began to pour into the Salton Sink, creating the Salton Sea. Agricultural development resumed in Imperial Valley after the flooding of the Salton Sea was brought under control in early 1907 (Cory 1915; Duke 1974; Fitch 1961; Kennan 1917; Simon 2007b; Woerner 1989).

With the increasing acreage under irrigation and cultivation, and the Southern Pacific Railroad reaching southward all the way through Imperial and El Centro to Calexico, the population of

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Imperial Valley and the region surrounding it had grown to around 20,000 by 1907. After prominent Imperial Valley citizens petitioned for Imperial Valley to be separated from the County of San Diego, a vote was held on August 6, 1907; and on August 12, 1907, Imperial County was created (Farr 1918; Lusk 2007). Although Imperial was the first city to be established and incorporated in the region, El Centro was chosen by election to be the county seat later that year (Harris 1956-58; Lusk 2007).

The Imperial Irrigation District (IID) was established in July 1911 and was the largest irrigation district in the world at that time, covering an area of 817 square miles. In June 1916, the IID purchased the canal system built by the California Development Company. Today, the IID provides water for 6,471 square miles in Imperial Valley and is the most extensive irrigation district in the U.S. Agriculture, dairy farming, and cattle raising have been the economic staples of Imperial Valley since the early twentieth century. Although the Great Depression of the 1930s brought hardships to the area, it also brought many agricultural workers from the Oklahoma dust bowl who became permanent residents. The completion of Boulder (Hoover) Dam on the Colorado River in 1935, and the All-American Canal from the river to Imperial Valley in 1940, increased and secured the region's irrigation water supply, solidifying the Imperial Valley's economy (Athens 2007b; Hartshorn 1977; Simon 2007c).

Records Search

Records searches from the South Coastal Information Center (SCIC) of the CHRIS at San Diego State University were requested on November 6 and 16, 2020, to determine the extent of previous surveys within a 1-mile of the project area, and whether previously documented pre-contact or historic-period archaeological sites, architectural resources, or traditional cultural properties exist within project areas.

Previous Research

The results from the CHRIS records search revealed that 22 previous cultural resources investigations have been conducted within 1 mile of the project area between 1979 and 2016. Thirteen of those previous cultural resources investigations overlap the project area, and the records search indicates that portions of the project area have been previously surveyed as part of a cultural resources inventory. Though portions of the project areas were previously surveyed, these surveys took place more than 35 years ago for the VEGA SES 5 project site and over 5 years ago for the VEGA SES 2 and 3 project sites under obsolete standards. The length of time that has passed between the prior surveys and the present necessitated a resurvey of the project area.

Previously Recorded Resources

The CHRIS records search determined that 28 previously recorded cultural resources are located within 1 mile of the project area. Previously recorded resources comprise of dumps/trash scatters, trash scatter and foundation, a railroad, a canal, trash scatter and ceramic scatter (multi-component), lithic scatter, ceramic scatters, lithic and ceramic scatters, a village, and ceramic isolates on the VEGA SES 2 and 3 project area; as well as pre-contact resources consisting of lithic scatters, hearths, milling features, and cremation burials; and historic-period resources consisting of a railroad, refuse scatters, a canal, and the historic town site of Flowing Well on the VEGA SES 5 project area.

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Four previously recorded resources which include the Coachella Canal, a pre-contact seasonal camp, a precontact fishing village, and a historic GLO survey marker with a glass shard and a plate are located within the VEGA SES 2 and 3 project area; and three previously recorded resources which include historic refuse scatters and the historic period East Highline Canal are located within the VEGA SES 5 project area. Table 3.6-1 details all 28 previously recorded resources and the seven resources within the project area.

Table 3.6-1. Previously Recorded Cultural Resources Within 1-Mile of the Project Area

Primary and/or Site No.	Description	Within Project Area?
P-13- /CA-IMP-000137	Village - hearths, rock rings, cremations (some with ollas), lithics	No
P-13- /CA-IMP-000147	Village – house pits, milling, pumice, hearths, lithics, cremation, shell beads and pendants	Yes (VEGA SES 5)
P-13- /CA-IMP-003093	Isolate - Ceramic scatter	No
P-13- /CA-IMP-003094	Isolate - Ceramic	No
P-13- /CA-IMP-003095	Ceramic scatter	No
P-13- /CA-IMP-003096	Isolate - Ceramic	No
P-13- /CA-IMP-003097	Isolate - Ceramic	No
P-13-003424	Southern Pacific Railroad	No
P-13-004251	Ceramic scatter	No
P-13-004934	Seasonal camp – milling, hearths, ceramics. All surface artifacts collected; site destroyed	Yes (VEGA SES 2 and 5)
P-13-005485	Lithic scatter, ceramic scatter	No
P-13-005487	Trash dump/scatter, historic-period refuse scatter	Yes (VEGA SES 5)
P-13-005488	Trash dump/scatter	Yes (VEGA SES 5)
P-13-006525	Lithic scatter, ceramic scatter	No
P-13-006526	Lithic scatter, ceramic scatter	No
P-13-006527	Ceramic scatters, pendant	No
P-13-006528	Lithic scatter, ceramic scatter	No
P-13-007858	Coachella Canal	Yes (VEGA SES 2 and 3)
P-13-008333/ CA-IMP-007835	East Highline Canal	Yes (VEGA SES 5)
P-13-008347/ CA-IMP-007830	Trash scatter, ceramic scatter	No

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Table 3.6-1. Previously Recorded Cultural Resources Within 1-Mile of the Project Area

Primary and/or Site No.	Description	Within Project Area?
P-13-008735/ CA-IMP-008217	Trash dump, historic-period refuse scatter	Yes (VEGA SES 5)
P-13-009177/ CA-IMP-008425	Privies/dumps/trash scatters	No
P-13-011192/ CA-IMP-010187	Privies/dumps/trash scatters	No
P-13-011350/ CA-IMP-010246	Dump/trash scatters	No
P-13-011375/ CA-IMP-010315	Lithic scatter	No
P-13-011376/ CA-IMP-010316	Foundation, trash scatter	No
P-13-011377/ CA-IMP-010317	GLO survey marker, one glass shard, one plate	Yes (VEGA SES 2 and 5)
P-13-011945	None	No

Source: Appendix G of this EIR

The National Register Information System did not list any eligible or listed properties within the project sites or one-mile vicinity. Additionally, no resources were identified as listed as California Historical Landmarks and by the OHP. A search of the Caltrans Local Bridge Inventory online shows the bridge at Flowing Wells Road and East Highline Canal (Bridge 58C0189), was built in 1950. The bridge is within 1 mile of the VEGA SES 2 and 5 project area, but does not overlap with the project area. No historic bridges were identified within or around the VEGA SES 5 project area.

General Land Office

A search of historic GLO land patent records revealed one historic-period resource in the VEGA SES 2 and 3 project area (Appendix G of this EIR). The Southern Pacific Railroad was granted Sections 9, 15, and 17. No GLO Patent information was available for portions of VEGA SES 2 and 3 within Sections 8, 7, and 18. GLO land patent records for VEGA SES 5 also identified land patent records revealed the eastern half of Section 19 and all of Section 17 was granted to the Southern Pacific Railroad Company on June 30, 1905 under the authority of the 1866 Atlantic and Pacific Railroad Land Grant (14 Stat. 292), which allowed for federal lands to be granted to complete the disconnected portions of the Atlantic and Pacific Railroad across the U.S. from southern California to Tulsa, Oklahoma.

Field Survey

Pedestrian surveys were conducted between November 18, 2020, and January 26.

At the time of the survey, the survey areas consisted of broad alluvial fan crossed by the Coachella Canal as well as vacant desert with sparse vegetation to the north of the East Highline Canal, and disused agricultural land with moderately sparse to dense vegetation south of the canal. The pedestrian survey was conducted by walking north-south and east-west transects across all accessible portions of the property and examining both permeable and impermeable surfaces

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throughout. The survey areas are located to the south and west of the Chocolate Mountains Aerial Gunnery Range, and the only permanent structures or development that remains on the Project property are canal related. Overall, the visibility throughout open areas of the survey areas was good to excellent (approximately 70 to 100 percent). Visible soil is all native soils that are either periodically inundated, undisturbed, or disturbed by agricultural or vegetation removal activities within the Study Areas.

VEGA SES 2

Two previously recorded resources were revisited and updated as part of this study. Additionally, 146 newly identified archaeological and built-environment resources were found as a result of the field survey, which comprised three pre-contact sites, three pre-contact isolated finds, 49 historic sites, and 102 historic period isolated finds summarized in section 5.3.1 of the Archaeological and Built Environment Resources Inventory Report prepared for this project (Appendix G of this EIR).

VEGA SES 3

No previously recorded archaeological and built environment resources are located within the Vega 3 survey area. Additionally, 9 newly identified archaeological and built-environment resources were found as a result of the field survey, which includes five historic sites and four historic period isolated finds summarized in section 5.3.2 of the Archaeological and Built Environment Resources Inventory Report prepared for this project (Appendix G of this EIR).

VEGA SES 5

Seven previously recorded resources were revisited and updated as part of this study. Additionally, 16 newly identified archaeological and built-environment resources were found as a result of the field survey, which comprised one GLO survey marker, one community, six refuse scatters, and eight isolated finds summarized in Section 5.3.2 of the Archaeological and Built Environment Resources Inventory Report prepared for this project (Appendix G of this EIR).

Summary

As summarized above, the inventories of the Study Areas resulted in confirmation of seven previously recorded sites (P-13-147, P-13-7858, P-13-4934, P-13-11377, P-13-8333, P-13-5487, and P-13-8735), 48 newly identified historic-era sites, 3 newly identified pre-contact sites, 114 historic isolated finds, and 3 pre-contact isolated finds. Only three of these resources (P-13-147, P-13-7858, and P-13-8333) have been previously determined to be eligible for the NRHP and CRHR; the rest remain unevaluated. The isolated finds, however, are not in primary context or do not have the potential for subsurface deposits and could be evaluated using survey level data alone, as follows.

One hundred seventeen newly identified isolated finds were recorded during the archaeological and built environment resources survey, including three pre-contact isolates and 114 historic-period isolates. Isolates are unassociated artifacts or minor features that represent either accidental inclusion or are otherwise disconnected from the human activity that produced them. Isolates typically do not individually contribute to the broad patterns of history because they cannot be connected to a particular event (NRHP Criterion A/CRHR Criterion 1). Isolates are similarly difficult to associate with specific individuals due to their lack of association with archaeological or historical sites, and generally no information exists in the archival record to associate isolates with important individuals in history (NRHP Criterion B/CRHR Criterion2). Isolates do not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or

possess high artistic values (NRHP Criterion C/CRHR Criterion 3). Finally, isolates in general do not provide important information in history or prehistory (NRHP Criterion D/CRHR Criterion 4). Therefore, the 116 isolates identified during the technical study do not meet the eligibility criteria for inclusion in the NRHP or CRHR as an individual resource. These isolated finds do not contribute to any known or suspected historic districts; and are neither considered to be Historic Properties for the purpose of Section 106 NHPA, nor Historical Resources under CEQA.

The 117 isolated finds identified during the survey are not individually eligible for the CRHR or the NRHP based on the criteria discussed above. However, a detailed evaluation of the other resources (sites) identified during the survey may lead to the conclusion that many or all of the isolated finds are constituents of a historic district based on the density and association of the isolated finds.

With the exception of resources P-13-147, P-13-7858, and P-13-8333, no other resources have been evaluated using NRHP and CRHR eligibility criteria, and therefore, it is not currently known whether any of these are considered Historical Resources under CEQA or Historic Properties under Section 106 NHPA (if applicable). If sites are not presumed eligible, then the process of evaluation requires a combination of archival research and archaeological excavation. If found to be eligible for the NRHP or CRHR, a determination would next need to be made about whether the Project would have a significant effect on the qualities that made them significant.

3.6.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the project.

Federal

National Historic Preservation Act

Federal regulations (36 CFR Part 800.2) define historic properties as "any prehistoric or historic district, site, building, structure, or object included, or eligible for inclusion in, in the National Register of Historic Places." Section 106 of the National Historic Preservation Act (NHPA) (Public Law 89-665; 80 Stat 915; USC 470, as amended) requires a federal agency with jurisdiction over a project to take into account the effect of the project on properties included in or eligible for the (NRHP, and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. The term "cultural resource" is used to denote a historic or prehistoric district, site, building, structure, or object, regardless of whether it is eligible for the NRHP.

State

California Office of Historic Preservation

The California Office of Historic Preservation (OHP) administers state and federal historic preservation programs and provides technical assistance to federal, state, and local government agencies, organizations, and the general public with regard to historic preservation programs designed to identify, evaluate, register, and protect California's historic resources.

Section 15064.5 of the CEQA Guidelines also requires that Native American concerns and the concerns of other interested persons and corporate entities, including but not limited to museums, historical commissions, associations, and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and

associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains (HSC Section 7050.5, PRC Sections 5097.94 et seq.).

CEQA Guidelines: Historical Resources Definition

CEQA Guidelines Section 15064.5(a) defines a historical resource as:

(1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR (PRC Section 5024.1; Title 14 CCR, Section 4850 et seq.).

(2) A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

(3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (PRC Section 5024.1; Title 14 CCR, Section 4852) including the following:

(A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Is associated with the lives of persons important to our past;

(C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(D) Has yielded, or may be likely to yield, information important in prehistory or history.[1]

(4) The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code Sections 5020.1(j) or 5024.1.

CEQA Guidelines: Archaeological Resources

Section 15064.5(c) of CEQA Guidelines provides specific guidance on the treatment of archaeological resources as noted below.

(1) When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subdivision (a).

[1] Ibid.

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(2) If a lead agency determines that the archaeological site is an historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.

(3) If an archaeological site does not meet the criteria defined in subdivision (a), but does meet the definition of a unique archeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of Section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c–f) do not apply to surveys and site evaluation activities intended to determine whether the project location contains unique archaeological resources.

(4) If an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

CEQA Guidelines: Human Remains

Section 15064.5 of CEQA Guidelines provides specific guidance on the treatment of human remains pursuant to PRC § 5097.98, which provides specific guidance on the disposition of Native American burials (human remains), and fall within the jurisdiction of the NAHC:

(d) When an initial study identifies the existence of, or the probable likelihood, of Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the NAHC as provided in Public Resources Code Section 5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the NAHC. Action implementing such an agreement is exempt from:

(1) The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (HSC Section 7050.5).

(2) The requirements of CEQA and the Coastal Act.

(e) In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:

(1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

(A) The coroner or the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and

(B) If the coroner determines the remains to be Native American:

1. The coroner shall contact the NAHC within 24 hours.
2. The NAHC shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
3. The mostly descendent may make recommendations to the landowner of the person responsible for the excavation work, for means of treating or disposing of,

with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code section 5097.98, or

(2) Where the following conclusions occur the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

(A) The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.

(B) The descendant fails to make a recommendation; or

(C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

(f) As part of the objectives, criteria, and procedures required by Section 21082 of the Public Resources Code, a lead agency should make provisions for historical or unique archaeological resources accidentally discovered during construction. These provisions should include an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place."

California Health and Safety Code, Section 7050.5

California HSC 7050.5 makes it a misdemeanor to disturb or remove human remains found outside a cemetery. This code also requires a project owner to halt construction if human remains are discovered and to contact the County Coroner.

Local

Imperial County General Plan

The Imperial County General Plan provides goals, objectives, and policies for the identification and protection of significant cultural resources. The Conservation and Open Space Element of the General Plan includes goals, objectives, and policies for the protection of cultural resources and scientific sites that emphasize identification, documentation, and protection of cultural resources. While Section 3.11 Land Use Planning, of this EIR analyzes the project's consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors and Planning Commission ultimately make a determination as to the project's consistency with the General Plan. Goals and Objectives applicable to the proposed projects are summarized in Table 3.6-2.

Table 3.6-2. Project Consistency with Applicable General Plan Goals and Objectives

General Plan Policies	Consistency with General Plan	Analysis
Conservation and Open Space Element - *Open Space and Recreation Conservation* **Goal 1** - Environmental resources shall be conserved for future generations by minimizing environmental impacts in all land use decisions and educating the public on their value. **Objective 1.4** - Ensure the conservation and management of the County's natural and cultural resources.	Consistent	As discussed in Section 3.6.3 below, the proposed projects have the potential to encounter undocumented historical, archaeological resources, and human remains. Implementation of Mitigation Measures CR-1 through CR-4 would reduce potentially significant impacts on unknown cultural and archaeological materials to a less than significant level during construction. Implementation of Mitigation Measure CR-5 would reduce potential impacts on human remains to a level less than significant.
Objective 3.1 - Protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.	Consistent	

Source: County of Imperial 1993
Notes:
CR=cultural resource

3.6.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering proposed project impacts related to cultural and archeological resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to cultural resources are considered significant if any of the following occur:

- Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5
- Disturb any human remains, including those interred outside of dedicated cemeteries

Methodology

This analysis evaluates the potential for the proposed projects, as described in Chapter 2, Project Description, to interact with cultural resources within the project area. Based on the extent of these interactions, this analysis considers whether these conditions would result in an exceedance of one or more of the applied significance criteria as identified above.

As indicated in the environmental setting, the Archaeological and Built Environment Resources Inventory Report prepared for this project (Appendix G of this EIR). were prepared for the projects. The cultural resources inventories provide the results of a SCIC records search and field surveys which have been completed for the project area pursuant to CEQA.

The information from the cultural resources inventory was reviewed and summarized to present the existing conditions and to identify potential environmental impacts, based on the significance criteria presented in this section. Impacts associated with cultural resources that could result from project construction and operational activities were evaluated qualitatively based on site conditions; expected construction practices; materials, locations, and duration of project construction and related activities.

Impact Analysis

Impact 3.6-1 Would the project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section §15064.5?

Section 15064.5 of the CEQA Guidelines defines a historical resource as one that meets one or more of the following criteria:

- Is listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR; or
- Is included in a local register of historical resources or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code; or
- Is determined to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

Of the 168 resources within the VEGA SES 2 and 5 project area, the pre-contact fishing village (P-13-147) (discussed below under Impact 3.6-2), Old Coachella Canal (P-13-7858) and East Highline Canal (P-13-8333) have been previously evaluated for potential eligibility for listing in the NRHP and CRHR.

~~**PRE-CONTACT FISHING VILLAGE: P-13-147**~~

~~Resource P-13-147 was originally recorded prior to 1960 as a fishing village on the relict shoreline of Lake Cahuilla. The original record notes the presence of manos and metates, hearths, modified pumice, arrowheads, shell beads and pendants, ceramics, and two cremations with associated goods. In 1981, this site was recommended as eligible for inclusion in the NRHP.~~

~~During the current survey, the site description appears to be accurate, though portions of the site have eroded. A modern vehicle trail cuts through the site from Siphon 5 Wash heading north. Historic and modern refuse is visible in scattered areas. Portions of the site may have been destroyed as a result of gravel operations. Although mentioned in original site records, no pendants or cremations were seen during the revisit. Two possible house pits were observed and recorded as well. Hearths/thermal features, groundstone, flakedstone, ceramics (sherds), faunal remains (fish and mammal) were observed and recorded during the survey. The majority of resources observed were located closer to the 40-foot elevation shoreline of Lake Cahuilla, which has partially been removed during gravel operations.~~

EAST HIGHLINE CANAL: P-13-8333

This historic-period earthen canal, built in 1914, runs a length of 45 miles from the Alamo River to just north of Niland, and a portion of it runs diagonally through the VEGA SES 5 project area. It was originally recorded in 1998 and multiple segments have been recorded multiple times since that time. It was incorporated into the All American Canal System in the 1940s, and in 2016 it was evaluated as eligible for the NRHP/CRHR under Criterion A/1 for association with the theme of Development of Irrigated Agriculture in the Imperial Valley, 1900-1942 and under NRHP and CRHR Criterion C/3 as an example of early engineering design of canal systems in Imperial County, at the local level. The Canal was assigned a period of significance of 1914 (when the canal was constructed) to 1942.

During the current inventory, the canal segment within the VEGA SES 5 project area was observed to be in similar condition to past descriptions of other portions of the canal. It is earthen, approximately 60 feet across, and lined with shallow vegetation on either side. It is currently functional and appears to be in good condition and subject to regular maintenance.

OLD COACHELLA CANAL: P-13-7858

This resource was originally recorded in 1997 by ASM Affiliates and is a branch of the All-American Canal, referred to as the Old Coachella Canal. It was replaced by the (new) Coachella Canal in 1980. In a 2014 site record update, Steven Brann and Dan Broockman of Cardno TEC recommended a portion of this resource as eligible for the NRHP.

During the current survey, the portions of this resource within the current project area was revisited and found to be in the same condition as in previous updates. Modern refuse and debris are present within the old canal. Overall construction does not appear to have been affected.

Neither the East Highline Canal (P-13-8333) or the Old Coachella Canal (P-13-7858) will be impacted by project construction. There were no new built environment resources recorded during field investigations. Implementation of the project would result in no adverse change in significance of a historical resources. A less that significant impact to historical resources is expected. No mitigation would be required.

Impact 3.6-2 Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

As identified in Section 3.6.1, there are 168 cultural resources within the project area identified during the sacred lands, Native American outreach, cultural resources records search, archival research, and intensive pedestrian survey. These resources are described in the Archaeological and Built Environment Resources Inventory Report prepared for this project (Appendix G of this EIR). This includes 48 historic-period archaeological sites (the majority of which are described as trash scatters), 3 pre-contact archaeological sites, and 117 isolated finds. There are 51 sites that have not been evaluated for the National Register of Historic Places or the California Register of Historical Resources under any criteria. The 117 isolated finds by their nature are not considered eligible for either the NHRP or CRHR. Table 3.6-3, Table 3.6-4, and Table 3.6-5 identify the archaeology and built environment resources located within the VEGA 2, VEGA 3, and VEGA 5 sites, respectively. While the majority of resources are likely not significant/eligible for NRHP/CRHR, it assumed that all sites are significant, and Mitigation Measures CR-1 through CR-4 are required in order to reduce potential impacts to a level less than significant.

Table 3.6-3. Archaeological and Built Environment Resources Within the VEGA 2[1]

Field Number 2020-*	Primary Number P-13-	Age/Period	Site Description	NRHP/CRHR Eligibility
-	147	Pre-contact	Village – house pits, milling, pumice, hearths, lithics, cremation, shell beads and pendants	Recommended eligible for NRHP (von Werlhof 1981:14)
-	4934	Pre-contact	Seasonal camp – milling, hearths, ceramics. All surface artifacts collected; site destroyed by gravel operations.	To be determined
144-01	-	Historic	GLO survey marker	To be determined
144-04	-	Pre-contact	Ceramic and lithic scatter	To be determined
144-19	-	Historic	Trash scatter	To be determined
144-20	-	Pre-contact	Lithic scatter	To be determined
199-03	-	Pre-contact	Lithic scatter	To be determined
199-12	-	Historic	.50 BMG cartridge case	To be determined
199-15		Historic	.30-06 cartridge case	To be determined
199-17	-	Historic	Levee	To be determined
199-18	-	Historic	GLO survey marker	To be determined
199-19	-	Historic	GLO survey marker	To be determined
199-22	-	Historic	Trash scatter	To be determined
199-28	-	Historic	Trash scatter	To be determined
199-29	-	Historic	Trash scatter	To be determined
199-32	-	Historic	Trash scatter	To be determined
209-01	-	Historic	GLO survey marker	To be determined
209-07	-	Historic	GLO survey marker and glass jar	To be determined
209-18	-	Historic	Trash scatter	To be determined
209-24	-	Historic	Trash scatter	To be determined
209-25	-	Historic	GLO survey marker	To be determined
209-30	-	Historic	Trash scatter	To be determined
209-32	-	Historic	Trash scatter	To be determined

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Table 3.6-3. Archaeological and Built Environment Resources Within the VEGA 2[1]

Field Number 2020-*	Primary Number P-13-	Age/Period	Site Description	NRHP/CRHR Eligibility
209-36	-	Historic	GLO survey marker	To be determined
209-39	-	Historic	Trash scatter	To be determined
209-40	-	Historic	GLO survey marker	To be determined
209-41	-	Historic	Trash scatter	To be determined
209-46	-	Historic	Trash scatter	To be determined
209-51	-	Historic	Trash scatter	To be determined
209-53	-	Historic	Trash scatter	To be determined
209-55	-	Historic	Trash scatter	To be determined
209-62	-	Historic	Trash scatter	To be determined
209-64	-	Historic	Trash scatter	To be determined
209-65	-	Historic	Trash scatter	To be determined
209-88	-	Historic	Trash scatter	To be determined
209-91	-	Historic	Trash scatter	To be determined
209-93	-	Historic	Trash scatter	To be determined
209-95	-	Historic	Trash scatter	To be determined
209-96	-	Historic	Road	To be determined
209-99	-	Historic	Trash scatter	To be determined
209-101	-	Historic	Trash scatter	To be determined
209-103	-	Historic	Trash scatter	To be determined

Notes:

[1] *Does not include resources determined to be not eligible as identified on Table 7 of the Archaeological and Built Environment Resources Inventory Report (Appendix G of this EIR).*

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Table 3.6-4. Archaeological and Built Environment Resources Within the VEGA 3 Site[1]

Field Number 2020-*	Primary Number P-13-	Age/Period	Site Description	NRHP/CRHR Eligibility
199-05	-	Historic	Two military fighting positions and associated refuse	Not evaluated
199-07	-	Historic	Transmission line foundation	Not evaluated
199-10	-	Historic	Circular depression and metal refuse scatter	Not evaluated
199-11	-	Historic	Section marker	Not evaluated
199-17	-	Historic	Earthen levee	Not evaluated

Notes:

1 Does not include resources determined to be not eligible as identified on Table 8 of the Archaeological and Built Environment Resources Inventory Report (Appendix G of this EIR).

Table 3.6-5. Archaeological and Built Environment Resources Within the VEGA 5 Site[1]

Field Number 2020-*	Primary Number P-13-	Age/Period	Site Description	NRHP/CRHR Eligibility
-	147	Pre-contact	Village – house pits, milling, pumice, hearths, lithics, cremation, shell beads and pendants	Recommended eligible for NRHP (von Werlhof 1981:14)
-	4934	Pre-contact	Seasonal camp	Not evaluated
-	5487	Historic	Refuse scatter	Not evaluated
-	5488	Historic	Refuse scatter	Not evaluated
-	8333	Historic	East Highline Canal	Not evaluated
-	8735	Historic	Refuse scatter	Not evaluated
-	11377	Historic	GLO survey marker, one glass shard, one plate	To be determined
144-V5-01	-	Historic	GLO survey marker	Not evaluated
144-V5-02	-	Historic	Refuse scatter	Not evaluated
144-V5-07	-	Historic	Refuse scatter	Not evaluated
144-V5-08	-	Historic	Refuse scatter	Not evaluated
144-V5-09	-	Historic	Noffsinger Road	Not evaluated
144-11	-	Historic	Refuse scatter	Not evaluated
144-12	-	Historic	Refuse scatter	Not evaluated
144-14	-	Historic	Refuse scatter	Not evaluated

Notes:

1 Does not include resources determined to be not eligible as identified on Table 9 of the Archaeological and Built Environment Resources Inventory Report (Appendix G of this EIR).

PRE-CONTACT FISHING VILLAGE: P-13-147

Resource P-13-147 was originally recorded prior to 1960 as a fishing village on the relict shoreline of Lake Cahuilla. The original record notes the presence of manos and metates, hearths, modified pumice, arrowheads, shell beads and pendants, ceramics, and two cremations with associated goods. In 1981, this site was recommended as eligible for inclusion in the NRHP.

During the current survey, the site description appears to be accurate, though portions of the site have eroded. A modern vehicle trail cuts through the site from Siphon 5 Wash heading north. Historic and modern refuse is visible in scattered areas. Portions of the site may have been destroyed as a result of gravel operations. Although mentioned in original site records, no pendants or cremations were seen during the revisit. Two possible house pits were observed and recorded as well. Hearths/thermal features, groundstone, flakedstone, ceramics (sherds), faunal remains (fish and mammal) were observed and recorded during the survey. The majority of resources observed were located closer to the 40-foot elevation shoreline of Lake Cahuilla, which has partially been removed during gravel operations.

Construction activities associated with the project as planned will include ground disturbing actions that would impact unevaluated archaeological resources within the project area. In addition, ground disturbing activities have the potential to disturb previously undocumented resources that could qualify as significant archaeological resources pursuant to CEQA. The potential impact is considered significant. Implementation of Mitigation Measures CR-1 through CR-4 would reduce the potential impact to less than significant.

Mitigation Measure(s)

CR-1 Cultural Resources Management Plan

Project proponent will develop a cultural resources management plan (CRMP) to outline the process for compliance with applicable cultural resources laws, management of resources during operation, and consideration of the effect of decommissioning.~~, t~~ The CRMP ~~should~~ shall include the following: identification of California Native American tribes, identification of long and short term management goals for cultural resources within the project area, evaluation of eligibility for the CRHR and NRHP for all resources within the project area as identified on EIR Tables 3.6-4, 3.6-5 and 3.6-6, recommendations for eligibility for the CRHR and NRHP, description of measures to avoid, minimize, ~~or~~ and reduce significant impacts to cultural ~~historical~~ resources (including both historical and archaeological resources)~~and historic properties~~, unanticipated discovery procedures, monitoring needs, data recovery of significant cultural resources where avoidance is not possible, curation procedures for recovered artifacts, anticipated personnel requirements and qualifications. The CRMP shall specifically address pre-contact fishing village site Resource P-13-147 and all resources identified in EIR Tables 3.6-3, 3.6-4 and 3.6-5. The draft CRMP ~~should~~ shall be prepared by a registered professional archaeologist and reviewed and approved by the County of Imperial Planning and Development Services Department.~~lead agency.~~

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CR-2 Cultural Resources Training

Project proponent will provide cultural resources training for all project personnel regarding the laws protecting cultural resources, appropriate conduct in the field, and other project-specific issues identified in the CRMP prepared for each site as required by Mitigation Measure CR-1.

CR-3 Construction Monitoring

A qualified Archaeologist shall be present on site for ground disturbing activities within 100-feet of all unevaluated or sites eligible for inclusion to the NRHP or CRHR. Ground disturbing activities include grubbing, trenching, and grading. Monitoring will be limited to natural surfaces and undisturbed sediments. Monitoring is not required for previously disturbed areas or fill. Monitors will complete daily monitoring reports documenting activities and results of the day. After construction activities have finished a comprehensive monitoring report shall be prepared.

CR-4 Unanticipated Discovery Procedures

In the event of the discovery of previously unidentified archaeological materials, the contractor shall immediately cease all work activities within approximately 100 feet of the discovery. After cessation of excavation, the contractor shall immediately contact the Imperial County Department of Planning and Development Services. Except in the case of cultural items that fall within the scope of the Native American Grave Protection and Repatriation Act, the discovery of any cultural resource within the project area shall not be grounds for a “stop work” notice or otherwise interfere with the project’s continuation except as set forth in this paragraph.

In the event of an unanticipated discovery of archaeological materials during construction, the applicant shall retain the services of a qualified professional archaeologist, meeting the Secretary of the Interior’s Standards for a Qualified Archaeologist, to evaluate the significance of the materials prior to resuming any construction related activities in the vicinity of the find. If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA and it cannot be avoided, the applicant shall implement an archaeological data recovery program.

Impact 3.6-3 Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

During the construction and operational phases of the proposed projects, grading, excavation and trenching will be required. Although the potential for encountering subsurface human remains within the project sites are low, there remains a possibility that human remains are present beneath the ground surface, and that such remains could be exposed during construction activities. The potential to encounter human remains is considered a significant impact. Implementation of Mitigation Measure CR-5 would ensure that the potential impact on previously unknown human remains does not rise to the level of significance pursuant to CEQA. A less than significant impact with implementation of mitigation is expected.

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Mitigation Measure(s)

CR-5 **Discovery of Human Remains**

If subsurface deposits believed to be human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist who meets the Secretary of the Interior's Standards for prehistoric and historic archaeology and is familiar with the resources of the region, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the find includes human remains, or remains that are potentially human, the professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Imperial County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented.
- If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC may mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the Imperial County Planning and Development Services Department, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

3.6.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

No impact is anticipated from restoration activities as the ground disturbance and associated impacts on cultural resources will have occurred during the construction phase of the proposed projects.

Residual

Implementation of Mitigation Measures CR-1 through CR-4 would reduce potentially significant impacts on unknown cultural and archaeological materials to a less than significant level during construction. Implementation of Mitigation Measure CR-5 would reduce potential impacts on human remains to a level less than significant. No unmitigable impacts on cultural resources would occur with implementation of the proposed projects.

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3.7 Geology and Soils

This section includes an evaluation of the projects in relation to existing geologic and soils conditions within the project sites. Information contained in this section is summarized from the Preliminary Geological and Geotechnical Hazard Evaluation Report prepared by HDR. This report is included as Appendix H of this EIR.

3.7.1 Existing Conditions

Regional Geology

The project sites are located in Imperial County in the Salton Trough portion of the Colorado Desert physiographic province. The Salton Trough is a topographic and geologic structural depression resulting from large scale regional faulting. The trough is bounded on the east and northeast by the San Andreas Fault and of the west by the San Jacinto Fault Zone. The Salton Trough represents the northward extension of the Gulf of California, and contains more than 15,000 feet of Miocene and younger, marine and non-marine sediments capped by approximately 100 feet of Pleistocene and later lacustrine deposits as a result of intermittent filling derived from periodic flooding of the Colorado River and Lake Cahuilla (Appendix H of this EIR). Tectonic activity that formed the trough continues at a high rate as evidenced by deformed young sedimentary deposits and high levels of seismicity.

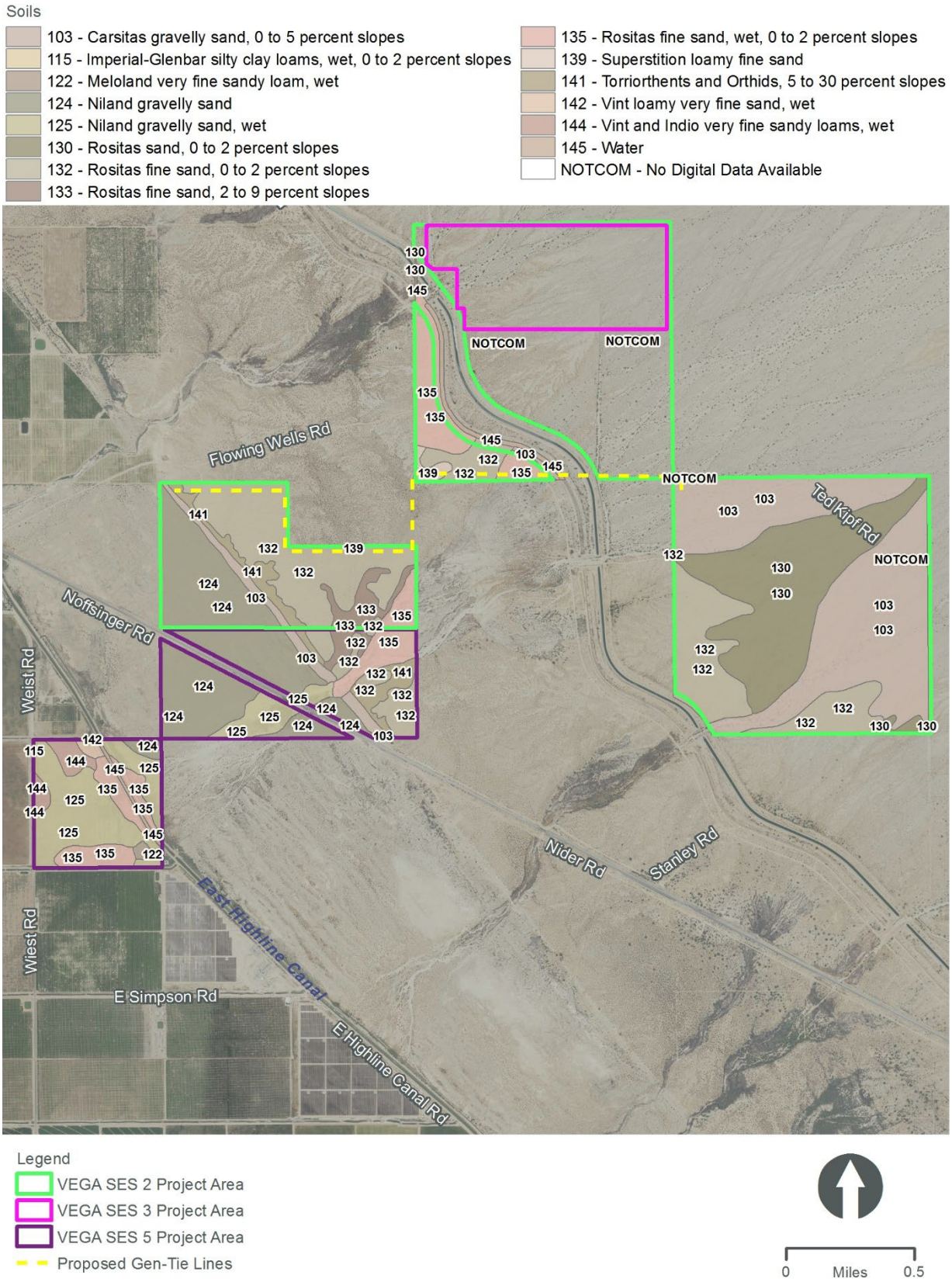
The geologic conditions present within the County contribute to a wide variety of hazards that can result in loss of life, bodily injury, and property damage. Fault displacement is the principal geologic hazard affecting public safety in Imperial County. The primary seismic hazard at the project sites is the potential for strong ground shaking. The project sites are located within a highly active seismic zone. The nearest active major fault that poses a risk contribution of greater than 1 percent is the Brawley Fault Zone, located approximately 13.1 miles (21 kilometers) west of the project sites (Appendix H of this EIR).

Surface Subgrade Soils and Groundwater Conditions

The project sites are generally underlain by stratified alluvial deposits, predominately consisting of interbedded layers of silt, sand, and clay. The near-surface soils are predominantly comprised of very fine to fine sand and occasionally gravelly sand (Appendix H of this EIR). As shown on Figure 3.7-1, soil series mapped on the project sites include:

- 103 – Carsitas gravelly sand, 0 to 5 percent slopes;
- 115 – Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes;
- 122 – Meloland very fine sand loam, wet;
- 124 – Nilan gravelly sand;
- 125 – Niland gravelly sand, wet;
- 130 – Rositas sand, 0 to 2 percent slopes;
- 132 – Rositas fine sand, 0 to 2 percent slopes;

Figure 3.7-1. Soils Mapped on the Project Sites



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- 133 - Rositas fine sand, 2 to 9 percent slopes;
- 135 – Rositas fine sand, wet, 0 to 3 percent slopes;
- 139 – Superstition loamy fine sand;
- 141 – Torriorthents and Orthids, 5 to 30 percent slopes;
- 142 – Vint loamy very fine sand, wet;
- 144 – Vint and Indio very fine sandy loams, wet; and
- 145 – Water.

There is one known groundwater well (Well No. 11S15E23M001S) within a one-mile radius of the VEGA SES 2 Project site (less than a mile south of APN 025-270-023). Groundwater at this well measured at 50 feet below ground surface level in March 2020; however, seasonal fluctuations of shallow groundwater should be expected during periods of rainfall, irrigation of adjacent properties, and site grading (Appendix H of this EIR).

Faulting and Seismicity

Earthquakes are the result of an abrupt release of energy stored in the earth. This energy is generated from the forces which cause the continents to change their relative position on the earth's surface, a process called “continental drift.” The earth’s outer shell is composed of a number of relatively rigid plates that move slowly over the comparatively fluid molten layer below. The boundaries between plates are where the more active geologic processes take place. Earthquakes are an incidental product of these processes.

Southern California straddles the boundary between two global tectonic plates known as the North American Plate (on the east) and the Pacific Plate (on the west). The main plate boundary is represented by the San Andreas Fault, which extends northwest from the Gulf of California in Mexico, through the desert region of the Imperial Valley, through the San Bernardino region, and into Northern California, where it eventually trends offshore, north of San Francisco (Appendix H of this EIR).

In Southern California, the plate boundary is a complex system of numerous faults known as the San Andreas Fault System that spans a 150-mile-wide zone from the main San Andreas Fault in the Imperial Valley westward to offshore of San Diego (Appendix H of this EIR).

The project sites are located in the seismically active Southern California region, with numerous mapped faults traversing the region including the San Andreas, San Jacinto, and Elsinore Fault Zones. Under the current understanding of regional seismology and tectonics, the largest maximum earthquake to impact the project sites would most likely be generated by the Brawley Seismic Zone, which has an estimated maximum magnitude (M) of 7.4. Table 3.7-1 lists faults with a risk contribution greater than 1 percent (Appendix H of this EIR). Figure 3.7-2 identifies faults within the project region.

Table 3.7-1. Faults with a Risk Contribution of Greater than One Percent

Fault Name	Approximate Distance from Project Site (km)	Maximum Magnitude (M)
Brawley Seismic Zone	21.0	7.4
Elmore Ranch	21.6	6.5

Source: Appendix H of this EIR
Notes:
km=kilometers; M=maximum magnitude

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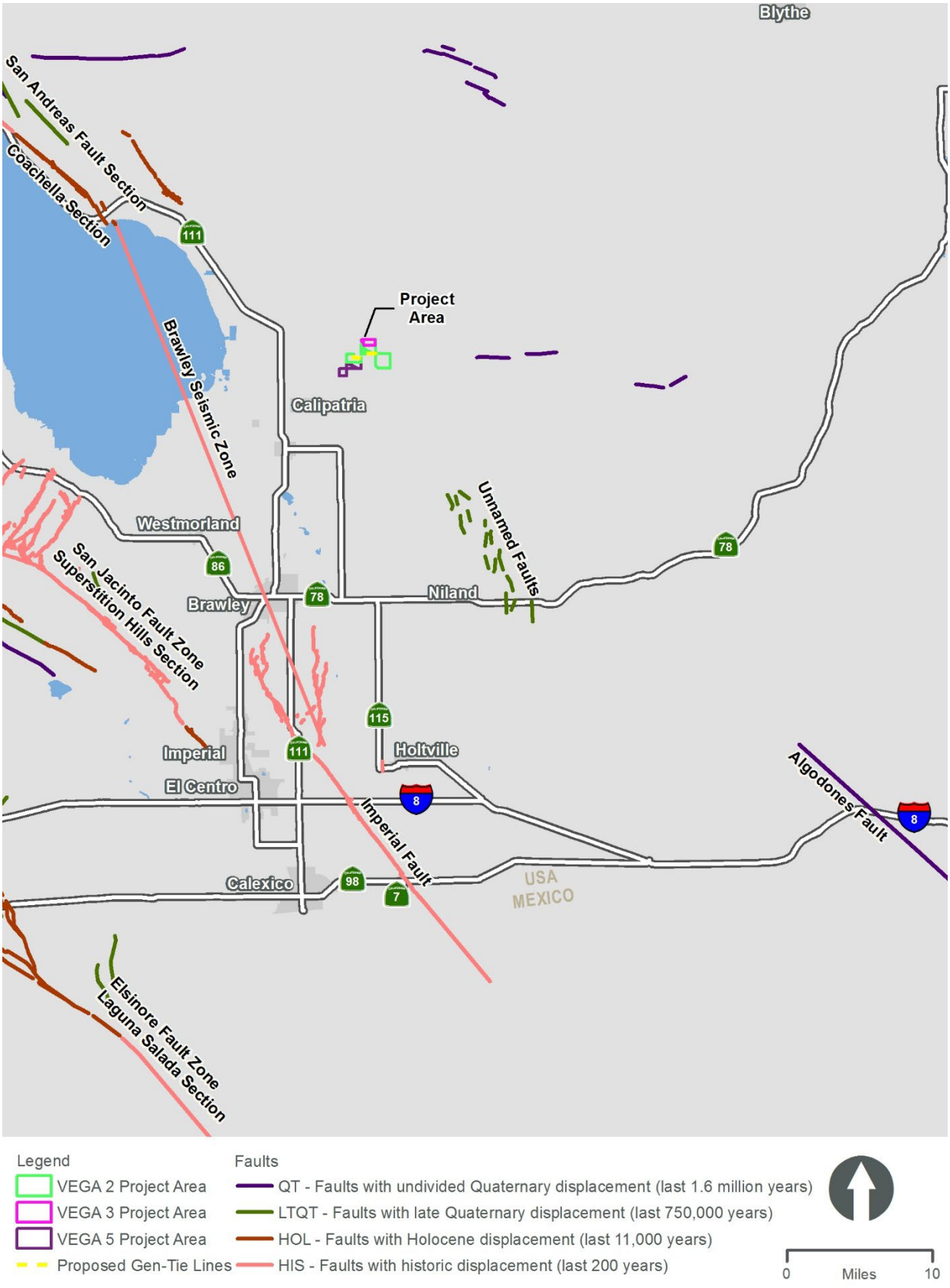
Figure 3.7-2. Regional Fault Map



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Seismic Ground Shaking

Ground shaking is the byproduct of an earthquake and is the energy created as rocks break and slip along a fault during an earthquake. The amount of ground shaking that an area may be subject to during an earthquake is related to the proximity of the area to the fault, the depth of the hypocenter (focal depth), location of the epicenter and the size (magnitude) of the earthquake. Soil type also plays a role in the intensity of shaking. Bedrock or other dense or consolidated materials are less prone to intense ground shaking than soils formed from alluvial deposition.

As the project sites are located in the seismically active Southern California region, strong ground shaking can be expected at the project sites during moderate to severe earthquakes in the general region.

Surface Rupture

Surface rupture occurs when movement along a fault results in actual cracking or breaking of the ground along a fault during an earthquake; however, it is important to note that not all earthquakes result in surface rupture. Surface rupture almost always follows preexisting fault traces, which are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Fault creep is the slow rupture of the earth's crust. Sudden displacements are more damaging to structures because they are accompanied by shaking.

The California Geologic Survey (CGS) established criteria for faults as active, potentially active, and inactive. Active faults are those that show evidence of surface displacement within the last 11,000 years (Holocene age). Potentially active faults are those that demonstrate displacement within the past 1.6 million years (Quaternary age). Faults showing no evidence of displacement within the last 1.6 million years may be, in general, considered inactive for most structures, except for critical structures (Appendix H of this EIR).

In 1972 the Alquist-Priolo Special Studies Earthquake Hazards Act (APEHA) was passed, which required fault studies within 500 feet of active or potentially active faults. The APEHA designates "active" and "potentially active" faults utilizing the same age criteria as that used by the CGS. The project sites are not located within a currently mapped APEHA zone. As previously mentioned above, the nearest active earthquake fault zone likely to impact the project sites is the Brawley Fault Zone, located approximately 21 miles west of the project sites (Appendix H of this EIR). Based on this distance, the potential for surface fault rupture to occur on the project sites is considered low.

Liquefaction

Liquefaction occurs when granular soil below the water table is subjected to vibratory motions, such as those produced by earthquakes. With strong ground shaking, an increase in pore water pressure develops as the soil tends to reduce in volume. If the increase in pore water pressure is sufficient to reduce the vertical effective stress (suspending the soil particles in water), the soil strength decreases and the soil behaves as a liquid (similar to quicksand).

The factors known to influence liquefaction potential include soil type, relative density, grain size distribution, confining pressure, depth to groundwater, and the intensity and duration of the seismic ground shaking. Liquefaction is most prevalent in loose- to medium-dense, silty, sandy, and gravelly soils below the groundwater table.

The project sites have not been mapped for liquefaction potential by CGS.

Landslides

Landslides are the descent of rock or debris caused by natural factors, such as the pull of gravity, fractured or weak bedrock, heavy rainfall, erosion, and earthquakes. The project sites are relatively flat. Due to the existing topography, landslides are not considered a potential hazard for the projects (Appendix H of this EIR).

Lateral Spreading

Lateral spreading typically occurs as a form of horizontal displacement of relatively flat lying alluvial material toward an open or “free” face such as an open body of water, channel, or excavation. This movement is generally due to failure along a weak plane, and may often be associated with liquefaction. As cracks develop within the weakened material, blocks of soil displace laterally toward the open face. Cracking and lateral movement may gradually propagate away from the face as blocks continue to break free. It is unknown whether lateral spreading is a potential hazard on the project sites.

Land Subsidence

Land subsidence is the sinking of the ground surface caused by the compression of earth materials or the loss of subsurface soil because of underground mining, tunneling, or erosion. The major causes of subsidence include fluid withdrawal from the ground, decomposing organics, underground mining or tunneling, and placing large fills over compressible earth materials. The effective stress on underlying soils is increased resulting in consolidation and settlement. Subsidence may also be caused by tectonic processes.

The project sites are not located in an area of known ground subsidence or within any delineated zones of subsidence due to groundwater pumping or oil extraction. As such, the potential for subsidence at the project sites is low (Appendix H of this EIR).

Expansive Soils

Expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell) due to variations in moisture content. Changes in soil moisture content can result from precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may result in unacceptable settlement or heave of structures. The project sites are underlain by sand, gravelly sand, and clay/silty clay. Generally, sands are considered not expansive while soils and clays may exhibit moderate to high expansion potential due to variation in moisture content (Appendix H of this EIR).

Collapsible Soils

Collapsible soil is generally defined as soil that will undergo a sudden decrease in volume and its internal support is lost under applied loads when water is introduced into the soil. The internal support is considered to be a temporary strength and is derived from a number of sources including capillary tension, cementing agents, e.g., iron oxide and calcium carbonate, clay-welding of grains, silt bonds, clay bonds and clay bridges. Soils found to be most susceptible to collapse include loess (fine grained wind-deposited soils), valley alluvium deposited within a semi-arid to arid climate, and residual soil deposits. It is unknown whether collapsible soils are present on the project sites.

Corrosive Soils

Corrosive soils can damage underground utilities, including pipelines and cables, or weaken roadway structures. Generally, fine grained soils like clays are more likely to be corrosive (Appendix H of this EIR). Fine grained and potentially corrosive soils are expected to be encountered at the project sites.

Paleontological Resources

Paleontological resources (fossils) are the remains of prehistoric plant and animal life. Fossil remains, such as bones teeth, shell, and wood, are found in geologic deposits (rock formations) within which they were originally buried. Many paleontological fossil sites are recorded in Imperial County and have been discovered during construction activities. Paleontological resources are typically impacted when earthwork activities, such as mass excavation cut into geological deposits (formations) with buried fossils.

The project sites are in the Salton Basin near the shoreline of ancient Lake Cahuilla. The lake covered much of the Imperial Valley and created an extensive lacustrine environment. Lake Cahuilla experienced several fill recession episodes before it finally dried up about 300 years ago. In 1905, the Colorado River overflowed into the Salton Basin creating the present-day Salton Sea. As previously mentioned above, the project sites are generally underlain by deposits from periodic flooding of the Colorado River and Lake Cahuilla (Appendix H of this EIR). Sediments from this formation have yielded fossilized remains of continental vertebrates, invertebrates, and plants at numerous previously recorded fossil sites in the Imperial Valley. Therefore, the project sites are considered paleontologically sensitive.

3.7.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the projects.

Federal

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act was enacted in 1977 to “reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program.” To accomplish this, the Act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by NEHRP, which refined the description of agency responsibilities, program goals, and objectives.

NEHRP’s mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results. The NEHRP designates the Federal Emergency Management Agency as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities. Programs under NEHRP help inform and guide planning and building code requirements such as emergency evacuation responsibilities and seismic code standards such as those to which the projects would be required to adhere.

State

Alquist-Priolo Special Studies Earthquake Hazards Act

The APEHA was passed into law following the destructive February 9, 1971, San Fernando earthquake. The APEHA provides a mechanism for reducing losses from surface fault rupture on a statewide basis. The intent of the APEHA is to ensure public safety by prohibiting the siting of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep. The State Geologist (Chief of the California Division of Mines and Geology) is required to identify "earthquake fault zones" along known active faults in California. Counties and cities must withhold development permits for human occupancy projects within these zones unless geologic studies demonstrate that there would be no issues associated with the development of projects. The project sites are not located within a currently mapped APEHA zone (Appendix H of this EIR).

California Building Code

The California Building Standards Commission is responsible for coordinating, managing, adopting, and approving building codes in California. CCR Title 24 is reserved for state regulations that govern the design and construction of buildings, associated facilities, and equipment, known as building standards. The California Building Code (CBC) is based on the Federal Uniform Building Code used widely throughout the country (generally adopted on a state-by-state or district-by-district basis). The California Health and Safety Code (HSC) Section and 18980 HSC Section 18902 give CCR Title 24 the name of California Building Standards Code. The updates to the 2019 California Building Standards Code were published on January 1, 2021, with an effective date of July 1, 2021.

Local

County of Imperial Land Use Ordinance

Title 9 Division 15 (Geological Hazards) of the County Land Use Ordinance has established procedures and standards for development within earthquake fault zones. Per County regulations, construction of buildings intended for human occupancy are prohibited across the trace of an active fault. An exception exists when such buildings located near the fault or within a designated Special Studies Zone are demonstrated through a geotechnical analysis and report not to expose a person to undue hazard created by the construction.

County of Imperial General Plan

The County of Imperial General Plan, Seismic and Public Safety Element identifies potential natural and human-induced hazards and provides policy to avoid or minimize the risk associated with hazards. The Seismic and Public Safety Element identifies 'lifelines and critical facilities' whose disruption could endanger the public safety. Lifelines are defined as networks of services that extend over a wide area and are vital to the public welfare, and can be classified into four categories: energy, water, transportation, and communications. The IID has a formal Disaster Readiness Standard Operating Procedure for the Water Department, Power Department, and the entire District staff for response to earthquakes and other emergencies.

Table 3.7-2 analyzes the consistency of the projects with specific policies contained in the County of Imperial General Plan associated with geology, soils, and seismicity. While this EIR analyzes the

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projects' consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

Table 3.7-2. Project Consistency with Applicable General Plan Policies

General Plan Policies	Consistency with General Plan	Analysis
Seismic and Public Safety Element		
Goal 1. Include public health and safety considerations in land use planning.	Consistent	Division 15 of the County Land Use Ordinance has established procedures and standards for development within earthquake fault zones. Per County regulations, construction of buildings intended for human occupancy which are located across the trace of an active fault are prohibited. An exception exists when such buildings located near the fault or within a designated Special Studies Zone are demonstrated through a geotechnical analysis and report not to expose a person to undue hazard created by the construction. Since the project sites are located in a seismically active area, the projects are required to be designed in accordance with the CBC for near source factors derived from a design basis earthquake based on a peak ground acceleration of 0.50 gravity. It should be noted that, the projects would be remotely operated and would not require any habitable structures on site. In considering these factors in conjunction with mitigation requirements outlined in the impact analysis, the risks associated with seismic hazards would be minimized. A preliminary geotechnical report has been prepared for the proposed projects. The preliminary geotechnical report has been referenced in this environmental document. Additionally, a design-level geotechnical investigation would be conducted to evaluate the potential for site specific hazards associated with seismic activity.
Objective 1.1. Ensure that data on geological hazards is incorporated into the land use review process, and future development process.		
Objective 1.3. Regulate development adjacent to or near all mineral deposits and geothermal operations.		
Objective 1.4. Require, where possessing the authority, that avoidable seismic risks be avoided; and that measures, commensurate with risks, be taken to reduce injury, loss of life, destruction of property, and disruption of service.		
Objective 1.7. Require developers to provide information related to geologic and seismic hazards when siting a proposed project.		
Goal 2: Minimize potential hazards to public health, safety, and welfare and prevent the loss of life and damage to health and property resulting from both natural and human-related phenomena.		
Objective 2.2. Reduce risk and damage due to seismic hazards by appropriate regulation.		
Objective 2.5 Minimize injury, loss of life, and damage to property by implementing all state codes where applicable.		
Objective 2.8 Prevent and reduce death, injuries, property damage, and economic and social dislocation resulting from natural hazards including flooding, land subsidence, earthquakes, other geologic phenomena, levee or dam failure, urban and wildland fires and building collapse by appropriate planning and emergency measures.		

Source: County of Imperial 1997

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3.7.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to geologic and soil conditions, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to geology and soils are considered significant if any of the following occur:

- Directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent AP Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault (Refer to Division of Mines and Geology Special Publication 42).
    - Strong seismic ground shaking.
    - Seismic related ground failure, including liquefaction.
    - Landslides.
- Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Methodology

This analysis evaluates the potential for the projects, as described in Chapter 2, Project Description, to interact with local geologic and soil conditions on the project sites. A preliminary geological and geotechnical hazard evaluation report was prepared for the projects. The information obtained from the report was reviewed and summarized to present the existing geologic and soil conditions on the project sites. Based on the extent of these interactions, this analysis considers whether these conditions would result in an exceedance of one or more of the applied significance criteria as identified above.

Impact Analysis

Impact 3.7-1 Would the project directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving:

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Rupture of a known earthquake fault, as delineated on the most recent AP Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault; (Refer to Division of Mines and Geology Special Publication 42)?

As previously discussed above, the project sites are located in the seismically active Imperial Valley of southern California with several mapped faults of the San Andreas Fault System traversing the region. As shown in Table 3.7-1, the project sites are not located on an active fault. Furthermore, no portion of the project sites are within a designated APEHA zone and, therefore, the potential for ground rupture to occur within the project sites is considered low. Based on these considerations, the projects would not directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault. This is considered a less than significant impact.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.7-2 Would the project directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving:

Strong seismic ground shaking?

As previously discussed, the project sites are not located within a designated APEHA zone and the closest active fault with the potential to impact the project sites is the Brawley Fault Zone, located approximately 21 miles west of the project sites. In the event of an earthquake along this fault or another regional fault, seismic hazards related to ground motion could occur in susceptible areas within the project sites. The intensity of such an event would depend on the causative fault and the distance to the epicenter, the moment magnitude, and the duration of shaking.

Even with the integration of building standards, ground shaking within the project sites could cause some structural damage to the facility structures or, at least, cause unsecured objects to fall. During a stronger seismic event, ground shaking could result in structural damage or collapse of electrical distribution facilities. Given the potentially hazardous nature of the project facilities, the potential impact of ground motion during an earthquake is considered a significant impact, as proposed structures, such as the substation and transmission lines could be damaged. However, implementation of Mitigation Measure GEO-1, which requires preparation of a design-level geotechnical report, would reduce the potential impacts associated with ground shaking to a level less than significant.

Mitigation Measure(s)

GEO-1 **Prepare Geotechnical Report(s) as Part of Final Engineering for the Project and Implement Required Measures.** Facility design for all project components shall comply with the site-specific design recommendations as provided by a licensed geotechnical or civil engineer to be retained by the project applicant. The final geotechnical and/or civil engineering report shall address and make recommendations on the following:

- Site preparation
- Soil bearing capacity

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- Appropriate sources and types of fill
- Potential need for soil amendments
- Structural foundations
- Grading practices
- Soil corrosion of concrete and steel
- Erosion/winterization
- Seismic ground shaking
- Liquefaction
- Expansive/unstable soils

In addition to the recommendations for the conditions listed above, the geotechnical investigation shall include subsurface testing of soil and groundwater conditions and shall determine appropriate foundation designs that are consistent with the version of the CBC that is applicable at the time building and grading permits are applied for. All recommendations contained in the final geotechnical engineering report shall be implemented by the project applicant. The final geotechnical and/or civil engineering report shall be submitted to Imperial County Public Works Department, Engineering Division for review and approval prior to issuance of building permits.

Significance after Mitigation

With implementation of Mitigation Measure GEO-1, potential impacts associated with strong seismic ground shaking would be reduced to a level less than significant with the implementation of recommendations made by a licensed geotechnical engineer in compliance with the CBC prepared as part of a formal geotechnical investigation.

Impact 3.7-3 Would the project directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving:

Seismic related ground failure, including liquefaction?

As discussed above, the factors known to influence liquefaction potential include soil type, relative density, grain size distribution, confining pressure, depth to groundwater, and the intensity and duration of the seismic ground shaking. Liquefaction is most prevalent in loose- to medium-dense, silty, sandy, and gravelly soils below the groundwater table. The project sites have not been mapped for liquefaction potential by CGS (Appendix H of this EIR). However, given that the project sites are underlain by sand and clay, there is a potential for liquefaction to occur on the project sites. Liquefied soil loses its density and the ability to support heavy objects such as roads and structures. Unless properly mitigated, the project facilities (solar panels, substations, BESS, and gen-tie line) could be damaged by these types of soils. Additional geotechnical investigation would be required in order to assess the risk of liquefaction on the project sites. The potential impact related to liquefaction is considered a significant impact**.** Implementation of Mitigation Measure GEO-1, which requires the preparation of a design-level geotechnical report, would reduce the potential impact associated with liquefaction to a level less than significant.

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Mitigation Measure(s)

No additional mitigation measures beyond Mitigation Measure GEO-1 are required.

Impact 3.7-4 Would the project directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving:

Landslides?

As stated above, the project sites have a relatively flat topographic gradient. Therefore, the projects would not directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving landslides and no impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.7-5 Would the project result in substantial soil erosion or the loss of topsoil?

During the site grading and construction phases, large areas of unvegetated soil would be exposed to erosive forces by water for extended periods of time due to ICAPCD dust suppression requirements. Unvegetated soils are much more likely to erode from precipitation than vegetated areas because plants act to disperse, infiltrate, and retain water. Construction activities involving soil disturbance, excavation, cutting/filling, stockpiling, and grading activities could result in increased erosion and sedimentation to surface waters. Construction could produce sediment-laden stormwater runoff (nonpoint source pollution), a major contributor to the degradation of water quality. If precautions are not taken to contain contaminants, construction-related erosion impacts are considered significant.

As provided in Mitigation Measure GEO-1, during final engineering for the projects, a design-level geotechnical study would identify appropriate measures for the projects related to soil erosion. In addition, as part of Mitigation Measure HYD-1, provided in Section 3.10 Hydrology/Water Quality, potential impacts from erosion during construction activities would be reduced to a level less than significant with the preparation of an SWPPP for sediment and erosion control and implementation of BMPs to reduce erosion from the construction site.

The projects are not expected to result in substantial soil erosion or the loss of topsoil over the long term. The project applicant would be required to implement on-site erosion control measures in accordance with County standards, which require the preparation, review, and approval of a grading plan by the County Engineer. Therefore, with implementation of Mitigation Measure GEO-1 and Mitigation Measure HYD-1, identified in Section 3.10 Hydrology/Water Quality, impacts from construction-related erosion would be reduced to a level less than significant.

Mitigation Measure(s)

No additional mitigation measures beyond Mitigation Measure GEO-1 and Mitigation Measure HYD-1 are required.

Significance after Mitigation

With implementation of Mitigation Measure GEO-1 and Mitigation Measure HYD-1 in Section 3.10 Hydrology/Water Quality, potential impacts from erosion during construction activities would be

reduced to a level less than significant with the preparation of an SWPPP and implementation of BMPs to reduce erosion from the construction site.

Impact 3.7-6 Would the project be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

The potential for lateral spreading to occur on the project sites has not yet been determined. Additional geotechnical investigation would be required in order to assess the risk of lateral spreading to occur on the project sites. The potential impact associated with lateral spreading is considered a significant impact**.**

The project sites are not located in an area of known ground subsidence or within any delineated zones of subsidence due to groundwater pumping or oil extraction. The potential for subsidence to occur on the project sites is considered low. Therefore, the proposed projects would result in a less than significant impact associated with ground subsidence.

As described above, given that the project sites are underlain by sand and clay, there is a potential for liquefaction to occur on the project sites. Additional geotechnical investigation would be required in order to assess the risk of liquefaction on the project sites. The potential impact related to liquefaction is considered a significant impact**.**

It is unknown whether collapsible soils are present on the project sites. Additional geotechnical investigation would be required in order to assess the risk of collapsible soils to occur on the project sites. The potential impact associated with collapsible soils is considered a significant impact**.**

Implementation of Mitigation Measure GEO-1, which requires the preparation of a design-level geotechnical report, would reduce the potential impacts associated with lateral spreading, liquefaction, and collapsible soils to a level less than significant.

Mitigation Measure(s)

No additional mitigation measures beyond Mitigation Measure GEO-1 are required.

Impact 3.7-7 Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

As stated above, expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell) due to variations in moisture content. Changes in soil moisture content can result from precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may result in unacceptable settlement or heave of structures. The project sites are underlain by sand, gravelly sand, and clay/silty clay. Generally, sands are not considered expansive soils. However, clays may exhibit moderate to high expansion potential due to variation in moisture content. Unless properly mitigated, shrink-swell soils could exert additional pressure on buried structures and electrical connections producing shrinkage cracks that could allow water infiltration and compromise the integrity of backfill material. These conditions could be worsened if structural facilities are constructed directly on expansive soil materials. This potential impact would be significant as structures could be damaged by these types of soils. In addition, the on-site soils, particularly clay/silty clay, are known to be corrosive. Corrosive soils can damage underground utilities, including pipelines and cables, or weaken roadway structures. A site-specific geotechnical

investigation would be required at the project sites to determine the extent and effect of problematic soils.-Implementation of Mitigation Measure GEO-1, which requires the preparation of a design-level geotechnical report, would reduce potential impacts associated with expansive and corrosive soils to a level than significant.

Mitigation Measure(s)

No additional mitigation measures beyond Mitigation Measure GEO-1 are required.

Impact 3.7-8 Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The proposed projects would not require an operations and maintenance building. The proposed solar facility would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. Therefore, no septic or other wastewater disposal systems would be required for the projects and no impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.7-9 Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

As stated above, the project sites are in the Salton Basin near the shoreline of ancient Lake Cahuilla. The lake covered much of the Imperial Valley and created an extensive lacustrine environment. Lake Cahuilla experienced several fill recession episodes before it finally dried up about 300 years ago. In 1905, the Colorado River overflowed into the Salton Basin creating the present-day Salton Sea. As previously noted, the project sites are generally underlain by deposits from periodic flooding of the Colorado River and Lake Cahuilla (Appendix H of this EIR). Sediments from this formation have yielded fossilized remains of continental vertebrates, invertebrates, and plants at numerous previously recorded fossil sites in the Imperial Valley. Therefore, the project sites are considered paleontologically sensitive.

Although unlikely, project construction has the potential to unearth and/or potentially destroy previously undiscovered paleontological resources. This potential impact is considered a significant impact. However, implementation of Mitigation Measure GEO-2 would reduce the potential impact on paleontological resources to a level less than significant.

Mitigation Measure(s)

GEO-2 **Paleontological Resources.** In the event that unanticipated paleontological resources or unique geologic resources are encountered during ground-disturbing activities, work must cease within 50 feet of the discovery and a paleontologist shall be hired to assess the scientific significance of the find. The consulting paleontologist shall have knowledge of local paleontology and the minimum levels of experience and expertise as defined by the Society of Vertebrate Paleontology's Standard Procedures (2010) for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. If any paleontological resources or unique geologic features are found within the project sites, the consulting paleontologist shall prepare a paleontological

Treatment and Monitoring Plan to include the methods that will be used to protect paleontological resources that may exist within the project sites, as well as procedures for monitoring, fossil preparation and identification, curation of specimens into an accredited repository, and preparation of a report at the conclusion of the monitoring program.

Significance after Mitigation

Implementation of Mitigation Measure GEO-2 would reduce the potential impact on paleontological resources to a level less than significant. In the event that unanticipated paleontological resources or unique geologic resources are encountered during ground-disturbing activities, work must cease within 50 feet of the discovery and a paleontologist shall be hired to assess the scientific significance of the find.

3.7.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Decommissioning and restoration of the project sites at the end of their use as a solar facility would involve the removal of structures and restoration to prior (pre-solar project) conditions. No geologic or soil impacts associated with the restoration activities would be anticipated and, therefore, no impact is identified.

No impact is anticipated from restoration activities as the ground disturbance and associated impacts on paleontological resources will have occurred during the construction phase of the projects.

Residual

With implementation of Mitigation Measure GEO-1, impacts related to strong seismic ground shaking, liquefaction, lateral spreading, collapsible soils, expansive soils, and corrosive soils would be reduced to a level less than significant. With implementation of Mitigation Measure GEO-1 and Mitigation Measure HYD-1 in Section 3.10 Hydrology/Water Quality, potential impacts from erosion during construction activities would be reduced to a level less than significant. Implementation of Mitigation Measure GEO-2 would reduce the potential impact on paleontological resources to a level less than significant. The projects would not result in residual significant and unmitigable impacts related to geology and soil resources.

3.8 Greenhouse Gas Emissions

This section includes an overview of existing greenhouse gas (GHG) emissions within the project area and identifies applicable federal, state, and local policies related to global climate change. The impact assessment provides an evaluation of potential adverse effects with regards to GHG emissions based on criteria derived from the CEQA Guidelines in conjunction with actions proposed in Chapter 2, Project Description. ECORP Consulting, Inc. prepared an *Air Quality and Greenhouse Gas Assessment* that assesses the combined climate change impacts of the VEGA SES 2, 3 & 5 Solar Energy Projects. This report is included in Appendix D of this EIR.

3.8.1 Existing Conditions

Greenhouse Gases

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to GHGs, particularly those generated from the production and use of fossil fuels.

GHGs refer to atmospheric gases that absorb solar radiation and subsequently emit radiation in the thermal infrared region of the energy spectrum, trapping heat in the Earth's atmosphere. These gases include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and water vapor, among others. While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy.

The dominant GHG emitted is CO_2, mostly from fossil fuel combustion. GHGs differ in how much heat each can trap in the atmosphere (i.e., global warming potential [GWP]). When accounting for GHGs, all types of GHG emissions are expressed in terms of carbon dioxide equivalent (CO_2e) and are typically quantified in metric tons (MT) or million metric tons. The GWP of a GHG is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is expressed relative to CO_2 over a specified time period. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2 (Appendix D of this EIR).

State law defines GHGs as any of the following compounds CO_2, CH_4, N_2O, hydrofluorocarbons (HFC), perfluorocarbons (PFC) and sulfur hexafluoride (SF_6) (California HSC Section 38505(g)).

CO_2 is a colorless, odorless gas consisting of molecules made up of two oxygen atoms and one carbon atom. CO_2 is produced when an organic carbon compound, such as wood, or fossilized organic matter, such as coal, oil, or natural gas, is burned in the presence of oxygen. CO_2 is removed from the atmosphere by CO_2 "sinks", such as absorption by seawater and photosynthesis by ocean dwelling plankton and land plants, including forests and grasslands; however, seawater is also a source of CO_2 to the atmosphere, along with land plants, animals, and soils, when CO_2 is released during respiration. Whereas the natural production and absorption of CO_2 is achieved through the terrestrial biosphere and the ocean, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood.

CH_4 is a colorless, odorless non-toxic gas consisting of molecules made up of four hydrogen atoms and one carbon atom. CH_4 is combustible, and it is the main constituent of natural gas-a fossil fuel. CH_4 is released when organic matter decomposes in low oxygen environments. Natural sources include wetlands, swamps and marshes, termites, and oceans. Human sources include the mining of fossil fuels and transportation of natural gas, digestive processes in ruminant animals, such as cattle, rice paddies and the buried waste in landfills. Over the last 50 years, human activities, such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH_4. Other anthropogenic sources include fossil-fuel combustion and biomass burning.

N_2O is a colorless, non-flammable gas with a sweetish odor, commonly known as "laughing gas", and sometimes used as an anesthetic. N_2O is naturally produced in the oceans and in rainforests. Man-made sources of N_2O include the use of fertilizers in agriculture, nylon and nitric acid production, cars with catalytic converters and the burning of organic matter. Concentrations of N_2O also began to rise at the beginning of the industrial revolution.

Chlorofluorocarbons (CFC) are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically un-reactive in the troposphere (the level of air at the Earth's surface). CFCs have no natural source but were first synthesized in 1928. It was used for refrigerants, aerosol propellants, and cleaning solvents. Because of the discovery that they are able to destroy stratospheric ozone (O_3), an ongoing global effort to halt their production was undertaken and has been extremely successful, so much so that levels of the major CFCs are now remaining steady or declining; however, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

HFCs are synthesized chemicals that are used as a substitute for CFCs. Out of all of the GHGs; HFCs are one of three groups with the highest GWP. HFCs are synthesized for applications, such as automobile air conditioners and refrigerants.

PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

SF_6 is an extremely potent GHG. SF_6 is very persistent, with an atmospheric lifetime of more than 1,000 years. Thus, a relatively small amount of SF_6 can have a significant long-term impact on global climate change. SF_6 is human-made, and the primary user of SF_6 is the electric power industry. Because of its inertness and dielectric properties, it is the industry's preferred gas for electrical insulation, current interruption, and arc quenching (to prevent fires) in the transmission and distribution of electricity. SF_6 is used extensively in high voltage circuit breakers and switchgear, and in the magnesium metal casting industry.

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Statewide Greenhouse Gas Emissions Inventory

In 2020, CARB released the 2020 edition of the California GHG inventory covering calendar year 2018 emissions. In 2018, California emitted 425.3 million gross metric tons of CO_2e including from imported electricity. The current inventory covers the years 2000 to 2018 and is summarized in Table 3.8-1. Data sources used to calculate this GHG inventory include California and Federal agencies, international organizations, and industry associations. The calculation methodologies are consistent with guidance from the IPCC. The 2000 emissions level is the sum total of sources from all sectors and categories in the inventory. The inventory is divided into seven broad sectors and categories in the inventory. These sectors include agriculture, commercial and residential, electric power, industrial, transportation, recycling and waste, and high GWP gases.

As shown in Table 3.8-1, combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2018, accounting for approximately 30 percent of total GHG emissions in the state.

Table 3.8-1. California Greenhouse Gas Emissions Inventory 2000 to 2018

Sector	Total 2000 Emissions ($MMTCO_2e$)	Total 2017 Emissions ($MMTCO_2e$)
Agriculture	30.97	32.57
Commercial and Residential	43.95	41.37
Electric Power	104.75	63.11
Industrial	96.18	89.18
Transportation	178.40	169.50
Recycling and Waste	7.67	9.09
High GWP Gases	6.28	20.46

Source: CARB 2020
Notes:
GWP=global warming potential; $MMTCO_2e$=million metric tons of CO_2 equivalent

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California.

The California Natural Resources Agency's Fourth Climate Change Assessment (Fourth Assessment) produced updated climate projections that provide state-of-the-art understanding of different possible climate futures for California. The science is highly certain that California (and the world) will continue to warm and experience greater impacts from climate change in the future. While the IPCC and the National Climate Assessment have released descriptions of scientific consensus on climate change for the world and the U.S., respectively, the Fourth Assessment summarizes the current understanding of climate impacts and adaptation options in California (California Natural Resources Agency 2018). Projected changes in California include:

- **Temperatures:** If GHG emissions continue at current rates then California will experience average daily high temperatures that are warmer than the historical average by:
  - 2.7 Fahrenheit (°F) from 2006 to 2039
  - 5.8°F from 2040 to 2069
  - 8.8°F from 2070 to 2100
- **Wildfire:** One Fourth Assessment model suggests large wildfires (greater than 25,000 acres) could become 50 percent more frequent by the end of century if emissions are not reduced. The model produces more years with extremely high areas burned, even compared to the historically destructive wildfires of 2017 and 2018. By the end of the century, California could experience wildfires that burn up to a maximum of 178 percent more acres per year than current averages.
- **Sea-Level Rise:** If emissions continue at current rates, the Fourth Assessment model results indicate that total sea-level rise by 2100 is expected to be 54 inches, almost twice the rise that would occur if GHG emissions are lowered to reduce risk.
- **Snowpack:** By 2050, the average water supply from snowpack is projected to decline to 2/3 from historical levels. If emissions reductions do not occur, water from snowpack could fall to less than 1/3 of historical levels by 2100.
- **Agriculture:** Agricultural production could face climate-related water shortages of up to 16 percent in certain regions. Regardless of whether California receives more or less annual precipitation in the future, the state will be dryer because hotter conditions will increase the loss of soil moisture (California Natural Resources Agency 2018).

3.8.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the projects.

Federal

At the federal level, there is currently no overarching law related to climate change or the reduction of GHGs. The U.S. EPA is developing regulations under the CAA to be adopted in the near future, pursuant to the U.S. EPA's authority under the CAA. Foremost amongst recent developments have been the settlement agreements between the U.S. EPA, several states, and nongovernmental organizations (NGO) to address GHG emissions from electric generating units and refineries; the U.S. Supreme Court's decision in Massachusetts v. EPA; and U.S. EPA's "Endangerment Finding," "Cause or Contribute Finding," and "Mandatory Reporting Rule." On September 20, 2013, the U.S. EPA issued

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a proposal to limit carbon pollution from new power plants. The U.S. EPA is proposing to set separate standards for natural gas-fired turbines and coal-fired units.

Although periodically debated in Congress, no federal legislation concerning GHG limitations has yet been adopted. In Coalition for Responsible Regulation, Inc., et al. v. EPA, the United States Court of Appeals upheld the U.S. EPA's authority to regulate GHG emissions under CAA. Furthermore, under the authority of the CAA, the EPA is beginning to regulate GHG emissions starting with large stationary sources. In 2010, the U.S. EPA set GHG thresholds to define when permits under the New Source Review Prevention of Significant Deterioration (PSD) standard and Title V Operating Permit programs are required for new and existing industrial facilities. In 2012, U.S. EPA proposed a carbon pollution standard for new power plants.

Corporate Average Fuel Standards

Established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and U.S. EPA jointly administer the CAFE standards. The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.

Fuel efficiency standards for medium- and heavy-duty trucks have been jointly developed by U.S. EPA and NHTSA. The Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018, and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type (U.S. EPA 2011). In 2012, the U.S. EPA and NHTSA also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type (U.S. EPA 2016).

State

Executive Order S-3-05 – Statewide Greenhouse Gas Emissions Targets

On June 1, 2005, the Governor issued EO S-3-05 which set the following GHG mission reduction targets:

- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80 percent below 1990 levels

This EO directed the secretary of the California EPA to oversee the efforts made to reach these targets, and to prepare biannual biennial reports on the progress made toward meeting the targets and on the impacts on California related to global warming. The first such Climate Action Team Assessment Report was produced in March 2006 and has been updated every two years thereafter. This goal was further reinforced with the passage of AB 32 in 2006 and SB 32 in 2016.

Executive Order S-01-07

This order, signed by Governor Schwarzenegger, sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. CARB re-adopted the LCFS regulation in September 2015, and

the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 GHG reduction goals.

Assembly Bill 32 – California Global Warming Solutions Act

In 2006, the California legislature passed Assembly Bill (AB) 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which outlines measures to meet the 2020 GHG reduction goals. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by the end of 2020.

The Scoping Plan is required by AB 32 to be updated at least every five years. The latest update, the 2017 Scoping Plan Update, addresses the 2030 target established by Senate Bill (SB) 32 as discussed below and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include increasing the use of renewable energy in the state, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by Executive Order (EO) B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

Renewable Portfolio Standard

The RPS promotes diversification of the state's electricity supply and decreased reliance on fossil fuel energy sources. Originally adopted in 2002 with a goal to achieve a 20 percent renewable energy mix by 2020 (referred to as the "initial RPS"), the goals have been accelerated and increased by EOs S-14-08, S-21-09, SB 350, and SB 100.

The RPS is included in CARB's Scoping Plan list of GHG reduction measures to reduce energy sector emissions. It is designed to accelerate the transformation of the electricity sector through such means as investment in the energy transmission infrastructure and systems to allow integration of large quantities of intermittent wind and solar generation. Increased use of renewables would decrease California's reliance on fossil fuels, thus reducing emissions of GHGs from the electricity sector.

Senate Bill 350

The RPS program was further accelerated in 2015 with SB 350 which mandated a 50 percent RPS by 2030. SB 350 includes interim annual RPS targets with three-year compliance periods and requires 65 percent of RPS procurement to be derived from long-term contracts of 10 or more years.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100, establishing that 100 percent of all electricity in California must be obtained from renewable and zero-carbon energy resources by December 31, 2045. SB 100 also creates new standards for the RPS goals established by SB 350 in 2015. Specifically, the bill increases required energy from renewable sources for both investor-owned utilities and publicly-owned utilities from 50 percent to 60 percent by 2030. Incrementally, these energy providers must also have a renewable energy supply of 33 percent by 2020, 44 percent by 2024, and 52 percent by 2027. California must procure 100 percent of its energy from carbon free energy sources by the end of 2045.

Climate Change Scoping Plan

The Scoping Plan released by CARB in 2008 outlined the state's strategy to achieve the AB 32 goals. This Scoping Plan, developed by CARB in coordination with the Climate Action Team, proposed a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health. It was adopted by CARB at its meeting in December 2008. According to the Scoping Plan, the 2020 target of 427 million $MTCO_2e$ requires the reduction of 169 million $MTCO_2e$, or approximately 28.3 percent, from the state's projected 2020 BAU emissions level of 596 million $MTCO_2e$.

However, in August 2011, the Scoping Plan was re-approved by the Board and includes the Final Supplement to the Scoping Plan Functional Equivalent Document. This document includes expanded analysis of project alternatives as well as updates the 2020 emission projections in light of the current economic forecasts. Considering the updated 2020 BAU estimate of 507 million $MTCO_2e$, only a 16 percent reduction below the estimated new BAU levels would be necessary to return to 1990 levels by 2020. The 2011 Scoping Plan expands the list of nine Early Action Measures into a list of 39 Recommended Actions.

In May 2014, CARB developed; in collaboration with the Climate Action Team, the *First Update to California's Climate Change Scoping Plan* (Update), which shows that California is on track to meet the near-term 2020 GHG limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32. In accordance with the United Nations Framework Convention on Climate Change (UNFCCC), CARB is beginning to transition to the use of the AR4's 100-year GWPs in its climate change programs. CARB has recalculated the 1990 GHG emissions level with the AR4 GWPs to be 431 million $MTCO_2e$; therefore, the 2020 GHG emissions limit established in response to AB 32 is now slightly higher than the 427 million $MTCO_2e$ in the initial Scoping Plan.

CARB adopted the latest update to the Climate Change Scoping Plan in December 2017. The 2017 Scoping Plan is guided by the EO B-30-15 GHG reduction target of 40 percent below 1990 levels by 2030. The 2017 Scoping Plan builds upon the framework established by the initial Scoping Plan and the First Update, while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Plan includes policies to require direct GHG reductions at some of the State's largest stationary sources and mobile sources. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and-Trade Program, which constrains and reduces emissions at covered sources (CARB 2017).

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The majority of the Scoping Plan's GHG reduction strategies are directed at the two sectors with the largest GHG emissions contributions: transportation and electricity generation. The GHG reduction strategies for these sectors involve statutory mandates affecting vehicle or fuel manufacture, public transit, and public utilities. The reduction strategies employed by CARB are designed to reduce emissions from existing sources as well as future sources.

Senate Bill 97

SB 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directs Office of Planning and Research (OPR) to develop draft CEQA Guidelines "for the mitigation of GHG emissions or the effects of GHG emissions" by July 1, 2009, and directs the Resources Agency to certify and adopt the CEQA Guidelines by January 1, 2010.

On December 30, 2009, the Natural Resources Agency adopted amendments to the CEQA Guidelines in the CCR. The amendments went into effect on March 18, 2010, and are summarized below:

- Climate action plans and other GHG reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the GHG emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. In addition, consideration of several qualitative factors may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. The Guidelines do not set or dictate specific thresholds of significance.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of GHG emissions in Appendix G of the CEQA Guidelines.
- The Guidelines are clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."
- The Guidelines promote the advantages of analyzing GHG impacts on an institutional, programmatic level, and, therefore, approve tiering of environmental analyses and highlights some benefits of such an approach.
- EIRs must specifically consider a project's energy use and energy efficiency potential, pursuant to Appendix F of the CEQA Guidelines.

Senate Bill 375 – Regional Emissions Targets

SB 375 requires that regions within the state which have a metropolitan planning organization (MPO) must adopt a sustainable communities' strategy as part of their RTPs. The strategy must be designed to achieve certain goals for the reduction of GHG emissions. The bill finds that "it will be necessary to achieve significant additional GHG reductions from changed land use patterns and improved transportation. Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 provides that new CEQA provisions be enacted to encourage

developers to submit applications and local governments to make land use decisions that will help the state achieve its goals under AB 32," and that "current planning models and analytical techniques used for making transportation infrastructure decisions and for air quality planning should be able to assess the effects of policy choices, such as residential development patterns, expanded transit service and accessibility, the walkability of communities, and the use of economic incentives and disincentives."

Regional

Southern California Association of Governments - 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy

The SCAG is the designated MPO for Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial Counties. CEQA requires that regional agencies like SCAG review projects and plans throughout its jurisdiction. SCAG, as the region's "Clearinghouse," collects information on projects of varying size and scope to provide a central point to monitor regional activity. SCAG has the responsibility of reviewing dozens of projects, plans, and programs every month. Projects and plans that are regionally significant must demonstrate to SCAG their consistency with a range of adopted regional plans and policies.

In September 2020, SCAG adopted the 2020-2045 RTP/SCS. The RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with SB 375, improve public health, and meet the NAAQS as set forth by the federal CAA (see Section 3.4, Air Quality, of this EIR). The following SCAG goal is applicable to the projects:

- Reduce greenhouse gas emissions and improve air quality

As solar generation facilities, the proposed projects would improve air quality by reducing the use of fossil fuels in energy production.

Local

County of Imperial

Pursuant to the requirements of SB 97, the Resources Agency adopted amendments to the CEQA Guidelines to provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and climate change impacts. Formal CEQA thresholds for lead agencies must always be established through a public hearing process. Imperial County has not established formal quantitative or qualitative thresholds through a public rulemaking process, but CEQA permits the lead agency to establish a project-specific threshold of significance if backed by substantial evidence, until such time as a formal threshold is approved.

3.8.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to GHG emissions are considered significant if any of the following occur:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment

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- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs

As discussed in Section 15064.4 of the CEQA Guidelines, the determination of the significance of GHG emissions calls for a careful judgment by the lead agency consistent with the provisions in Section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

1. Quantify greenhouse gas emissions resulting from a project; and/or
2. Rely on a qualitative analysis or performance-based standards.

A lead agency should consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment:

1. The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

Mojave Desert Air Quality Management District's Interim Thresholds

The ICAPCD has not adopted a GHG significance threshold. As previously described, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). Thus, in the absence of any GHG emissions significance thresholds, the projected emissions are compared to the Mojave Desert Air Quality Management District (MDAQMD) numeric threshold of 100,000 metric tons of CO_2e annually.

While significance thresholds used in the Mojave Desert Air Basin are not binding on the ICAPCD or County of Imperial, they are instructive as a comparative metric of the project's potential GHG impact. This threshold is also appropriate as the MDAQMD GHG thresholds were formulated based on similar geography and climate patterns as found in Imperial County. Therefore, the 100,000-metric ton of CO_2e threshold is appropriate for this analysis.

Methodology

The project-related direct and indirect emissions of GHGs were estimated using the similar methods for quantification of criteria air pollutants, as described in Section 3.4 Air Quality. Where GHG emission quantification was required, emissions were modeled using CalEEMod, version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential GHG emissions associated with both construction and operations from a variety of land use projects. Project construction-generated GHG emissions were calculated using CalEEMod model defaults for Imperial County coupled with information provided by the project applicant.

For instance, construction is estimated to take 12-18 months. According to the Traffic Study prepared for the projects (Appendix K1 and K2 of this EIR), the number of on–site construction workers for the VEGA SES 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the VEGA SES 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on–site construction workers for the VEGA SES 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the VEGA SES 5 battery storage facility and substation is not expected to exceed 50 workers at any one time.

Operational air pollutant emissions account for a conservative estimate of two worker trip per day. Such visits include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules if needed to maintain power generation efficiency. Therefore, operational onsite equipment use is accounted in addition to the consumption of 32 acre-feet of water annually.

Impact Analysis

Impact 3.8-1 Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

VEGA SES 2, 3 AND 5

Construction and operation of the projects would result in a relatively small amount of GHG emissions. The projects would generate GHG emissions during construction and routine operational activities at the project sites.

Construction. During construction, GHG emissions would be generated from the operation of off-road equipment, haul-truck trips, and on-road worker vehicle trips. Table 3.8-2 shows the projects' combined construction-related GHG emissions. Once construction is complete, the generation of these GHG emissions would cease.

Table 3.8-2. Project Construction-Related Greenhouse Gas Emissions

Emissions Source	CO_2e (metric tons/year)
Construction of VEGA SES 2 and 3 (2023)	961
Construction of VEGA SES 5 (2024)	787
MDAQMD Significance Threshold	*100,000*
Exceed MDAQMD's Significance Threshold?	**No**

Source: Appendix D of this EIR

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As shown in Table 3.8-2, implementation of the projects would result in the generation of approximately 961 metric tons of CO_2e for the construction of VEGA SES 2 and 3, and 787 metric tons of CO_2e for the construction of VEGA SES 5. Therefore, the construction emissions are less than the MDAQMD's screening threshold of 100,000 $MTCO_2e$ per year. As previously described, this significance threshold is not binding on the projects, yet in the absence of an established threshold from the ICAPCD or County it is instructive for comparison purposes. This threshold is also appropriate for use in this analysis as the MDAQMD GHG thresholds were formulated based on similar geography and climate patterns as found in Imperial County.

Operation. Once the projects are constructed and operational, the proposed projects would have no major stationary emission sources and would require minimal vehicular trips. Therefore, operation of the proposed solar facilities would result in substantially lower emissions than project construction. As shown in Table 3.8-3, the yearly contribution to GHG from operation of the projects would total 2,734 $MTCO_2e$ per year. Therefore, the proposed projects' operational emissions are less than the MDAQMD's screening threshold of 100,000 $MTCO_2e$ per year. Impacts would be less than significant.

Table 3.8-3. Project Operation-Related Greenhouse Gas Emissions

Emissions Source	CO_2e (metric tons/year)
Area Source	0
Energy	2,720
Mobile	4
Waste	0
Water	10
Total	2,734
Significance Threshold	*100,000*
Exceed Significance Threshold?	**No**

Source: Appendix D of this EIR
Notes:
Emission projections predominately based on CalEEMod model defaults for Imperial County. Operational emissions account for two vehicle trips per day. It is noted that this is a conservative estimate as many days will have no operational related vehicle trips. Additionally, it accounts for the energy usage used for the battery energy storage system and the pumping of 32-acre feet of water per year.

Additionally, the projects propose solar energy generation facilities intended to generate renewable energy. Solar plants generate far less GHG life-cycle emissions (approximately 83 to 94 percent less) than fossil-fueled energy plants. The proposed projects would contribute to the continued reduction of GHG emissions in the interconnected California and western U.S. electricity systems, as the total energy produced by the projects would displace GHG emissions that would otherwise be produced by existing business-as-usual power generation resources (including natural gas, coal, arid renewable combustion resources). Table 3.8-4 shows the total emissions that would potentially be displaced by the proposed projects. As shown in Table 3.8-4, the proposed projects would potentially displace approximately 12,620 $MTCO_2e$ per year, and approximately 378,597 $MTCO_2e$ over the course of 30 years. The proposed projects' annual indirect GHG emissions from the displacement of fossil fuel fired electricity generation is significantly higher than the projects' annualized direct and indirect emissions sources. Implementation of the proposed projects would result in a less than significant impact associated with the generation of GHG emissions.

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Table 3.8-4. Proposed Project Displaced GHG Emissions (Metric Tons)

	Emissions (Metric Tons)			
	CO_2	CH_4	N_20	CO_2e
Emissions Displaced Annually (metric tons)				
Displaced Natural-Gas Source Emissions	10,880	0.00	0.00	10,880
Displaced Coal-Source Emissions	1,737	0.01	0.01	1,740
Total	**12,617**	**0.01**	**0.01**	**12,620**
Emissions Displaced over 30 Years (metric tons)				
Displaced Natural-Gas Source Emissions	326,411	0.00	0.00	326,411
Displaced Coal-Source Emissions	52,097	0.35	0.26	52,186
Total	**378,508**	**0.35**	**0.26**	**378,597**

Source: Appendix D of this EIR

Notes:

In order to provide a conservative analysis, the Proposed Project is assumed to generate electricity 50 percent of the time available (4,380 hours annually). Heat Rate indicates the energy generator efficiency of existing fossil-fuel based energy generators. The heat rate of a power plant measures the amount of fuel used to generate one unit of electricity. Power plants with lower heat rates are more efficient than plants with higher heat rates. The CEC's Updated Thermal Power Plant Efficiency Measures and Operational Characteristics for Production Cost Modeling" (2019b) estimates heat rates and operating ranges for thermal power plants supplying energy to California. The average heat rate of power plants types are as follows:

***Steam Boiler fueled by coal: 10,800 heat rate **Steam Boiler fueled by natural gas: 10,200 heat rate **Gas Turbine: 10,100 heat rate*

***Combined natural gas Boiler and Turbine: 7,640 heat rate*

By omitting steam boilers fueled by coal since so little of California's energy is derived from coal, the average heat rate = 9,313 [(10,100 + 10,200 + 7,640) ÷ 3 = 9,313]. 14.6 MW (63,875,000 annual kWH) x 9,313 heat rate = 594,867,875,000 Btu displaced from fossil fuel production. Fossil fuel-based energy consumption in California is predominately derived from natural gas (34.23 percent). Coal constitutes 2.96 percent of all fossil fuel-based energy. Therefore, 247,286,575,638 of the displaced Btu is displaced natural gas consumption and 17,251,168,375 is displaced Btu is displaced coal. The heat content of coal is assumed at 24 million Btu per ton of coal burned. At a rate of 24 million Btu per ton of coal burned, the Project would displace 719 tons of burned coal annually.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.8-2 Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

As discussed in Impact 3.8-1, the proposed projects would generate a relatively small amount of GHG emissions.

The proposed project-generated GHG emissions would not exceed the MDAQMD significance thresholds, which were prepared with the purpose of complying with statewide GHG-reduction efforts. While the projects would emit some GHG emissions during construction and a very small amount during operations, the contribution of renewable resource energy production to meet the goals of the Renewable Portfolio Standard (Scoping Plan Measure E-3) would result in a net cumulative reduction of GHG emissions, a key environmental benefit. Scoping Plan Measure E-3, Renewable Portfolio Standard, of the Climate Change Scoping Plan requires that all investor-owned utility companies generate 60 percent of their energy demand from renewable sources by the year 2030. Therefore, the short-term minor generation of GHG emissions during construction, which is necessary to create this

new, low-GHG emitting power-generating facility, as well as the negligible amount generated during ongoing maintenance operations, would be more than offset by GHG emission reductions associated with solar-generated energy during operation.

Increasing sources of solar energy is one of the measures identified under the Scoping Plan to reduce statewide GHG emissions. The proposed projects would reduce GHG emissions in a manner consistent with SB 32 and other California GHG-reducing legislation by creating a new source of solar power to replace the current use of fossil-fuel power and reduce GHG emissions power generation and use.

Implementation of the proposed projects would result in a less than significant impact associated with the potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs.

Mitigation Measure(s)

No mitigation measures are required.

3.8.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Similar to construction activities, decommissioning and restoration would result in GHG emissions below allowable thresholds. Construction activities during decommissioning and restoration would adhere to Mitigation Measures AQ-1 and AQ-2 outlined in Section 3.4, Air Quality of this EIR, further reducing GHG emissions. Therefore, the impact is considered less than significant.

Residual

The proposed projects' combined GHG emissions would result in a less than significant impact. Project operation, subject to the provision of CUPs, would generally be consistent with statewide GHG emission goals and policies including SB 32. Project consistency with applicable plans, policies, and regulations adopted to reduce GHG emissions would ensure that the projects would not result in any residual significant and unavoidable impacts with regards to global climate change.

3.9 Hazards and Hazardous Materials

Information contained in this section is summarized from the Phase I Environmental Site Assessment (ESA) prepared for the VEGA 2/3 Solar Site and the Phase I ESA prepared for the VEGA 5 Solar Site by GS Lyon Consultants, Inc. The Phase I ESAs prepared for the project sites were used to assess the potential hazards and hazardous materials found on-site or adjacent to the project sites. These reports are included in Appendix I1 and I2 of this EIR, respectively. This section addresses potential hazards and hazardous materials for construction and operational impacts.

3.9.1 Existing Conditions

The project sites are located on approximately 1,963 acres of privately-owned land zoned for agricultural and open space/preservation uses within unincorporated Imperial County. The VEGA SES 2 and 3 and a portion of the VEGA SES 5 project sites east of the East Highline Canal are not currently under cultivation and contain scattered desert vegetation. Meanwhile, the VEGA SES 5 project site west of the East Highline Canal contains fallow agricultural land.

As seen on Figure 2-2, VEGA SES 2 and 3 are located on three parcels (APNs 025-260-011 [partial], 025-270-023, and 025-010-006 [partial]) and have been vacant desert land since 1937. A high voltage 230 kV powerline is immediately west of APN 025-260-011. A dry ephemeral wash bed subject to flash flooding, runs through the southeast corner of APN 025-260-011; and the high stand shoreline of ancient Lake Cahuilla crosses diagonally, southeast to northwest, across this parcel and is expressed with a sharp change in elevation. VEGA SES 2 and 3 share APN 025-010-006. The southwestern corner of this parcel is bisected by the concrete lined Coachella Canal and is traversed by the unpaved Flowing Wells Road and Coachella Canal Road. A dry ephemeral wash bed subject to periodic flooding crosses the northwest corner of the parcel and an earth flood diversion berm runs north-south within the eastern portion of the parcel to divert desert flood water to the Siphon 5 crossing of the Coachella Canal. The Coachella Canal is adjacent to the southwest corner of VEGA SES 2 (APN 025-270-023) while PegLeg Well Road which is unpaved, crosses the northern portion of this parcel. The unpaved Ted Kipf Road splits off of PegLeg Road to the southeast and diagonally crosses the northeastern portion of the parcel. Similar to the other parcels, APN 025-270-023 has dry ephemeral wash beds that are subject to flash flooding which cross the northwest and southeast corners of the parcel aligning with Siphons 4 and 5 of the Coachella Canal.

VEGA SES 5 is made up of three parcels (APN 025-260-011 [partial], 025-260-022, and 025-260-019). Noffisinger Road and the Union Pacific Railroad (UPRR) separate APNs 025-260-011 and 025-260-019. The portions of VEGA SES 5 that are east of the East Highline Canal are within a desert area and contains dry wash beds that traverse in a northeast to southwest direction. As with the other dry wash beds, this wash is subject to flash flooding. The same high voltage 230 kV powerline that forms the western boundary of VEGA SES 2, forms the western boundary of APN 025-260-019 and the eastern boundary of APN 025-260-022. The agricultural portion of VEGA SES 5 (APN 025-260-022) that is west of the East Highline Canal contains fallow agricultural land with scattered dry crop residue. The agricultural field is bounded by McDonald Road to the north, Schrimpf Road to the south, and Weist Road to the west. The East Highline Canal cuts across APN 025-260-022 diagonally in a northwest to southeast direction. Within the agricultural portion of VEGA SES 5, there are subsurface tile drainage pipelines that are generally aligned north to south and carry irrigation wastewater to the N Drain at the southwest corner of the field.

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Records Review

A review of historic aerial photographs, historic topographic maps, historic Sanborn Fire Insurance maps, governmental regulatory databases, and other regulatory and agency databases was performed to evaluate potential adverse environmental conditions resulting from previous ownership and uses of the project sites.

GS Lyon Consultants, Inc. contracted Environmental Data Resources, Inc. of Shelton, Connecticut which queries and maintains comprehensive environmental databases and historical information, including proprietary databases, aerial photography, topographic maps, Sanborn Maps, and city directories to generate a compilation of federal, state and tribal regulatory lists containing information regarding hazardous materials occurrences on or within the prescribed radii of American Society of Testing and Materials Practice E 1527-13. The search of each database was conducted using the approximate minimum search distances from the subject property defined by the Standard. The purpose of the records review is to obtain and review reasonably ascertainable records that would help identify recognized environmental conditions or historical recognized environmental conditions in connection with the project sites. The project sites are not identified in the Environmental Data Resources, Inc. report as being located on a hazardous materials site pursuant to Government Code Section 65962.5. The results of the background review are presented in the Phase I ESAs (Appendix I1 and I2 of this EIR).

VEGA SES 2 and 3

Historical aerial photographs from EDR dating back to 1937 and Google Earth aerial photographs from 1996 were reviewed for the project sites. In 1937, the VEGA SES 2 and 3 project sites are observed to have been vacant desert ground with dry washes crossing the parcels in a northeast to southwest direction. Adjacent parcels also appear to be vacant desert lands. The UPRR is visible on the southwest boundary of the VEGA SES 2 project site (APN 025-260-011) and the high stand shoreline of ancient Lake Cahuilla crossing is visible crossing the VEGA SES 2 project site (APN 025-260-011) from northwest to southeast. From 1940 to 1976 aerial photographs show the VEGA SES 2 and 3 project sites are similar to the 1937 aerial photograph with the exception that the Coachella Canal had been constructed adjacent to the VEGA SES 2 project site (APN 025-270-023) and crossing through the western portion of shared VEGA SES 2 and 3 parcel (APN 025-010-006). By 1984, the Coachella Canal appears to have been shifted to the east and lined with concrete. Aerial photographs from 2004-2016 are similar to those from 1984 and at present time. Based on historic topographic maps, powerlines were shown to be crossing the northern and western sites from 1940 to 1947, as well as several unpaved roads crossing the VEGA SES 2 and 3 project sites.

VEGA SES 5

In 1937 aerial photographs of the VEGA SES 5 project site was observed to be vacant desert ground with the East Highline Canal crossing diagonally through the western parcel (APN 025-260-022) and a dry wash crossing both VEGA SES 5 parcels (APN 025-260-022 and 025-260-019) from a northeast to southwest direction. An agricultural field is present to the southwest of the VEGA SES 5 project site while other adjacent parcels also appear to be vacant desert lands. Aerials from 1940 to 1953 show similar imagery to 1937 with the exception of several small structures located adjacent to the westside of the East Highline Canal on McDonald Road, and the presence of agricultural fields located to the west and south of the western portion of the VEGA SES 5 project site. The 1967 aerials show the clearing of vegetation on the VEGA SES 5 project site west of the East Highline Canal as well as the removal of the structures in the northeast corner parcel (APN 025-260-022). The same western portion

of the VEGA SES 5 project site aerials appears to be occupied by fallow agricultural land from 2004 to 2012 aerials, and under cultivation from 1992 and 1996 aerials. Aerials from 2015 show the northern portion of the VEGA SES 5 western project area under cultivation and the southern portion as fallow agricultural. The VEGA SES 5 eastern project area, east of the East Highline Canal remained as vacant desert land.

The primary use of the fire insurance maps was to assess the buildings that were being insured, the existence and location of fuel storage tanks, flammable or other potentially toxic substances, and the nature of businesses are often shown on these maps. Due to the location and rural undeveloped nature of the project sites for the years the Sanborn Fire Insurance Maps were available for this subject property, no maps are available for the project sites.

Site Reconnaissance

A site reconnaissance was performed on September 29, 2020. The site visit consisted of a driving the perimeter of the project sites and randomly crossing the project sites. The reconnaissance included visual observations of surficial conditions at the project sites and observation of adjoining properties to the extent that they were visible from public areas. The site visit evaluated the project sites and adjoining properties for potential hazardous materials/waste and petroleum product use, storage, disposal, or accidental release, including the following: presence of tank and drum storage; mechanical or electrical equipment likely to contain liquids; evidence of soil or pavement staining or stressed vegetation; ponds, pits, lagoons, or sumps; suspicious odors; fill and depressions; or any other condition indicative of potential contamination.

Underground and Aboveground Storage Tanks, Drums, or Containers

No underground storage tanks (USTs) and aboveground storage tanks (ASTs) were observed within the project sites during the site reconnaissance. No drums or storage containers, nor any open or damaged containers containing unidentified substances were observed at the project sites. Additionally, no reports of spills or leaks were identified in the EDR report.

Surface Staining

No evidence of stained soil or pavement was observed on the project sites.

Sewer/Water

No evidence of septic systems or wells was observed on the project sites.

Suspect Polychlorinated Biphenyl (PCB) Containing Equipment

No potential PCB containing equipment such as electrical transformers, capacitors, and hydraulic equipment were observed during the site reconnaissance on the project sites or within the immediate vicinity.

Pesticides

Based on review of environmental records and historic documents, the VEGA SES 2 and 3 project sites have been vacant desert land since 1937. Therefore, the presence of Dichlorodiphenyltrichloroethane/Dichlorodiphenyldichloroethylene (DDT/DDE) are not anticipated within the VEGA SES 2 and 3 project sites. Based on the review of environmental records, historical documents, and property conditions of the VEGA SES 5 project site, the project site has been in

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agricultural use intermittently and/or vacant since the 1960s. Residues of currently available pesticides and currently banned pesticides, such as DDT/DDE may be present in near surface soils in limited concentrations. Therefore, there is a potential for the VEGA SES 5 project site to contain hazards related to pesticide and herbicide use from aerial and/or ground application which can migrate via surface run-off. The concentrations of these pesticides found on other Imperial Valley agricultural sites are typically less than 25 percent of the current regulatory threshold limits and are not considered a significant environmental hazard. This is considered a de minimis condition. A de minimis condition is a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis conditions are not recognized environmental conditions nor controlled recognized environmental conditions. The presence and concentration of near surface pesticides at the VEGA SES 5 project site can be accurately characterized only by site-specific sampling and testing.

Lead and Asbestos

The potential for asbestos containing materials (ACM) and lead based paint residues existing at the project sites are low due to the lack of structures and development.

Airports

The project sites are not located within 2 miles of a public airport or a public use airport. The nearest airport to the proposed projects is the Calipatria Municipal Airport, located approximately 6 miles southwest of the VEGA SES 5 project site.

Fire Hazard

The project sites are located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan, the potential for a major fire in the unincorporated areas of the County is generally low (County of Imperial 1997).

3.9.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the projects.

Federal

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Over 5 years, $1.6 billion was collected and the tax went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. The Comprehensive Environmental Response, Compensation, and Liability Act established prohibitions and requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified.

Emergency Planning Community Right-to-Know Act of 1986 (42 United States Code 11001 et seq.)

The Emergency Planning Community Right-to-Know Act was included under the Superfund Amendments and Reauthorization Act (SARA) law and is commonly referred to as SARA Title III. Emergency Planning Community Right-to-Know was passed in response to concerns regarding the environmental and safety hazards posed by the storage and handling of toxic chemicals. These concerns were triggered by the disaster in Bhopal, India, in which more than 2,000 people suffered death or serious injury from the accidental release of methyl isocyanate. To reduce the likelihood of such a disaster in the U.S., Congress imposed requirements on both states and regulated facilities.

Emergency Planning Community Right-to-Know establishes requirements for federal, state, and local governments, Indian Tribes, and industry regarding emergency planning and "Community Right-to-Know" reporting on hazardous and toxic chemicals. SARA Title III requires states and local emergency planning groups to develop community emergency response plans for protection from a list of Extremely Hazardous Substances (40 CFR 355). The Emergency Planning Community Right-to-Know provisions help increase the public's knowledge and access to information on chemicals at individual facilities, their uses, and releases into the environment. In California, SARA Title III is implemented through the California Accidental Release Prevention.

Federal Insecticide, Fungicide, and Rodenticide Act

The objective of Federal Insecticide, Fungicide, and Rodenticide Act is to provide federal control of pesticide distribution, sale, and use. All pesticides used in the U.S. must be registered (licensed) by the EPA. Registration assures that pesticides would be properly labeled and that, if used in accordance with specifications, they would not cause unreasonable harm to the environment. Use of each registered pesticide must be consistent with use directions contained on the label or labeling.

Federal Water Pollution Control Act (Clean Water Act)

The objective of the Federal Water Pollution Control Act, commonly referred to as the CWA, is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. The oil SPCC Program of the CWA specifically seeks to prevent oil discharges from reaching waters of the U.S. or adjoining shorelines. Further, farms are subject to the SPCC rule if they:

- Store, transfer, use, or consume oil or oil products
- Could reasonably be expected to discharge oil to waters of the U.S. or adjoining shorelines. Farms that meet these criteria are subject to the SPCC rule if they meet at least one of the following capacity thresholds:
    - Aboveground oil storage capacity greater than 1,320 gallons
    - Completely buried oil storage capacity greater than 42,000 gallons

However, the following are exemptions to the SPCC rule:

- Completely buried storage tanks subject to all the technical requirements of the underground storage tank regulations
- Containers with a storage capacity less than 55 gallons of oil

- Wastewater treatment facilities
- Permanently closed containers
- Motive power containers (e.g., automotive or truck fuel tanks)

Hazardous Materials Transport Act – Code of Federal Regulations

The Hazardous Materials Transportation Act was published in 1975. Its primary objective is to provide adequate protection against the risks to life and property inherent in the transportation of hazardous material in commerce by improving the regulatory and enforcement authority of the Secretary of Transportation. A hazardous material, as defined by the Secretary of Transportation is, any “particular quantity or form” of a material that “may pose an unreasonable risk to health and safety or property.”

Occupational Safety and Health Administration

Occupational Safety and Health Administration’s (OSHA) mission is to ensure the safety and health of America's workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. OSHA standards are listed in 29 CFR Part 1910.

The OHSA Process Safety Management of Highly Hazardous Chemicals (29 CFR Part 110.119) is intended to prevent or minimize the consequences of a catastrophic release of toxic, reactive, flammable, or explosive highly hazardous chemicals by regulating their use, storage, manufacturing, and handling. The standard intends to accomplish its goal by requiring a comprehensive management program integrating technologies, procedures, and management practices.

Resource Conservation and Recovery Act

The goal of the Resource Conservation and Recovery Act, a federal statute passed in 1976, is the protection of human health and the environment, the reduction of waste, the conservation of energy and natural resources, and the elimination of the generation of hazardous waste as expeditiously as possible. The Hazardous and Solid Waste Amendments of 1984 significantly expanded the scope of RCRA by adding new corrective action requirements, land disposal restrictions, and technical requirements. The corresponding regulations in 40 CFR 260-299 provide the general framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste.

State

California Department of Conservation, Division of Oil, Gas, and Geothermal Resources

The Division of Oil, Gas, and Geothermal Resources was formed in 1915 to address the needs of the state, local governments, and industry by regulating statewide oil and gas activities with uniform laws and regulations. The Division supervises the drilling, operation, maintenance, and plugging and abandonment of onshore and offshore oil, gas, and geothermal wells, preventing damage to: (1) life, health, property, and natural resources; (2) underground and surface waters suitable for irrigation or domestic use; and (3) oil, gas, and geothermal reservoirs. The Division’s programs include: well permitting and testing; safety inspections; oversight of production and injection projects; environmental lease inspections; idle-well testing; inspecting oilfield tanks, pipelines, and sumps; hazardous and orphan well plugging and abandonment contracts; and subsidence monitoring.

California Department of Toxic Substances Control

DTSC regulates hazardous waste, cleans-up existing contamination, and looks for ways to reduce the hazardous waste produced in California. Approximately 1,000 scientists, engineers, and specialized support staff are responsible for ensuring that companies and individuals handle, transport, store, treat, dispose of, and clean-up hazardous wastes appropriately. Through these measures, DTSC contributes to greater safety for all Californians, and less hazardous waste reaches the environment.

On January 1, 2003, the Registered Environmental Assessor program joined DTSC. The program certifies environmental experts and specialists as being qualified to perform a number of environmental assessment activities. Those activities include private site management, Phase I ESAs, risk assessment, and more.

California Division of Occupational Safety and Health

The California Division of Occupational Safety and Health protects workers and the public from safety hazards through its programs and provides consultative assistance to employers. California Division of Occupational Safety and Health issues permits, provides employee training workshops, conducts inspections of facilities, investigates health and safety complaints, and develops and enforces employer health and safety policies and procedures.

California Environmental Protection Agency

California Environmental Protection Agency and the SWRCB establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable state and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act
- Air Toxics Hot Spots and Emissions Inventory Law
- Underground Storage of Hazardous Substances Act
- Porter-Cologne Water Quality Control Act

Within Cal-EPA, DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law.

California Emergency Response Plan

California has developed an Emergency Response Plan to coordinate emergency services provided by federal, state, and local government and private agencies. Response to hazardous materials incidents is one part of this plan. The plan is managed by the State Office of Emergency Services (OES), which coordinates the responses of other agencies including Cal-EPA, the California Highway Patrol, CDFW, RWQCB, Imperial County Sheriff's Department, ICFD, and the City of Imperial Police Department.

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Local

Imperial County General Plan

The Seismic and Public Safety Element identifies goals and policies that will minimize the risks associated with natural and human-made hazards and specify the land use planning procedures that should be implemented to avoid hazardous situations. The purpose of the Seismic and Public Safety Element is to reduce the loss of life, injury, and property damage that might result from disaster or accident. In addition, the Element specifies land use planning procedures that should be implemented to avoid hazardous situations. The policies listed in the Seismic and Public Safety Element are not applicable to the proposed project, as they address human occupancy development. The proposed project is a solar project and does not propose residential uses.

Imperial County Public Health Department

DTSC was appointed the Certified Unified Program Agency (CUPA) for Imperial County in January 2005. The Unified Program is the consolidation of 6 state environmental programs into one program under the authority of a CUPA. The CUPA inspects businesses or facilities that handle or store hazardous materials, generate hazardous waste, own or operate ASTs or USTs, and comply with the California Accidental Release Prevention Program. The CUPA Program is instrumental in accomplishing this goal through education, community and industry outreach, inspections and enforcement.

Office of Emergency Services

As part of the ICFD, the County OES is mandated by the California Emergency Services Act (Chapter 7, Division 1, Title 2 of Government Code) to serve as the liaison between the State and all the local government in the County. The OES provides centralized emergency management during major disasters, and coordinates emergency operations between various local jurisdictions within the County. The OES has developed several plans, consistent with federal and state policy guidance, to provide the County and participating local jurisdictions and agencies a framework for conducting emergency planning, response, and recovery operations, and handling of hazardous substances.

3.9.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project-related impacts related to hazards and hazardous materials, the methodology employed for the evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to hazards and hazardous materials are considered significant if any of the following occur:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment

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- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment
- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires

Methodology

This analysis evaluates the potential for the projects, as described in Chapter 2, Project Description to result in significant impacts related to hazards and hazardous materials on or within the 1-mile buffer zone of the project sites. This analysis considers whether these conditions would result in an exceedance of one or more of the applied significance criteria as identified above.

Phase I ESAs has been prepared for the project sites. The information obtained from the Phase I ESAs were reviewed and summarized to present the existing conditions, in addition to identifying potential environmental impacts, based on the significance criteria presented above. Impacts associated with hazards and hazardous materials that could result from project construction and operational activities were evaluated qualitatively based on site conditions; expected construction practices; materials, locations, duration of project construction, and related activities. The conceptual site plans for the projects were also used to evaluate potential impacts.

Impact Analysis

Impact 3.9-1 Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Although considered minimal, it is anticipated that the proposed projects will generate the following materials during construction, operation, and long-term maintenance: insulating oil (used for electrical equipment), lubricating oil (used for maintenance vehicles), various solvents/detergents (equipment cleaning), and gasoline (used for maintenance vehicles). These materials have the potential to be released into the environment as a result of natural hazard (i.e., earthquake) related events, or because of human error. However, all materials contained on project sites will be stored in appropriate containers (not to exceed a 55-gallon drum) protected from environmental conditions, including rain, wind, and direct heat and physical hazards such as vehicle traffic and sources of heat and impact. In addition, if the on-site storage of hazardous materials necessitate, at any time during construction and/or operations and long-term maintenance, quantities in excess of 55-gallons, a hazardous material management program (HMMP) would be required. The HMMP developed for the projects will include, at a minimum, procedures for:

- Hazardous materials handling, use and storage

- Emergency response
- Spill control and prevention
- Employee training
- Record keeping and reporting

Spill response plans would be developed prior to project construction and operation or prior to the storage on-site of an excess of 55 gallons of hazardous materials, and personnel would be made aware of the procedures for spill cleanup and the procedures to report a spill. Spill cleanup materials and equipment appropriate to the type and quantity of chemicals and petroleum products expected would be located onsite and personnel shall be made aware of their location.

The small quantities of chemicals to be stored at the project sites during construction include equipment and facilities maintenance chemicals. These materials would be stored in their appropriate containers in an enclosed and secured location, such as portable outdoor hazardous materials storage cabinets equipped with secondary containment to prevent contact with rainwater. The portable chemical storage cabinets may be moved to different locations around the project sites as construction activity locations shift. The chemical storage area would not be located immediately adjacent to any drainage. Disposal of excess materials and wastes would be performed in accordance with local, state, and federal regulations.

Additionally, hazardous material storage and management will be conducted in accordance with requirements set forth by the ICFD, Imperial County Office of Emergency Services, DTSC, and CUPA for storage and handling of hazardous materials. Further, construction activities would occur according to OSHA regulatory requirements; therefore, it is not anticipated that the construction activities for the proposed projects would release hazardous emissions or result in the handling of hazardous or acutely hazardous materials, substances, or waste. This could include the release of hazardous emissions, materials, substances, or wastes during operational activities. With the implementation of an HMMP and adherence to requirements set forth by the ICFD, Imperial County Office of Emergency Services, DTSC, OSHA regulatory requirements and CUPA, the impact associated with the possible risk to the public or environment through routine transport, use, or disposal of hazardous materials would be considered less than significant.

Battery Energy Storage System

In conjunction with the construction of the solar facilities, BESSs will be constructed to store the energy generated by the solar panels. One BESS will be located on an approximately 5-acre site within the southwest corner of the VEGA SES 2 project site (APN 025-010-006). The BESS on the VEGA SES 5 project site is proposed to be located in the southeastern corner of APN 025-260-022. Transportation of hazardous materials relating to the BESS includes electrolyte and graphite and would occur during construction, operation (if replacement of batteries is needed) and decommissioning (removal of the batteries). All of these various materials would be transported and handled in compliance with DTSC regulations. Therefore, likelihood of an accidental release during transport or residual contamination following accidental release is not anticipated.

Lithium ion or flow batteries used in the storage system contain cobalt oxide, manganese dioxide, nickel oxide, carbon, electrolyte, and polyvinylidene fluoride. Of these chemicals, only electrolyte should be considered hazardous, inflammable and could react dangerously when mixed with water. The U.S. Department of Transportation (DOT) regulates transport of lithium-ion batteries under the

DOT's Hazardous Materials Regulations (HMR; 49 C.F.R., Parts 171-180). The HMR apply to any material DOT determines is capable of posing an unreasonable risk to health, safety, and property when transported in commerce. Lithium-ion batteries must conform to all applicable HMR requirements when offered for transportation or transported by air, highway, rail, or water (DOT 2021). Additionally, carbon (as graphite) is flammable and could pose a fire hazard. As further detailed below, fire protection is achieved through project design features, such as monitoring, diagnostics and a fire suppression system. The projects would be required to comply with state laws and county ordinance restrictions, which regulate and control hazardous materials handled on site.

Construction wastes would be disposed of in accordance with local, state, and federal regulations, and recycling will be used to the greatest extent possible. In this context, with adherence to requirements set forth by the ICFD, Imperial County OES, DTSC, OSHA regulatory requirements and CUPA, impacts would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.9-2 Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

According to the historical records search, the VEGA SES 5 project site has been in agricultural use intermittently and/or vacant since the 1960s. Typical agricultural practices in the Imperial Valley consist of aerial and ground application of pesticides and the application of chemical fertilizers to both ground and irrigation water. GS Lyon professionals have reported that concentrations of pesticides are limited and typically less than 25 percent of the current regulatory threshold limits of EPA preliminary remediation goals. This is considered a de minimis condition.

The Federal Insecticide, Fungicide, and Rodenticide Act provides federal control of pesticide distribution, sale, and use. Pesticides used in the United States must be registered by the EPA to assure that pesticides are properly labeled and that they will not cause unreasonable harm to the environment. The construction phase, operations and long-term maintenance of the facility would not result in additional application of pesticides or fertilizers. Therefore, a less than significant impact has been identified for this issue area.

Hazardous Materials

The Phase I ESAs (Appendix I1 and I2 of this EIR) prepared for the project sites do not identify any recognized environmental conditions (RECs), ASTs, or USTs. According to the Envirostor Database for local DTSC record searches, Geotracker GIS data from the SWRCB, and interviews with individuals familiar with the subject property, there are no potential RECs existing on the project sites. Therefore, a less than significant impact is identified for this issue area.

Lead and Asbestos

According to records research and the reconnaissance survey, the potential for lead based paint residues and asbestos containing materials is very low because of the lack of development on the project sites. Therefore, a less than significant impact is identified for this issue area.

Battery Energy Storage System

Protection would be provided as part of the project design by housing the battery units in enclosed structures to provide containment should a fire break out or for potential spills. Any potential fire risk that the traditional lithium-ion cells have will most likely be caused by over-charging or through short circuit due to age. This risk will be mitigated through monitoring and a fire suppression system that includes water and or a suppression agent (eg FM-200, Novatech) with smoke detectors, control panel, alarm, piping and nozzles. The fire protection system will be designed by a certified fire protection engineer and installed by a fire protection system contractor licensed in California and in accordance with all relevant building and fire codes in effect in the County at the time of building permit submission. Fire protection systems for battery systems would be designed in accordance with California Fire Code and would take into consideration the recommendations of the National Fire Protection Association (NFPA) 855.

The fire protection plan is anticipated to include a combination of prevention, suppression, and isolation methods and materials. The general approach to fire mitigation at the project sites would be prevention of an incident, followed by attempts to isolate and control the incident to the immediately affected equipment, then to suppress any fire with a clean agent so as to reduce damage to uninvolved equipment. Fire suppression agents such as Novec 1230 or FM 2000, or water may be used as a suppressant. In addition, fire prevention methods would be implemented to reduce potential fire risk, including voltage, current, and temperature alarms. Energy storage equipment would comply with Underwriters Laboratory (UL)-95401 and test methods associated with UL-9540A. For lithium-ion batteries storage, a system would be used that would contain the fire event and encourage suppression through cooling, isolation, and containment. Suppressing a lithium-ion (secondary) battery is best accomplished by cooling the burning material. A gaseous fire suppressant agent (e.g., 3M™ Novec™ 1230 Fire Protection Fluid or similar) and an automatic fire extinguishing system with sound and light alarms would be used for lithium-ion batteries.

To mitigate potential hazards, redundant separate methods of failure detection would be implemented. These would include alarms from the Battery Management System (BMS), including voltage, current, and temperature alarms. Detection methods for off gas detection would be implemented, as applicable. These are in addition to other potential protective measures such as ventilation, overcurrent protection, battery controls maintaining batteries within designated parameters, temperature and humidity controls, smoke detection, and maintenance in accordance with manufacturer guidelines. Remote alarms would be installed for operations personnel as well as emergency response teams in addition to exterior hazard lighting. In addition, an Incidence Response Plan would be implemented. In this context, impacts would be considered less than significant for this impact area.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.9-3 Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

The project sites are not located within 0.25 mile of any existing or proposed schools. Therefore, the proposed projects would not pose a risk to nearby schools and no impact would occur.

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Mitigation Measure(s)

No mitigation measures are required.

Impact 3.9-4 Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?

The project sites are not identified in the EDR report as being located on a hazardous materials site pursuant to Government Code Section 65962.5. Implementation of the proposed projects would result in no impact related to the project site being located on a listed hazardous materials site.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.9-5 For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?

The project sites are not located within 2 miles of a public airport or a public use airport. The nearest airport to the proposed projects is the Calipatria Municipal Airport, located approximately 6 miles southwest of the VEGA SES 5 project site. According to Figure 3C of the ALUCP, no portion of the project sites are located within the Calipatria Municipal Airport's land use compatibility zones (ALUC 1996). Therefore, implementation of the proposed project would not result in a safety hazard or excessive noise for people residing or working in the project area and no impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.9-6 Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The Imperial County Operational Area Emergency Operations Plan (Imperial County OES 2016) does not identify specific emergency roadway routes as part of their emergency operations plan (EOP). The Circulation & Scenic Highways Element of the General Plan (County of Imperial 2008), identifies SR-111, located west of the project sites, as the "backbone" route of Imperial County since it connects the three largest cities and acts as a major goods movement route.

The applicant for the proposed projects will be required, through the Conditions of Approval, to prepare a street improvement plan for the proposed projects that will include emergency access points and safe vehicular travel. Additionally, local building codes would be followed to minimize flood, seismic, and fire hazard. Therefore, the proposed projects would result in a less than significant impact associated with the possible impediment to emergency response plans or emergency evacuation plans.

Mitigation Measure(s)

No mitigation measures are required.

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Impact 3.9-7 Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

The project sites are located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan (County of Imperial 1997), the potential for a major fire in the unincorporated areas of the County is generally low.

Proposed project facilities would be designed, constructed, and operated in accordance with applicable fire protection and other environmental, health, and safety requirements (e.g., CPUC safety standards). PV panels would be spaced to maintain proper clearance for emergency access. Internal access roads, up to 30-feet wide, would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles. Access roads would be graded and compacted (native soils) as required for construction, operations, maintenance, and emergency vehicle access. The access and service roads would also have turnaround areas at any dead-end to allow clearance for fire trucks per fire department standards. The access and service roads would also have turnaround areas at any dead-end to allow clearance for fire trucks per fire department standards.

Because the proposed projects are not located in proximity to an area susceptible to wildland fires, implementation of the proposed projects would result in a less than significant impact related to the possible risk to people or structures caused by wildland fires.

Mitigation Measure(s)

No mitigation measures are required.

3.9.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

During decommissioning and restoration of the project sites, the applicant or its successor in interest would be responsible for the removal, recycling, and/or disposal of all solar arrays, inverters, battery storage system, transformers and other structures on each of the project sites. The applicant of the proposed projects anticipates using the best available recycling measures at the time of decommissioning. Any potentially hazardous materials located on the project sites would be disposed of, and/or remediated prior to construction of the solar facilities.

The operation of the solar facilities would not generate hazardous wastes; therefore, implementation of applicable regulations and mitigation measures identified for construction and operations would ensure restoration of the project sites to pre-project conditions during the decommissioning process in a manner that would be less than significant. Furthermore, decommissioning/restoration activities would not result in a potential impact associated with ALUCP consistency (structures would be removed and the site would remain in an undeveloped condition), wildfires (fire protection measures), or impediment to an emergency plan (the undeveloped condition as restored, would not conflict with emergency plans).

Residual

Adherence to federal, state and local regulations will ensure that impacts related to the transportation of hazardous materials and potential fires would be reduced to levels less than significant. Based on these circumstances, the proposed projects would not result in residual significant and unmitigable impacts related to hazards and hazardous materials.

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3.10 Hydrology/Water Quality

This section provides a description of existing water resources within the project areas and pertinent local, state, and federal plans and policies. Each subsection includes descriptions of existing hydrology/drainage, existing flooding hazards, and the environmental impacts on hydrology and water quality resulting from implementation of the proposed projects, and mitigation measures where appropriate. The impact assessment provides an evaluation of potential adverse effects to water quality based on criteria derived from CEQA Guidelines in conjunction with actions proposed in Chapter 2, Project Description.

3.10.1 Existing Conditions

The project sites are located in the Colorado River Basin. The Colorado River Basin Region covers approximately 13 million acres (20,000 square miles) in the southeastern portion of California. It includes all of Imperial County and portions of San Bernardino, Riverside, and San Diego Counties. The Colorado River Basin Region is divided into seven major planning areas on the basis of different economic and hydrologic characteristics (California RWQCB 2019).

The project sites are contained within the Brawley Hydrologic Area (Hydrologic Unit [HU] 723.10) of the Imperial Valley Planning Area. The Imperial Valley Planning Area comprises 2,500 square miles in the southern portion of the region with the majority located in Imperial County and is characterized as a closed basin. Surface waters mostly drain toward the Salton Sea and the average annual rainfall for most of the planning area ranges from less than 3 inches with four months of average summertime temperatures above 100 degrees Fahrenheit. Winter temperatures are mild, seldom reaching freezing. Additionally, water from the Colorado River are imported via the All-American Canal and serves as the predominant water supply for irrigation, industrial, and domestic purposes (California RWQCB 2019).

Localized Drainage Conditions

VEGA SES 2 and 3

The VEGA SES 2 and 3 project sites are within the Salton Sea Watershed (Hydrologic Unit Code 18100204). The project sites and Chocolate Mountains are part of an alluvial fan drainage system. Alluvial fans occur when stream flow feeds into a system of distributary channels. Infrequent yet intense rainfall causes sheetflood across the fan surface, in which sediment-laden water overflows from the confines of its channel and eventually results in gravel deposits that have the appearance of a network of braided channels. A number of these braided channels are fluid in nature and are relic scars that do not actively transport water during rain events. These relic channels would therefore be considered inactive, whereas channels that actively transport water during rain events would be considered active.

The alluvial fan drainage system produces ephemeral conditions within the project sites following large rain events and contains a network of inactive and active braided channels. In addition, this interconnected drainage system has associated riparian corridors that occur throughout the project sites.

Within the project sites, the alluvial fan system directs surface flow from the Chocolate Mountains through the project sites to the southwest. Surface flow eventually feeds into the intermittent drainage features associated with Siphon Four, Siphon Five, and Siphon Six. The siphons direct flow over the Coachella Canal and eventually under the railroad right-of-way before ultimately draining into the East

Highline Canal and/or associated wetlands. Both the Coachella Canal and East Highline Canal divert water from the All-American Canal, which brings water from the Colorado River at the Imperial Dam. The Coachella Canal supplies water to the Coachella Valley north of the Salton Sea, and eventually drains into a manmade storage reservoir known as Lake Cahuilla. The East Highline Canal supplies water to the Imperial Valley via smaller lateral canals and drains that ultimately drain to the Salton Sea (Appendix F1 of this EIR). Additional hydrologic features include the presence of two training dikes located primarily within the VEGA SES 2 site. The locations of these dikes are depicted on Figure 2-2. As shown, one dike extends northerly from the Coachella Canal through APN #025-010-006 (VEGA SES 2) and a portion of APN #025-010-006 (VEGA SES 3).

VEGA SES 5

The VEGA SES 5 Project site is also within the Salton Sea Watershed. The project site and adjacent upslope areas are within an alluvial fan drainage system that produces ephemeral conditions with surface waters flowing in direct response to large rain events for short durations. A number of ephemeral features within the project site are relic remains of rain events and do not actively transport surface flow within the site; they would therefore be considered inactive ephemeral drainages. Furthermore, these features lack connectivity to the intermittent system farther upstream due to the presence of the railroad right-of-way.

The hydrology of the intermittent system within the project site supports associated wetland, alkali sink, and riparian habitat. The intermittent system ultimately drains into wetlands existing along the eastern end of the East Highline Canal, and additional wetlands exist along the western end of the canal. Runoff within the project site generally flows southwest from the direction of the Chocolate Mountains toward the East Highline Canal and associated wetlands (Appendix F2 of this EIR).

Flooding

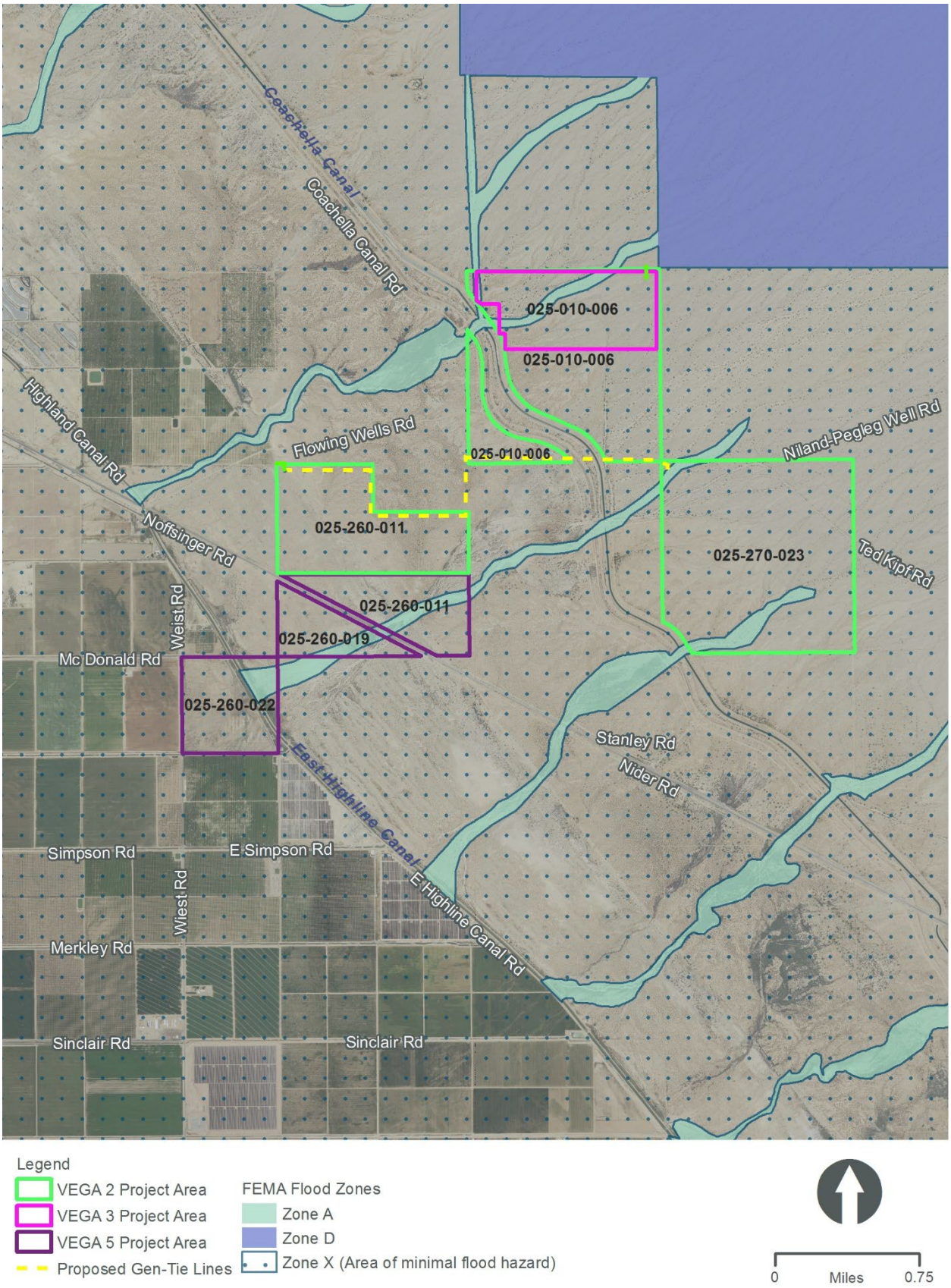
VEGA SES 2 and 3

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (Panel 06025C0750C) (FEMA 2008), the majority of the VEGA SES 2 and 3 Project sites, including the gen-tie, are within Zone X (unshaded designation), which is an area determined to be outside of the 0.2 percent annual chance floodplain (Figure 3.10-1). However, there are dry (ephemeral) wash beds that transect the VEGA 2 and 3 Project sites (northwest corner of APN 025-010-006 and northwest and southern portions of APN 025-270-023). These areas are designated as Zone A or Special Flood Hazard Areas and are subject to flash flooding.

VEGA SES 5

The majority of the VEGA SES 5 Project site, including the gen-tie, is within Zone X, which is an area determined to be outside of the 0.2 percent annual chance floodplain (Figure 3.10-1). However, there are dry (ephemeral) wash beds that transect the project site. These areas are designated as Zone A or Special Flood Hazard Areas and are subject to flash flooding.

Figure 3.10-1. FEMA Flood Zones



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Surface Water Quality

The surface waters of the Imperial Valley depend primarily on the inflow of irrigation water from the Colorado River via the All-American Canal. Excessive salinity concentrations have long been one of the major water quality problems of the Colorado River, a municipal and industrial water source to millions of people, and a source of irrigation water for approximately 700,000 acres of farmland. The heavy salt load in the Colorado River results from both natural and human activities. Land use and water resources are unequivocally linked. A variety of natural and human factors can affect the quality and use of streams, lakes, and rivers. Surface waters may be impacted from a variety of point and non-point discharges. Examples of point sources may include wastewater treatment plants, industrial discharges, or any other type of discharge from a specific location (commonly a large-diameter pipe) into a stream or water body. In contrast, non-point source pollutant sources are generally more diffuse in nature and connected to a cumulative contribution of multiple smaller sources. Common non-point source contaminants within the project area may include, but are not limited to, sediment, nutrients (phosphorous and nitrogen), trace metals (e.g., lead, zinc, copper, nickel, iron, cadmium, and mercury), oil and grease, bacteria (e.g., coliform), viruses, pesticides and herbicides, organic matter, and solid debris/litter. Vehicles account for most of the heavy metals, fuel, fuel additives (e.g., benzene), motor oil, lubricants, coolants, rubber, battery acid, and other substances. Nutrients result from excessive fertilizing of agricultural areas, while pesticides and herbicides are widely used in agricultural fields and roadway shoulders for keeping ROW areas clear of vegetation and pests. All these substances are entrained by runoff during wet weather and discharged into local drain facilities and eventually into the Salton Sea.

Based on the 305(b)/303(d) Integrated Report prepared by the Colorado River Basin RWQCB (CA RWQCB 2018), the following water features within the Brawley Hydrologic Area includes the Imperial Valley Drains (East Highline Canal) and the Salton Sea. Specific impairments listed for each of these water bodies (or Category 5) are identified below:

- Imperial Valley Drains: Impaired for ammonia, chlordane, chlorpyrifos dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), dieldrin, disulfoton, imidacloprid, PCBs, sedimentation/siltation, selenium, toxaphene, and toxicity.
- Salton Sea: Impaired for ammonia, arsenic, chloride, chlorpyrifos, DDE, DDT, enterococcus, low dissolved oxygen, nutrients, salinity, and toxicity.

Groundwater

According to the California RWQCB GAMA's Groundwater Information System,[1] the entire VEGA SES 2 and 3 Project sites and the majority of the VEGA SES 5 Project site are located within the East Salton Sea Groundwater Basin (Basin 7-033). The East Salton Sea Groundwater Basin covers 306 square miles. This basin underlies Chocolate Valley in southern Riverside County and northern Imperial County. The western portion of the basin is traversed by the San Andreas fault zone and two unnamed faults, which may impede the movement of groundwater. Recharge to the basin is chiefly from the infiltration of runoff through alluvial deposits at the base of the surrounding mountains. Total storage capacity is estimated to be 360,000 acre-feet. Groundwater in this basin is reported as not suitable for domestic, municipal, or agricultural purposes (California Department of Water Resources 2004b).

[1] https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/

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The only portion of the project sites that is not within the East Salton Sea Groundwater Basin (Basin 7-033) is the southwest corner of VEGA SES 5 (APN 025-260-022), which is located within the Imperial Valley Groundwater Basin (Basin 7-030). The Imperial Valley Groundwater Basin covers approximately 1,870 surface square miles. The physical groundwater basin extends in the southeastern portion of California at the border with Mexico. The basin lies within the southern part of the Colorado Desert Hydrologic Region, south of the Salton Sea. The basin has two major aquifers, separated at depth by a semi-permeable aquitard that averages 60 feet thick and reaches a maximum thickness of 280 feet. The average thickness of the upper aquifer is 200 feet with a maximum thickness of 450 feet. The data regarding faults controlling groundwater movement is uncertain; however, as much as 80 feet of fine-grained, low permeability prehistoric lake deposits have accumulated on the valley floor, which result in locally confined aquifer conditions. Groundwater recharge within the basin is primarily from irrigation return. Other recharge sources are deep percolation of rainfall and surface runoff, underflow into the basin, and seepage from unlined canals that traverse the valley. Groundwater levels within a majority of the basin have remained stable from 1970 to 1990 because of relatively constant recharge and an extensive network of subsurface drains. Groundwater quality varies extensively throughout the base; however, is generally unusable for domestic and irrigation purposes without treatment (California Department of Water Resources 2004b).

3.10.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the project.

Federal

Clean Water Act

The U.S. EPA is the lead federal agency responsible for managing water quality. The CWA of 1972 is the primary federal law that governs and authorizes the U.S. EPA and the states to implement activities to control water quality. The various elements of the CWA that address water quality and that are applicable to the project are discussed below. Wetland protection elements administered by the USACE under Section 404 of the CWA, including permits for the discharge of dredged and/or fill material into waters of the United States, are discussed in Section 3.5, Biological Resources.

Under federal law, the U.S. EPA has published water quality regulations under Volume 40 of the CFR. Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the U.S. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question; and (2) criteria that protect the designated uses. Section 304(a) requires the U.S. EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. The U.S. EPA is the federal agency with primary authority for implementing regulations adopted under the CWA. The U.S. EPA has delegated the State of California the authority to implement and oversee most of the programs authorized or adopted for CWA compliance through the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act), described below.

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the U.S. must obtain a water quality certification from the SWRCB in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate.

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CWA Section 402 establishes the National Pollution Discharge Elimination System (NPDES) permit program to control point source discharges from industrial, municipal, and other facilities if their discharges go directly to surface waters. The 1987 amendments to the CWA created a new section of the CWA devoted to regulating storm water or nonpoint source discharges (Section 402[p]). The U.S. EPA has granted California primacy in administering and enforcing the provisions of the CWA and the NPDES program through the SWRCB. The SWRCB is responsible for issuing both general and individual permits for discharges from certain activities. At the local and regional levels, general and individual permits are administered by RWQCBs.

Clean Water Act Section 303(d) Impaired Waters List

CWA Section 303(d) requires states to develop lists of water bodies that will not attain water quality standards after implementation of minimum required levels of treatment by point-source dischargers. Section 303(d) requires states to develop a total maximum daily load (TMDL) for each of the listed pollutants and water bodies. A TMDL is the amount of loading that the water body can receive and still comply with applicable water quality objectives and applied beneficial uses. TMDLs can also act as a planning framework for reducing loadings of a specific pollutant from various sources to achieve compliance with water quality objectives. TMDLs prepared by the state must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows links between loading reductions and the attainment of water quality objectives.

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations that limit development in floodplains. FEMA also issues Flood Insurance Rate Maps (FIRM) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection covered by the FIRM is established by FEMA, with the minimum level of flood protection for new development determined to be the 1-in-100 (0.01) annual exceedance probability (i.e., the 100-year flood event).

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, also known as the California Water Code, is California's statutory authority for the protection of water quality. Under this act, the state must adopt water quality policies, plans, and objectives that protect the state's waters. The act sets forth the obligations of the State Water Resources Control Board (SWRCB) and RWQCBs pertaining to the adoption of Water Quality Control Plans and establishment of water quality objectives. Unlike the CWA, which regulates only surface water, the Porter-Cologne Act regulates both surface water and groundwater.

Water Quality Control Plan for the Colorado River Basin

The Water Quality Control Plan for the Colorado River Basin (or Basin Plan) prepared by the Colorado River RWQCB (Region 7) identifies beneficial uses of surface waters within the Colorado River Basin region, establishes quantitative and qualitative water quality objectives for protection of beneficial uses, and establishes policies to guide the implementation of these water quality objectives.

Water bodies that have beneficial uses that may be affected by construction activity and post-construction activity include the Imperial Valley Drains and the Salton Sea. Table 3.10-1 identifies the designated beneficial uses established for the project site's receiving waters. The following are definitions of the applicable beneficial uses:

- Aquaculture (AQUA) – Uses of water for aquaculture or mariculture operations including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or bait purposes.
- Freshwater Replenishment (FRSH) – Uses of water for natural or artificial maintenance of surface water quantity or quality.
- Industrial Service Supply (IND) – Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, and oil well repressurization.
- Water Contact Recreation (REC I) – Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, and use of natural hot springs.
- Non-contact Water Recreation (REC II) – Uses of water for recreational activities involving proximity to water, but not normally involving contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
- Warm Freshwater Habitat (WARM) – Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
- Wildlife Habitat (WILD) – Uses of water that support terrestrial ecosystems including, but not limited to, the preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.
- Preservation of Rare, Threatened, or Endangered Species (RARE) – Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered.

Table 3.10-1. Beneficial Uses of Receiving Waters

Beneficial Uses	Imperial Valley Drains	Salton Sea
AQUA	--	X
FRSH	X	--
IND	--	P
REC I	X	X
REC II	X	X

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Table 3.10-1. Beneficial Uses of Receiving Waters

Beneficial Uses	Imperial Valley Drains	Salton Sea
WARM	X	X
WILD	X	X
RARE	X	X

Source: SWRCB 2019

AQUA=aquaculture; FRSH=freshwater replenishment; IND=industrial service supply; P=Potential Uses; RARE=Preservation of Rare, Threatened, or Endangered Species; REC 1= water contact recreation; REC II=non-contact water recreation; WARM=Warm Freshwater Habitat; WILD=Wildlife Habitat; X=existing beneficial uses

National Pollution Discharge Elimination System General Industrial and Construction Permits

The NPDES General Industrial Permit requirements apply to the discharge of stormwater associated with industrial sites. The permit requires implementation of management measures that will achieve the performance standard of the best available technology economically achievable and best conventional pollutant control technology. Under the statute, operators of new facilities must implement industrial BMPs in the projects' SWPPP and perform monitoring of stormwater discharges and unauthorized non-stormwater discharges.

Construction activities are regulated under the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit), which covers stormwater runoff requirements for projects where the total amount of ground disturbance during construction exceeds 1 acre. Coverage under a General Construction Permit requires the preparation of an SWPPP and submittal of a Notice of Intent (NOI) to comply with the General Construction Permit. The SWPPP includes a description of BMPs to minimize the discharge of pollutants from the sites during construction. Typical BMPs include temporary soil stabilization measures (e.g., mulching and seeding), storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or storm water, and using filtering mechanisms at drop inlets to prevent contaminants from entering storm drains. Typical post-construction management practices include street sweeping and cleaning stormwater drain inlet structures. The NOI includes site-specific information and the certification of compliance with the terms of the General Construction Permit.

Local

County of Imperial General Plan

The Water Element and the Conservation and Open Space Element of the General Plan contain policies and programs, created to ensure water resources are preserved and protected. Table 3.10-2 identifies the General Plan policies and programs for water quality and flood hazards that are relevant to the project and summarizes the project's consistency with the General Plan. While this EIR analyzes the project's consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

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Table 3.10-2. Project Consistency with Applicable General Plan Policies

General Plan Policies	Consistency with General Plan	Analysis
Conservation and Open Space Element		
Goal 6: The County will conserve, protect, and enhance water resources in the County.	Consistent	The proposed projects would protect water quality during construction through compliance with Imperial County design and detention requirements and the NPDES General Construction Permit, as well as preparation and implementation of project-specific SWPPPs, which will incorporate the requirements referenced in the State Regulatory Framework, design features, and BMPs.
Objective 6.3: Protect and improve water quality and quantity for all water bodies in Imperial County.	Consistent	The proposed projects would protect water quality during construction through compliance with the NPDES General Construction Permit, SWPPP, and BMPs. Implementation of Mitigation Measure HYD-2 would require the project to incorporate post-construction BMPs into the proposed projects' drainage plans. The proposed projects will be designed to include site design, source control, and treatment control BMPs. The use of source control, site design, and treatment BMPs would result in a decrease potential for storm water pollution.
Program: Structural development normally shall be prohibited in the designated floodways. Only structures which comply with specific development standards should be permitted in the floodplain.	Consistent	The proposed projects do not contain a residential component, nor would it place housing or other structures within a 100-year flood hazard area.
Water Element		
Policy: Adoption and implementation of ordinances, policies, and guidelines which assure the safety of County ground and surface waters from toxic or hazardous materials and/or wastes.	Consistent	The projects would preserve ground and surface water quality from hazardous materials and wastes during construction, operation, and decommissioning activities. The proposed projects would protect water quality during construction through compliance with NPDES General Construction Permit SWPPP, which will incorporate the requirements referenced in the State Regulatory Framework and BMPs. Implementation of Mitigation Measure HYD-2 would require the projects to incorporate post-construction BMPs into the projects' drainage plan. The proposed projects will be designed to include site design, source control, and treatment control BMPs. The use of source control, site design, and treatment BMPs would result in a decrease potential for storm water pollution. It is anticipated that decommissioning activities would be subject to similar or more stringent ground and surface water regulations than those currently required.

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Table 3.10-2. Project Consistency with Applicable General Plan Policies

General Plan Policies	Consistency with General Plan	Analysis
Program: The County of Imperial shall make every reasonable effort to limit or preclude the contamination or degradation of all groundwater and surface water resources in the County.	Consistent	Mitigation measures will require that the applicant of the proposed projects prepare a site-specific drainage plan and water quality management plan to minimize adverse effects to local water resources.
Program: All development proposals brought before the County of Imperial shall be reviewed for potential adverse effects on water quality and quantity and shall be required to implement appropriate mitigation measures for any significant impacts.	Consistent	See response for Water Element Policy above.

Source: County of Imperial 2016; County of Imperial 1997b

County of Imperial Land Use Ordinance, Title 9

Division 16 of the Land Use Ordinance addresses the Flood Damage Prevention Regulation. The purpose of this division is to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provision of design to protect human life and minimize damage. Division 16 of the Land Use Ordinance requires an application for development in the floodplain to be submitted to the County's Floodplain Administrator. This division restricts floodplain uses; requires that floodplain uses be protected against flood damage; controls alteration of floodplains and stream channels; controls filling and grading in floodplains; and prevents diversion of flood flows where these would increase flood hazards in other areas.

Division 22 of the Land Use Ordinance addresses groundwater. The focus of this division is to preserve, protect, and manage the groundwater within the County.

In 1998, the County adopted a comprehensive Groundwater Management Ordinance for the express purpose of preserving and managing groundwater resources within the County (Chapter 1 of Title 9). The Groundwater Management Ordinance is implemented by the Planning Commission acting upon the direction of the Board of Supervisors.

The Commission, charged by the Board of Supervisors with the regulation of groundwater, can request preparation of an annual report on groundwater supplies and conditions, determine the need for and recommend groundwater management activities (see Section 92202.00), recommend groundwater extraction standards and charges, and establish standards for artificial recharge, among other things. The Groundwater Ordinance provides the County with various regulatory tools that are designed to avoid or minimize the impact of existing and proposed groundwater extraction activities on groundwater resources and other users. For example, Section 92201.13 provides a remedy for water users who are aggrieved by well interference (defined as a substantial water level decline in a short time period in a localized area caused by extraction) or other impairment or infringement of the groundwater use caused by the extraction activities of another party. In such cases, the Commission may issue any order that it determines necessary to provide the petitioning water user with an adequate remedy. The Groundwater Ordinance also requires that existing extraction facilities be registered with the County.

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The County's Ordinance Code provides specific direction for the protection of water resources. Applicable ordinance requirements are contained in Division 10, Building, Sewer and Grading Regulations, and summarized below.

Chapter 10 – Grading Regulations. Section 91010.02 of the Ordinance Code outlines conditions required for issuance of a Grading Permit. These specific conditions include:

1. If the proposed grading, excavation, or earthwork construction is of irrigatable land, said grading will not cause said land to be unfit for agricultural use.
2. The depth of the grading, excavation or earthwork construction will not preclude the use of drain tiles in irrigated lands.
3. The grading, excavation or earthwork construction will not extend below the water table of the immediate area.
4. Where the transition between the grading plane and adjacent ground has a slope less than the ratio of 1.5 feet on the horizontal plane to 1 foot on the vertical plane, the plans and specifications will provide for adequate safety precautions.

Imperial County Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage and Grading Plans within Imperial County

Based on the guidance contained in the County's *Engineering Guidelines Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage and Grading Plans within Imperial County* (2008), the following drainage requirements would be applicable to the proposed projects.

III A. GENERAL REQUIREMENTS

1. All drainage design and requirements are recommended to be in accordance with the IID "Draft" Hydrology Manual or other recognized source with approval by the County Engineer and based on full development of upstream tributary basins. Another source is the Caltrans I-D-F curves for the Imperial Valley.
3. Permanent drainage facilities and ROW, including access, shall be provided from development to point of satisfactory disposal.
4. Retention volume on retention or detention basins should have a total volume capacity for a three (3) inch minimum precipitation covering the entire site with no C reduction factors. Volume can be considered by a combination of basin size and volume considered within parking and/or landscaping areas.

   There is no guarantee that a detention basin outletting to an IID facility or other storm drain system will not back up should the facility be full and unable to accept the project runoff. This provides the safety factor from flooding by ensuring each development can handle a minimum 3-inch precipitation over the project site.
7. Finish pad elevations should be indicated on the plans, which are at or above the 100-year frequency flood elevation identified by the engineer for the parcel. Finish floor elevations should be set at least 6 inches above the 100-year flood elevation.
8. The developer shall submit a drainage study and specifications for improvements of all drainage easements, culverts, drainage structures, and drainage channels to the Department of Public Works for approval. Unless specifically waived herein, required plans and specifications shall provide a drainage system capable of handling and disposing of all surface

waters originating within the subdivision and all surface waters that may flow onto the subdivision from adjacent lands. Said drainage system shall include any easements and structures required by the Department of Public Works or the affected Utility Agency to properly handle the drainage on-site and off-site. The report should detail any vegetation and trash/debris removal, as well as address any standing water.

9. Hydrology and hydraulic calculations for determining the storm system design shall be provided to the satisfaction of the Director, Department of Public Works. When appropriate, water surface profiles and adequate field survey cross-section data may also be required.

11. The County is implementing a storm water quality program as required by the SWRCB, which may modify or add to the requirements and guidelines presented elsewhere in this document. This can include ongoing monitoring of water quality of storm drain runoff, implementation of BMPs to reduce storm water quality impacts downstream or along adjacent properties. Attention is directed to the need to reduce any potential of vectors, mosquitoes, or standing water.

12. A Drainage Report is required for all developments in the County. It shall include a project description, project setting including discussions of existing and proposed conditions, any drainage issues related to the site, summary of the findings or conclusions, off-site hydrology, onsite hydrology, hydraulic calculations, and a hydrology map.

Imperial Irrigation District

The IID is an irrigation district organized under the California Irrigation District Law, codified in Section 20500 et seq. of the California Water Code. Critical functions of IID include diversion and delivery of Colorado River water to the Imperial Valley, operation and maintenance of the drainage canals and facilities, including those in the project area, and generation and distribution of electricity. Several policy documents govern IID operations and are summarized below:

- The Law of the River and historical Colorado River decisions, agreements, and contracts
- The Quantification Settlement Agreement and Transfer Agreements
- The Definite Plan, now referred to as the Systems Conservation Plan, which defines the rigorous agricultural water conservation practices being implemented by growers and IID to meet the Quantification Settlement Agreement commitments
- The Equitable Distribution Plan, which defines how IID will prevent overruns and stay within the cap on the Colorado River water rights
- Existing IID standards and guidelines for evaluation of new development and define IID's role as a responsible agency and wholesaler of water

Integrated Water Resources Management Plan

In relation to the project, IID maintains regulation over the drainage of water into their drains, including the design requirements of storm water retention basins. IID requires that retention basins be sized to handle an entire rainfall event in case the IID system is at capacity. Additionally, IID requires that outlets to IID facilities be no larger than 12 inches in diameter and must contain a backflow prevention device (IID 2009).

3.10.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to hydrology/water quality are considered significant if any of the following occur:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade groundwater water quality.
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
  - Result in substantial erosion or siltation on or off site.
  - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site.
  - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
  - Impede or redirect flood flows.
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Methodology

The drainage design will be conducted in accordance with the County of Imperial's design criteria, which establishes that 100 percent of the 100-year storm (3 inches of rain) will be stored on site and released into the IID drainage system using existing drainage connections.

Impact Analysis – Solar Energy Facility and Gen-Tie

Impact 3.10-1 Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade groundwater water quality?

Construction

Construction of the proposed projects would include site preparation, foundation construction, erection of major equipment and structures, installation of electrical systems, control systems, and startup/ testing. In addition, the construction of transmission lines, utility pole pads, conductors, and associated structures will be required.

During the construction phase, sedimentation and erosion can occur because of tracking from earthmoving equipment, erosion and subsequent runoff of soil, or improperly designed. The utilization of proper erosion and sediment control BMPs is critical in preventing discharge to surface waters/ drains. The proposed projects would employ proper SWPPP practices to minimize any discharges in

order to meet the Best Available Technology/Best Conventional Technology standard set forth in the Construction General Permit.

The projects have the potential to affect surface water quality. Many different types of hazardous compounds will also be used during the construction phase, with proper application, management, and containment being of high importance. Poorly managed construction materials can lead to the possibility for exposure of potential contaminants to precipitation. When this occurs, these visible and/or non-visible constituents become entrained in storm water runoff. If they are not intercepted or are left uncontrolled, the polluted runoff would otherwise freely sheet flow from the project sites to the IID Imperial Valley Drains and could result in the accumulation of these pollutants in the receiving waters. This potential impact is considered a significant impact. With the implementation of Mitigation Measure HYD-1, impacts on surface water quality as attributable to the projects would be reduced to a level less than significant.

Prior to construction and grading activities, the project applicant is required to file an NOI with the SWRCB to comply with the General NPDES Construction Permit and prepare an SWPPP, which addresses the measures that would be included during construction of the projects to minimize and control construction and post-construction runoff to the “maximum extent practicable.” In addition, NPDES permits require the implementation of BMPs that achieve a level of pollution control to the maximum extent practical. With the implementation of Mitigation Measure HYD-1, impacts on surface water quality as attributable to the projects would be reduced to a level less than significant through the inclusion of focused BMPs for the protection of surface water resources. Monitoring and contingency response measures would be included to verify compliance with water quality objectives for all surface waters crossed during construction. In addition, given that site decommissioning would result in similar activities as identified for construction, these impacts could also occur in the future during site restoration activities. This is considered a less than significant impact after mitigation has been incorporated.

Operation

As runoff flows over-developed surfaces, water can entrain a variety of potential pollutants including, but not limited to, oil and grease, pesticides, trace metals, and nutrients. These pollutants can become suspended in runoff and carried to receiving waters. As mentioned in Section 3.10.1, these effects are commonly referred to as non-point source water quality impacts.

Long-term operation of the solar facility poses a limited threat to surface water quality after the completion of construction. The projects would be subject to the County’s Grading Regulations as specified in Section 91010.02 of the Ordinance Code. However, since the project sites are located in unincorporated Imperial County and not subject to a Municipal Separate Storm Sewer System or NPDES General Industrial Permit, there is no regulatory mechanism in place to address post-construction water quality concerns. Based on this consideration, the projects have the potential to result in both direct and indirect water quality impacts that could be significant. Implementation of Mitigation Measure HYD-2 would require the projects to incorporate post-construction source control and treatment control BMPs into the projects’ final drainage plans. Implementation of the project-specific source control and treatment BMPs into the final drainage plans would result in a decreased potential for storm water pollution.

While source control and treatment control BMPs would be finalized during preparation of the final drainage plans, the following are examples of BMPs that could be utilized to reduce the potential for storm water pollution.

Source Control BMPs. Source control BMPs (both structural and non-structural) means land use or site planning practices, or structures that aim to prevent urban runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff. Table 3.10-3 identifies examples of source control BMPs that could be implemented into the proposed projects.

Table 3.10-3. Source Control Best Management Practices

Design Concept		Description
1	Design Trash Storage Areas to Reduce Pollution Introduction	Design outdoor trash storage areas so that run-on from adjoining areas cannot enter. Screen or wall trash enclosures to prevent the off-site transport of trash.
2	Activity Restrictions	Restrict activities that have the potential to create adverse impacts on water quality.
3	Non-storm Water Discharges	Provide educational materials on illegal dumping and spill response to employees.
4	Outdoor Loading and Unloading	Handle materials in a manner that prevents any storm water pollution.
5	Spill Prevention, Control, and Cleanup	Require a Spill Prevention, Control, and Countermeasure Plan, and a Hazardous Materials Business Plan in accordance with Federal and State requirements.
6	Education	Provide employees with materials for storm water pollution prevention in the form of brochures and other information in a format approved by the County of Imperial.
7	Integrated Pest Management	Reduce the need for pesticide use on site by: • Keeping pests out of buildings using barriers, screens, and caulking • Eliminating pests through squashing, trapping, washing or pruning • Relying on natural enemies to eat pests • Using pesticides correctly as a last line of defense
8	Vehicle and Equipment Fueling, Cleaning, and Repair	Service all vehicles off site whenever possible. If servicing is required on site, it must be conducted in an area isolated from storm drain inlets or drainage ditch inlets. The area must be bermed and precluded from run-on. Any spillage must be fully contained and captured and disposed of per County of Imperial Hazardous Waste requirements.
9	Waste Handling and Disposal	Dispose of materials in accordance with Imperial County Hazardous Material Management guidelines. Under no circumstances shall any waste or hazardous materials be stored outside without secondary containment.

Treatment Control BMPs. Treatment control BMPs include both short-term and long-term drainage solutions to ensure the proper sequencing of drainage facilities and treatment of runoff generated from project impervious surfaces prior to off-site discharge.

Mitigation Measure(s)

HYD-1 **Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration.** The project applicant or its contractor shall prepare an SWPPP specific to the projects and be responsible for securing coverage under SWRCB's NPDES storm water permit for general construction activity (Order 2009-0009-DWQ). The

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SWPPP shall identify specific actions and BMPs relating to the prevention of storm water pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the appropriate agency, including the County of Imperial Department of Public Works and the Coachella Valley Water District, prior to commencement of work and shall be made conditions of the contract with the contractor selected to build and decommission the projects. The SWPPP shall incorporate control measures in the following categories:

- Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching)
- Sediment control practices (e.g., temporary sediment basins, fiber rolls)
- Temporary and post-construction on- and off-site runoff controls
- Special considerations and BMPs for water crossings and drainages
- Monitoring protocols for discharge(s) and receiving waters, with emphasis place on the following water quality objectives: dissolved oxygen, floating material, oil and grease, potential of hydrogen (pH), and turbidity
- Waste management, handling, and disposal control practices
- Corrective action and spill contingency measures
- Agency and responsible party contact information
- Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP

The SWPPP shall be prepared by a Qualified SWPPP Practitioner and/or Qualified SWPPP Developer with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. BMPs for soil stabilization and erosion control practices and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure.

HYD-2 **Incorporate Post-Construction Runoff BMPs into Project Drainage Plan.** The project Drainage Plan shall adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of storm water to existing drainage systems. Infiltration basins will be integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary. The

Drainage Plan shall be submitted to the County of Imperial Department of Public Works and Coachella Valley Water District for review and approval.

Significance after Mitigation

With the implementation of Mitigation Measure HYD-1, impacts related to surface water quality as attributable to the proposed projects would be reduced to a less than significant level through the inclusion of focused BMPs for the protection of surface water resources. Monitoring and contingency response measures would be included to verify compliance with water quality objectives for all surface waters crossed during construction.

With the implementation of Mitigation Measure HYD-2, potential water quality impacts resulting from post-construction discharges during operation for the proposed projects would be reduced to a less than significant level. Implementation of Mitigation Measure HYD-2 would require the proposed projects to incorporate post-construction BMPs into the respective drainage plans of the proposed projects. The use of source control and treatment BMPs would result in a decrease potential for storm water pollution.

Impact 3.10-2 ***Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?***

Water for construction, primarily for dust control, and water for washing the PV modules during operation of the proposed project would be obtained from the proposed groundwater supply wells. As described in Chapter 2 Project Description, there are no public water systems that will serve the projects. The water supply will be provided by new onsite groundwater supply wells to be drilled and installed as part of the projects. As described in Chapter 2, Project Description, the construction of a groundwater well requires approval of a CUP. Approval of the CUP would be contingent upon the availability of groundwater to serve the projects and ability to recharge the aquifer so that groundwater supplies are not substantially decreased by the proposed project. As described in Section 3.15, Utilities and Service Systems, adequate groundwater resources are available to serve the projects.

Further, groundwater recharge in the area would not be significantly affected because the majority of the project sites will feature a pervious landscape in both the existing and proposed conditions. Any runoff from solar panel washing would evaporate or percolate through the ground, as a majority of the surfaces in the solar fields would remain pervious. Retention basins will also provide infiltration and groundwater recharge. The proposed projects would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the projects may impede sustainable groundwater management of the basin. No significant impacts on groundwater supply or recharge would occur.

Mitigation Measure(s)

No mitigation measures are required.

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Impact 3.10-3 ***Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:***

Result in substantial erosion or siltation on or off site?

Construction

Project construction activities, specifically grading and excavation, have the potential to temporarily alter the existing drainage pattern of the sites such that soil erosion occurs. However, to the extent feasible, site preparation would be planned and designed to minimize the amount of earth movement. Compaction of the soil to support building and traffic loads as well as the PV module supports may be required and is dependent on final engineering design. During construction, erosion would be controlled in accordance with County standards which include preparation, review, and approval of a grading plan by the County Engineer; implementation of a Dust Control Plan (Rule 801); and compliance with the NPDES General Construction Permit. Additionally, with implementation of Mitigation Measure HYD-1, which requires the preparation of a project-specific SWPPP and construction BMPs, project construction would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial on- or off-site erosion or siltation. This is considered a less than significant impact after mitigation has been incorporated.

Operation

After construction is complete, all existing roads would be left in a condition equal to or better than their pre-construction condition. All other areas disturbed by construction activities would be recontoured and decompacted. As such, daily operations and routine maintenance (such as occasional PV panel washing) are not anticipated to alter the existing drainage pattern such that erosion increases when compared to existing conditions. The project sites would remain largely pervious over the operational life of the projects. Additionally, the projects would implement site design BMPs, as outlined in Table 3.10-3, which would reduce soil disturbance during operation. The proposed projects would result in less than significant impacts associated with the alteration of drainage patterns resulting in substantial erosion or siltation on or off site.

Mitigation Measure(s)

No mitigation measures beyond Mitigation Measure HYD-1 are required.

Significance after Mitigation

With the implementation of Mitigation Measure HYD-1, potential impacts associated with the alteration of drainage patterns resulting in substantial erosion or siltation on or off site would be reduced to a level less than significant through compliance with County standards, implementation of a Dust Control Plan (Rule 801), and compliance with the NPDES General Construction Permit and project-specific SWPPP.

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Impact 3.10-4 ***Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:***

Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site?

Construction

Implementation of the projects would not substantially alter the existing drainage pattern of the sites or area. The majority of the project sites would continue to sheet flow through the pervious native soils. The projects will be designed to meet County of Imperial storage requirements (100 percent of the 100-year storm (3 inches of rain)) (refer to the County's *Engineering Guidelines Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage and Grading Plans within Imperial County* (2008)) for storm water runoff, which will result in an impoundment of runoff in excess of the anticipated volume of runoff to be generated by the 100-year storm event. Additionally, implementation of Mitigation Measure HYD-2 requires that the projects' Drainage Plans adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of storm water to existing drainage systems. All hydrologic features would be considered as part of the preparation of detailed drainage plans prepared as part of final engineering for the project. This would include existing drainage facilities, such as the existing training dikes located within VEGA 2 and VEGA 3. ~~As such, i~~Infiltration basins will be integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary.

Operation

Additionally, after construction is complete, all existing roads would be left in a condition equal to or better than their pre-construction condition. All other areas disturbed by construction activities would be recontoured and decompacted. As such, daily operations and routine maintenance (such as occasional PV panel washing) are not anticipated to alter the existing drainage pattern such that flooding (on or off site) increases when compared to existing conditions. Lastly, the project sites would remain largely pervious over the operational life of the project. Therefore, the proposed projects would result in no significant impacts associated with the alteration of drainage patterns resulting in on- or off-site flooding.

Mitigation Measure(s)

No mitigation measures beyond Mitigation Measure HYD-2 are required.

Significance after Mitigation

With the implementation of Mitigation Measure HYD-2, impacts on existing drainage patterns as a result of potentially substantial increases to runoff would be reduced to a level less than significant. Implementation of Mitigation Measure HYD-2 would require the projects' Drainage Plans to adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of stormwater to existing drainage systems.

Impact 3.10-5 ***Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:***

Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

Construction

Implementation of the proposed projects would not substantially alter the existing drainage pattern of the sites or area. During construction, erosion and associated pollutants would be controlled in accordance with County standards, which include preparation, review, and approval of a grading plan by the County Engineer; implementation of a Dust Control Plan (Rule 801); and compliance with the NPDES General Construction Permit and project-specific SWPPP, as outlined in Mitigation Measure HYD-1 (see Impact 3.10-1 for additional details).

Operation

After construction is complete, all existing roads would be left in a condition equal to or better than their pre-construction condition. All other areas disturbed by construction activities would be recontoured and decompacted. The proposed projects are not anticipated to generate a significant increase in the amount of runoff water when compared to existing conditions. As such, daily operations and routine maintenance (such as occasional PV panel washing) are not anticipated to alter the existing drainage pattern such that runoff increases would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. The project sites would remain largely pervious over the operational life of the projects. Water will continue to percolate through the ground, as a majority of the surfaces on the project sites will remain pervious. The proposed projects would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. This is considered a less than significant impact.

Mitigation Measure(s)

No mitigation measures beyond Mitigation Measure HYD-1 are required.

Significance after Mitigation

With the implementation of Mitigation Measure HYD-1, impacts on the existing drainage pattern by the projects that could result in substantial or polluted runoff would be reduced to a level less than significant through compliance with County standards, implementation of a Dust Control Plan (Rule 801), and compliance with the NPDES General Construction Permit and project-specific SWPPP.

Impact 3.10-6 ***Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:***

Impede or redirect flood flows?

As shown in Figure 3.10-1, there are dry (ephemeral) wash beds that transect the VEGA 2 and 3 Project sites (northwest corner of APN 025-010-006, northwest and southern portions of APN 025-270-023), and the VEGA SES 5 Project site. These areas are designated as Zone A or Special Flood Hazard Areas and are subject to flash flooding.

The proposed projects would be designed to comply with the *County of Imperial Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvements, Drainage and Grading Plans within Imperial County* (2008). The proposed retention basins would be sized to capture storm water runoff as if none of it would penetrate into the ground. The County requirement to provide 3 inches of detention per tributary acre would be met and detained runoff would infiltrate the underlying soil.

Any improvements within the Flood Zone A would be designed to comply with the County of Imperial Flood Zone Ordinances and guidelines. Section 91603.01 of Division 16 of Title 9 of the Imperial County Land Use Code designates any lands so identified by the FEMA on the Imperial County Flood Insurance Rate Maps, and any area of land located around the Salton Sea and lying at or below the -220-foot elevation contour, to be areas of special flood hazard. No portion of the project sites lie at or below the -220-foot elevation contour. Section 91604.00 states that “A Development Permit shall be obtained before construction or development begins within any area of special flood hazards or areas of mudslide (i.e., mudflow) established in Section 91603.01.” The project sites are not located in an area subject to mudflow.

Based on the proposed drainage described above, and the projects’ mandatory compliance with regulations regarding hydrology and drainage at the project sites, implementation of the proposed projects would not have a substantial impact on the hydrology of the surrounding area. Peak flow runoff from the project sites would be directed to and infiltrated in designated retention basins and/or percolate into the ground, such that there would be no increase in on-site or off-site flooding potential. Therefore, on- and off-site drainage and flooding impacts would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.10-7 ***In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?***

The project sites are not located near any large bodies of water. The Salton Sea is located approximately 10 miles west of the project sites. Because of the distance, the Salton Sea does not pose a particularly significant danger of inundation from seiche or tsunami as related to the project sites. Furthermore, the project sites are over 100 miles inland from the Pacific Ocean. In addition, the project sites are relatively flat. Therefore, there is no potential for the project sites to be inundated by seiches or tsunamis.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.10-8 Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

As described under Impact 3.10-1 above, with the implementation of Mitigation Measure HYD-1, impacts on surface water quality as attributable to the proposed projects would be reduced to a less than significant level through the inclusion of focused BMPs for the protection of surface water resources. Implementation of Mitigation Measure HYD-2 would require the proposed projects to incorporate post-construction BMPs into their respective drainage plans. The use of source control and treatment BMPs would result in a decrease potential for storm water pollution. Therefore, the proposed projects would not pose a significant threat to local surface water features or shallow groundwater resources. Implementation of Mitigation Measures HYD-1 and HYD-2 would reduce impacts to a level less than significant.

Mitigation Measure(s)

No additional mitigation measures beyond Mitigation Measures HYD-1 and HYD-2 are required.

Significance after Mitigation

With the implementation of Mitigation Measures HYD-1 and HYD-2, the potential water quality impacts resulting during construction and operation of the proposed projects would be reduced to a level less than significant.

3.10.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Decommissioning and restoration activities would result in similar impacts on hydrology and water quality as would occur during construction of the proposed projects. The primary water quality issue associated with decommissioning/restoration would be potential impacts on surface water quality, as the decommissioning activities would be similar to construction activities and would be considered a significant impact. However, during decommissioning, soil erosion would be controlled in accordance with NPDES General Construction Permit(s) and project-specific SWPPP. Compliance with requirements and best available control technologies in place at the time of decommissioning are anticipated to be similar to, or more stringent than, those currently required. Compliance with all applicable water quality regulations would reduce the projects' impacts during decommissioning to a level less than significant. Impacts on other water resource issues, including alteration of drainage patterns, contributing to off-site flooding, impacts on groundwater recharge and supply, would be less than significant. There would be no impact associated with inundation from flooding or mudflows.

Residual

With implementation of the mitigation measures listed above, implementation of the proposed projects would not result in any residual significant impacts related to increased risk of flooding from stormwater runoff, from water quality effects from long-term urban runoff, or from short-term alteration of drainages and associated surface water quality and sedimentation. With the implementation of the required mitigation measures during construction and decommissioning of the projects, water quality impacts

would be minimized to a less than significant level. Based on these circumstances, the proposed projects would not result in any residential significant and unmitigable adverse impacts on surface water hydrology and water quality.

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3.11 Land Use Planning

This section provides information regarding current land use, land use designations, and land use policies within, and in the vicinity of, the project sites. Section 15125(d) of the CEQA Guidelines states that "[t]he EIR shall discuss any inconsistencies between the project and applicable general plans and regional plans." This section fulfills this requirement for the project. In this context, this section reviews the land use assumptions, designations, and policies of the County General Plan and other applicable federal, state, and local requirements, which governs land use within the project area and evaluates the projects' potential to conflict and/or adherence with policies adopted for the purpose of avoiding or mitigating significant environmental effects. Where appropriate, mitigation is applied and the resulting level of impact identified.

3.11.1 Existing Conditions

The project sites are located on approximately 1,963 acres of privately-owned land zoned for agricultural and open space/preservation uses within unincorporated Imperial County. The VEGA SES 2 and 3 and a portion of the VEGA SES 5 project sites east of the East Highline Canal are not currently under cultivation and contain scattered desert vegetation. Meanwhile, the VEGA SES 5 project site west of the East Highline Canal contains fallow agricultural land.

Three separate Conditional Use Permits (CUPs) have been filed with the County for the construction and operation of the solar facilities, which together define the project sites. The three CUP applications or individual site locations consist of the following:

- CUP 20-0021: VEGA SES 2
- CUP 20-0022: VEGA SES 3
- CUP 20-0023: VEGA SES 5

Table 3.11-1 identifies the individual assessor parcel numbers (APN) associated with the VEGA SES 2, 3, and 5 project sites with their respective acreage, General Plan land use designation, and zoning.

Table 3.11-1.Solar Energy Facility Site Assessor Parcel Numbers, Acreages, and Zoning

Project	APN	Acreage	General Plan Land Use	Zoning
VEGA SES 2 (CUP 20-0021)	025-010-006 (partial)	410	Recreation	S-2-RE
	025-260-011 (partial)	288	Recreation	S-2-RE
	025-270-023	625	Recreation	S-2-RE
	Subtotal	***1,323***	--	--
VEGA SES 3 (CUP 20-0022)	025-010-006 (partial)	230	Recreation	S-2-RE
	Subtotal	***230***	--	--
VEGA SES 5	025-260-011 (partial)	160	Recreation	S-2-RE

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Table 3.11-1.Solar Energy Facility Site Assessor Parcel Numbers, Acreages, and Zoning

Project	APN	Acreage	General Plan Land Use	Zoning
(CUP 20-0023)	025-260-019	90	Agriculture	S-2-RE
	025-260-022	160	Recreation and Agriculture	A-2-RE, A-3-RE, S-2-RE
	Subtotal	***410***	**--**	**--**
Total Gross Acres		**1,963**	**--**	**--**

Notes:
APN = assessor parcel number; A-2-RE = General Agriculture with a Renewable Energy Zone Overlay A-3-RE = Heavy Agriculture with a Renewable Energy Zone Overlay; S-2-RE = Open Space/Preservation with a Renewable Energy Zone Overlay

VEGA SES 2

The VEGA SES 2 project site is located on three non-contiguous parcels (APNs 025-010-006 [partial], 025-260-011 [partial], and 025-270-023). The northernmost parcel, APN 025-010-006, comprises 640 acres. The VEGA SES 2 project site is located on the southern 410 acres of the 640-acre parcel. This parcel is approximately 2.31 miles northeast of the East Highline Canal Road/Wiest Road/Flowing Wells Road intersection. This parcel is transected by Coachella Canal Road (intersected by Flowing Wells Road approximately halfway through the parcel) and the Coachella Canal, which runs southeast parallel to the roadway.

The southwestern parcel, APN 025-260-011, encompasses approximately 488 acres. The VEGA SES 2 project is located on the northern 288 acres of the 488-acre parcel.

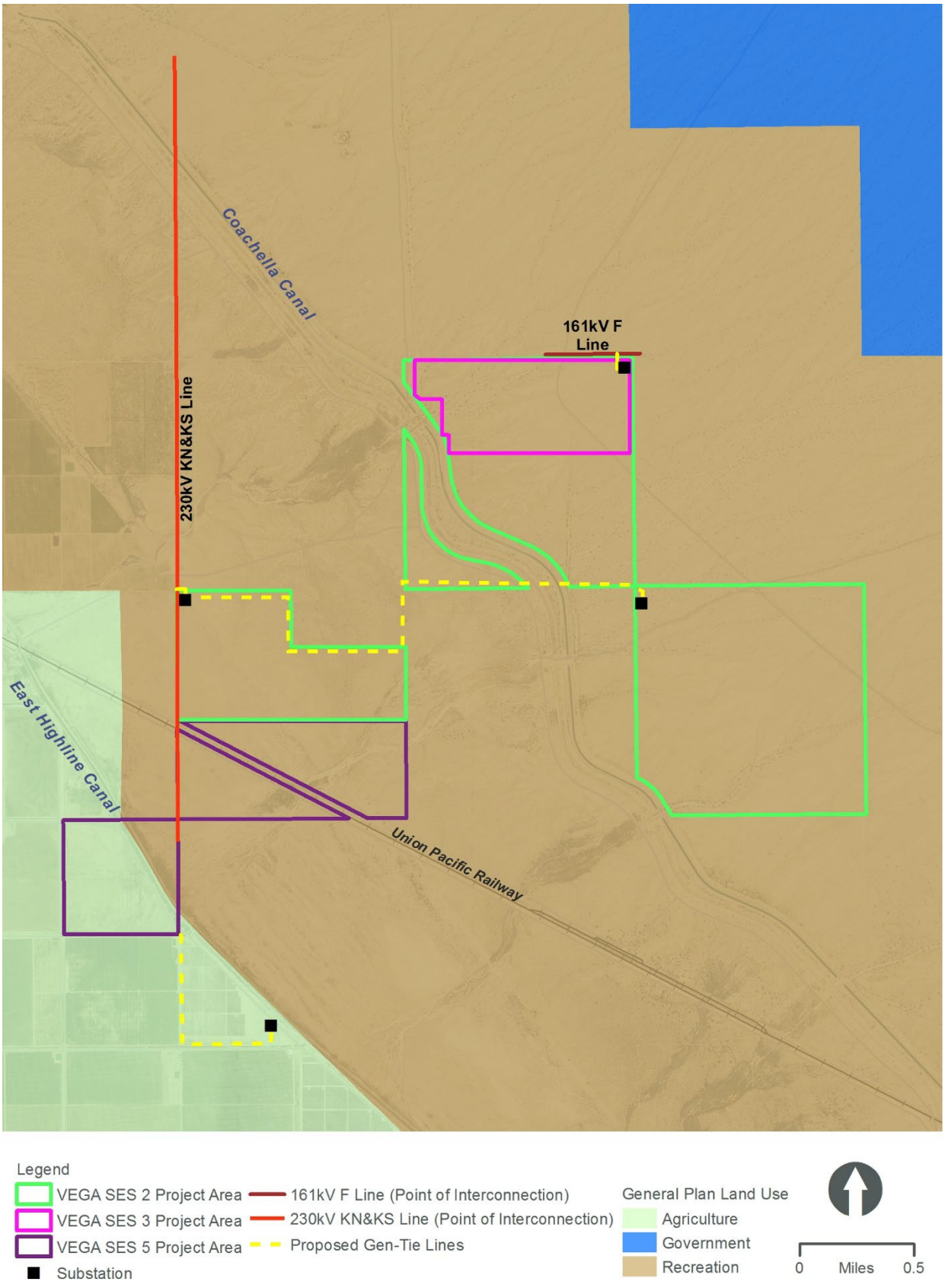
The southeastern parcel, APN 025-270-023, encompasses approximately 625 acres and is adjacent to the southeast corner of APN 025-010-006. An approximately 934-foot segment of the Coachella Canal traverses the southwestern corner of the parcel. This parcel is transected by Niland Pegleg Well Road and Ted Kipf Road in the northern half of the parcel.

As shown in Figure 3.11-1, the VEGA SES 2 project site is designated as Recreation under the County's General Plan. As shown in Figure 3.11-2, the VEGA SES 2 project site is currently zoned Open Space/Preservation with a Renewable Energy Zone Overlay (S-2-RE).

VEGA SES 3

The VEGA SES 3 project site is located on the northern portion of APN 025-010-006, comprising the remaining 230 acres of the 640-acre parcel. The Coachella Canal runs along the western edge of the site. As shown in Figure 3.11-1, the VEGA SES 3 project site is designated as Recreation under the County's General Plan. As shown in Figure 3.11-2, the VEGA SES 3 project site is currently zoned S-2-RE.

Figure 3.11-1. General Plan Land Use Designations



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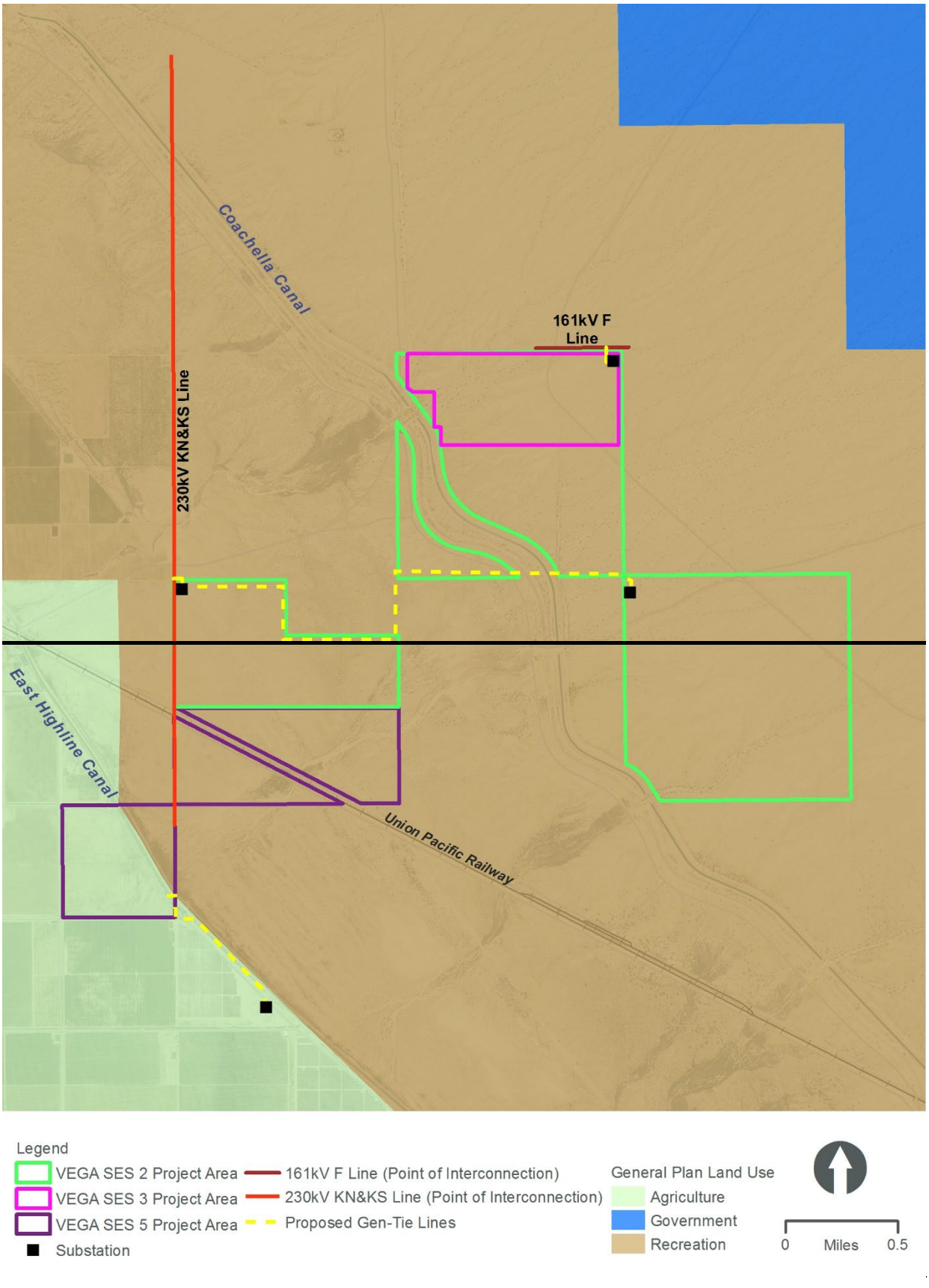

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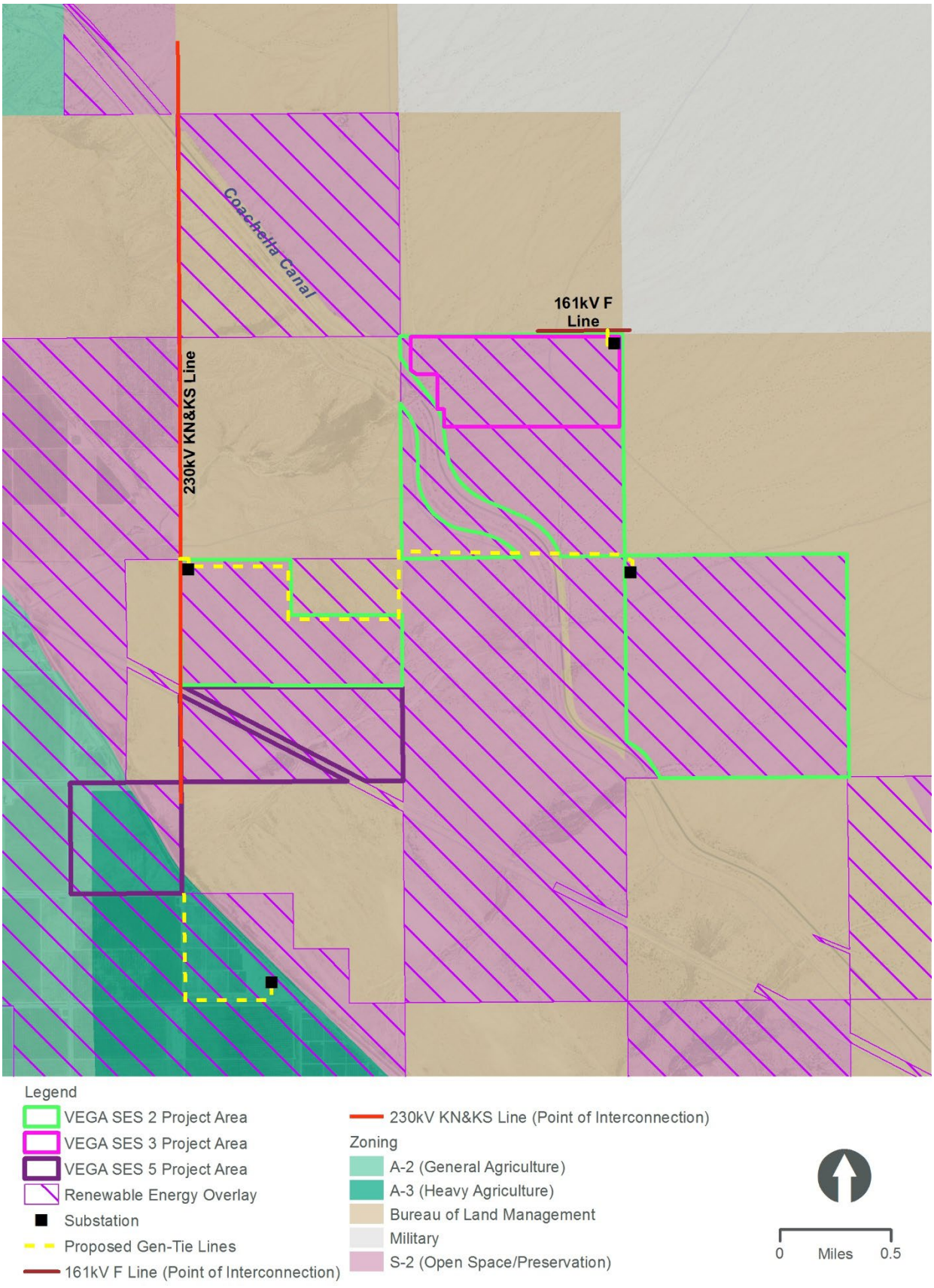
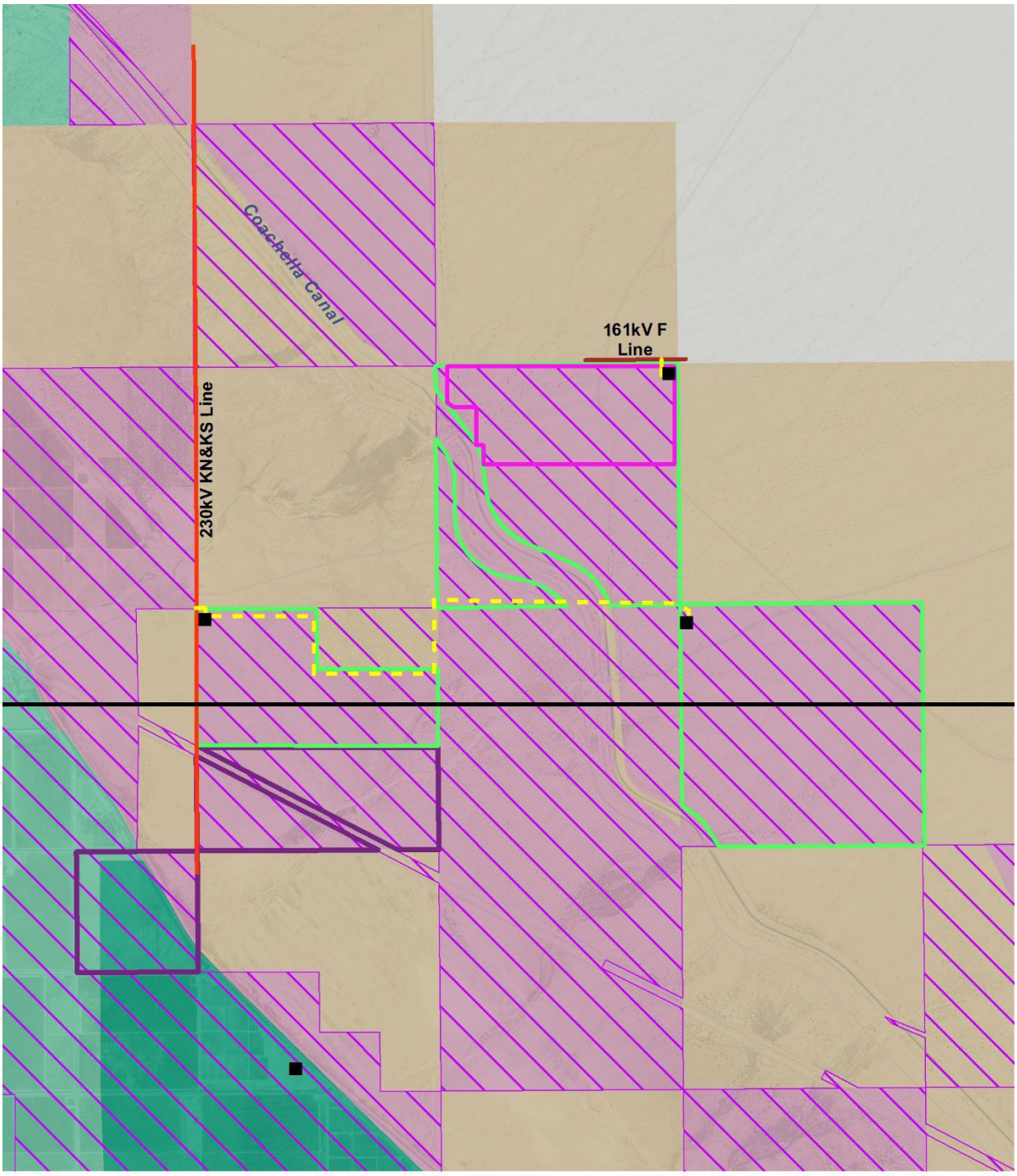
Figure 3.11-2. Zoning Designations





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VEGA SES 5

The VEGA SES 5 project site is located on three parcels (APNs 025-260-011 [partial], 025-260-019 and 025-260-022) encompassing approximately 410 acres. A portion of the VEGA SES 5 project site is located on the southern 160 acres of APN 025-260-011. APN 025-260-019 is adjacent to the Union Pacific Railway and Noffsinger Road to the northeast. APN 025-260-022 is adjacent to Wiest Road to the west and MacDonald Road to the north and transected by East Highline Canal Road and the East Highline Canal.

As shown in Figure 3.11-1, APNs 025-260-011, 025-260-019 and the portion of APN 025-260-022 located east of the East Highline Canal are designated as Recreation under the County's General Plan. The portion of APN 025-260-022 located west of the East Highline Canal is designated as Agriculture under the County's General Plan. As shown in Figure 3.11-2, APNs 025-260-011 and 025-260-019 are currently zoned S-2-RE and APN 025-260-022 is currently zoned General Agriculture with a Renewable Energy Zone Overlay (A-2-RE), Heavy Agriculture with a Renewable Energy Zone Overlay (A-3-RE), and S-2-RE.

Renewable Energy Overlay Zone

The County adopted the RE and Transmission Element, which includes a RE Zone (RE Overlay Map). The RE Overlay Zones are designated within the RE and Transmission Element, which was adopted by the County in 2016. The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of RE facilities while minimizing the impact to other established uses. As shown on Figure 3.11-2, the project sites are located within the RE Overlay Zone.

Established Residential Communities

The project sites are located in a sparsely populated portion of Imperial County. There are no established residential communities located within or in the vicinity of the project sites. The nearest established residential community is located approximately 5.67 miles northwest of the project sites in the unincorporated community of Niland.

Nearby Airports

The nearest airport to the project sites is the Calipatria Municipal Airport, located approximately 6 miles southwest of the VEGA SES 5 project site. According to Figure 3C of the ALUCP, no portion of the project sites is located within the Calipatria Municipal Airport's land use compatibility zones (ALUC 1996).

3.11.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the projects.

Federal

Federal Land Policy and Management Act

The United States Congress passed the Federal Land Policy and Management Act (FLPMA) in 1976. Title V, "Rights-of-Way" of the FLPMA establishes public land policy, guidelines for administration, provides for management, protection, development, and enhancement of public lands, and provides

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the BLM authorization to grant right-of-way. Authorization of systems for generation, transmission, and distribution of electric energy is addressed in Section 501(4) of Title V. In addition, Section 503 specifically addresses "Right of Way Corridors" and requires common right-of-ways "to the extent practical". FLMPA, Title V, Section 501(a)(6) states, "The Secretary, with respect to the public lands (including public lands, as defined in section 103(e) of this Act, which are reserved from entry pursuant to section 24 of the Federal Power Act (16 U.S.C. 818)) [P.L. 102-486, 1992] and, the Secretary of Agriculture, with respect to lands within the National Forest System (except in each case land designated as wilderness), are authorized to grant, issue, or renew rights-of-way over, upon, under, or through such lands for roads, trails, highways, railroads, canals, tunnels, tramways, airways, livestock driveways, or other means of transportation except where such facilities are constructed and maintained in connection with commercial recreation facilities on lands in the National Forest System" (BLM 2016). The proposed right-of-way requests associated with the projects are subject to review and approval by the BLM.

California Desert Conservation Area Plan

Section 601 of the FLMPA required preparation of a long-range plan for the California Desert Conservation Area (CDCA). The CDCA Plan was adopted in 1980 to provide for the use of public lands and resources of the CDCA in a manner which enhances wherever possible and, which does not diminish, on balance, the environmental, cultural, and aesthetic values of the Desert and its productivity. The CDCA Plan is a comprehensive, long-range plan covering 25 million-acres. Approximately 12 million acres of this total are public lands administered by the BLM on behalf of the CDCA. These public lands are dispersed throughout the California Desert which includes the Mojave Desert, the Sonoran Desert and a small portion of the Great Basin Desert. The 12 million acres of public lands administered by the BLM make-up approximately half of the CDCA. The CDCA is applicable to the federal (i.e., BLM) actions associated with implementation of the proposed projects (those portions of the projects not otherwise located on private lands).

Desert Renewable Energy Conservation Plan

The Desert Renewable Energy Conservation Plan (DRECP) is a collaborative, interagency landscape-scale planning effort covering 22.5 million acres of the Mojave and Colorado/Sonoran desert regions within seven California counties including Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego. The plan was developed through a collaborative effort by the Renewable Energy Action Team Agencies (REAT Agencies; also known as the DRECP partner agencies), which consists of the BLM, U.S. Fish and Wildlife Service (USFWS), California Energy Commission (CEC), and California Department of Fish and Wildlife (CDFW). The vision for the DRECP is to (US Bureau of Land Management 2016):

1. Advance federal and state natural resource conservation goals and other federal land management goals.
2. Meet the requirements of the federal Endangered Species Act (ESA) and Federal Land Policy and Management Act (FLPMA).
3. Facilitate the timely and streamlined permitting of renewable energy projects.

The DRECP Area contains both federal and non-federal California desert land. Some of these lands are designated as California Desert Conservation Areas. The federal portion of the plan area was released by the BLM as a Land Use Plan Amendment. The DRECP Land Use Plan Amendment supports the conservation goals of the DRECP and organizes land into ecoregions and subregions

with specific management goals, objectives, allowable uses, and management actions for biological and cultural resources. The BLM designates Areas of Critical Environmental Concern where special management attention is needed to protect important historical, cultural, and scenic values, or fish and wildlife or other natural resources. The BLM also designates Renewable Energy Development Focus Areas which are on BLM-administered lands within which solar, wind, and geothermal renewable energy development and associated activities are allowable uses and that have been determined to be of low or lower resource conflict. The intent is to incentivize and streamline such development in these areas.

State

State Planning and Zoning Laws

California Government Code Section 65300 et seq. establishes the obligation of cities and counties to adopt and implement general plans. The general plan is a comprehensive, long-term, and general document that describes plans for the physical development of a city or county and of any land outside its boundaries that, in the city's or county's judgment, bears relation to its planning.

The general plan addresses a broad range of topics, including, at a minimum, land use, circulation, housing, conservation, open space, noise, and safety. In addressing these topics, the general plan identifies the goals, objectives, policies, principles, standards, and plan proposals that support the city's or county's vision for the area. The general plan is a long-range document that typically addresses the physical character of an area over a 20-year period or more.

The State Zoning Law (California Government Code Section 65800 et seq.) establishes that zoning ordinances, which are laws that define allowable land uses within a specific zone district, are required to be consistent with the general plan and any applicable specific plans.

Regional

Southern California Association of Governments – 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal)

SCAG is the designated metropolitan planning organization for Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial Counties. CEQA requires that regional agencies like SCAG review projects and plans throughout its jurisdiction. SCAG, as the region's "Clearinghouse," collects information on projects of varying size and scope to provide a central point to monitor regional activity. SCAG has the responsibility of reviewing dozens of projects, plans, and programs every month. Projects and plans that are regionally significant must demonstrate to SCAG their consistency with a range of adopted regional plans and policies.

On September 3,2020, SCAG adopted the 2020-2045 RTP/SCS (Connect SoCal). The 2020-2045 RTP/SCS (Connect SoCal) includes a strong commitment to reduce emissions from transportation sources to comply with Senate Bill 375, improve public health, and meet the NAAQS as set forth by the federal CAA. The following goals from the 2020-2045 RTP/SCS (Connect SoCal) are considered applicable to the proposed projects:

- Goal 5: Reduce GHG emissions and improve air quality
- Goal 10: Promote conservation of natural and agricultural lands and restoration of habitats

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Local

County of Imperial General Plan

The purpose of the County's General Plan (as amended through 2008) is to direct growth, particularly urban development, to areas where public infrastructure exists or can be provided, where public health and safety hazards are limited, and where impacts to the County's abundant natural, cultural, and economic resources can be avoided. The following 10 elements comprise the County's General Plan: Land Use; Housing; Circulation and Scenic Highways; Noise; Seismic and Public Safety; Conservation and Open Space; Agricultural; RE and Transmission Element; Water; and Parks and Recreation. Together, these elements satisfy the seven mandatory general plan elements as established in the California Government Code. Goals, objectives, and implementing policies and actions programs have been established for each of the elements.

Imperial County received funding from the California Energy Commission RE and Conservation Planning Grant to amend and update the County's General Plan in order to facilitate future development of RE projects. The Geothermal/Alternative Energy and Transmission Element was last updated in 2006. Since then there have been numerous renewable projects proposed, approved, and constructed within Imperial County as a result of California's move to reduce GHG emissions, develop alternative fuel sources and implement its Renewable Portfolio Standard. The County prepared an update to the Geothermal/Alternative Energy and Transmission Element of its General Plan, called the RE and Transmission Element. This Element is designed to provide guidance and approaches with respect to the future siting of RE projects and electrical transmission lines in the County. The County adopted this element in 2016, which has been amended several times to incorporate additional overlay zones.

The RE and Transmission Element includes a RE Zone (RE Overlay Map). The County Land Use Ordinance, Division 17, includes the RE Overlay Zone, which authorizes the development and operation of RE projects, with an approved CUP. The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of RE facilities while minimizing the impact to other established uses. As shown in Figure 3.11-2, the project sites are located within the RE Overlay Zone.

An analysis of the projects' consistency with the General Plan goals and objectives relevant to the projects are provided in Table 3.11-2. While this EIR analyzes the project's consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Planning Commission and Board of Supervisors retain final authority for the determination of the projects' consistency with the General Plan.

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Table 3.11-2. Project Consistency with Applicable General Plan Policies

Applicable Policies	Consistency Determination	Analysis
Land Use Element		
Public Facilities. Objective 8.7: Ensure the development, improvement, timing, and location of community sewer, water, and drainage facilities will meet the needs of existing communities and new developing areas.	Consistent	The proposed projects include the necessary supporting infrastructure and would not require new community-based infrastructure. The proposed projects would be required to construct supporting drainage infrastructure on-site consistent with County requirements and mitigation measures prescribed in Section 3.10 Hydrology/Water Quality of the EIR. Once the proposed projects are operational, a limited amount of water would be required for solar panel washing and fire protection. The proposed projects would not require an operations and maintenance building. Therefore, no septic system would be required for the proposed projects.
Public Facilities. Objective 8.8: Ensure that the siting of future facilities for the transmission of electricity, gas, and telecommunications is compatible with the environment and County regulation.	Consistent	The County Land Use Ordinance, Division 17, includes the RE Overlay Zone, which authorizes the development and operation of RE projects with an approved CUP. The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of RE facilities while minimizing the impact to other established uses. The project sites are located within the RE Overlay Zone. Therefore, the proposed projects would be sited in a suitable location for the transmission of electricity.
Public Facilities. Objective 8.9: Require necessary public utility rights-of-way when appropriate.	Consistent	The proposed projects would include the dedication of ROW, if necessary, to facilitate the placement of electrical distribution and transmission infrastructure.
Protection of Environmental Resources. Objective 9.6: Incorporate the strategies of the Imperial County AQAP in land use planning decisions and as amended.	Consistent	Dust suppression will be implemented in accordance with a dust control plan approved by the ICAPCD. Section 3.4, Air Quality, discusses the projects' consistency with the AQAP in more detail.
Circulation and Scenic Highways Element		
Safe, Convenient, and Efficient Transportation System. Objective 1.1: Maintain and improve the existing road and highway network, while providing for future expansion and improvement based on travel demand and the development of alternative travel modes.	Consistent	The proposed projects would include limited operational vehicle trips and would not be expected to reduce the current LOS at affected intersections, roadway segments, and highways. The proposed projects do not propose residential or commercial development and therefore would not require new forms of alternative transportation to minimize impacts to existing roadways.

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Table 3.11-2. Project Consistency with Applicable General Plan Policies

Applicable Policies	Consistency Determination	Analysis
Safe, Convenient, and Efficient Transportation System. Objective 1.2: Require a traffic analysis for any new development which may have a significant impact on County roads.	Consistent	As described in Section 3.13, Transportation, traffic studies were prepared for the projects and determined that proposed projects would have a less than significant impact on the circulation network. Once construction is completed, the projects would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. The projects would include limited operational vehicle trips and would not reduce the current level of service at affected intersections, roadway segments, and highways.
Noise Element		
Noise Environment. Objective 1.3: Control noise levels at the source where feasible.	Consistent	As discussed in Section 3.12, Noise and Vibration, no individual or cumulative pieces of construction equipment would exceed the 75 dBA Imperial County construction noise standard during any phase of construction at the nearest noise-sensitive receptor. Project operational noise would not exceed County daytime or nighttime standards.
Project/Land Use Planning. Goal 2: Review Proposed Actions for noise impacts and require design which will provide acceptable indoor and outdoor noise environments.	Consistent	The projects would be required to comply with the County's noise standards during both construction and operation. As discussed in Section 3.12, Noise and Vibration, no individual or cumulative pieces of construction equipment would exceed the 75 dBA Imperial County construction noise standard during any phase of construction at the nearest noise-sensitive receptor. Project operational noise would not exceed County daytime or nighttime standards.
Conservation and Open Space Element		
Conservation of Environmental Resources for Future Generations Goal 1: Environmental resources shall be conserved for future generations by minimizing environmental impacts in all land use decisions and educating the public on their value.	Consistent	The project sites would be converted from vacant and fallow agricultural land to solar energy facilities. The proposed projects are a response to the state's need for renewable energy to meet its Renewable Portfolio Standard, and while it would increase the availability of renewable energy, it would also replace existing sources of non-renewable energy. The power generated by the proposed projects would be added to the state's electricity grid with the intent that it would displace fossil fueled power plants and their associated environmental impacts (i.e., air quality and GHG emissions). The proposed projects would ensure future generations have access to a broad array of renewable energy sources, providing the public with alternative choices to fossil fuels.

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Table 3.11-2. Project Consistency with Applicable General Plan Policies

Applicable Policies	Consistency Determination	Analysis
Conservation of Biological Resources. Goal 2: The County will integrate programmatic strategies for the conservation of critical habitats to manage their integrity, function, productivity, and long-term viability.	Consistent	Biological resources surveys were conducted for the project sites. As discussed in Section 3.5, Biological Resources, there are potentially significant biological resources located within the project site. However, with the implementation of Mitigation Measures BIO-1 through BIO-9 these impacts would be reduced to a level less than significant. The site is not designated or otherwise identified as critical habitat for any species.
Preservation of Cultural Resources. Objective 3.1: Protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.	Consistent	A cultural resources report was prepared for the project sites. As discussed in Section 3.6, Cultural Resources, the proposed projects have the potential to encounter undocumented archaeological resources and human remains. Mitigation Measures CR-1 through CR-5 have been identified to reduce potential impacts to a level less than significant.
Conservation of Water Resources. Objective 6.1: Ensure the use and protection of all the rivers, waterways, and groundwater sources in the County for use by future generations.	Consistent	As discussed in Section 3.10, Hydrology/Water Quality, the projects will prepare a site-specific drainage plan and water quality management plan to minimize adverse effects to local water resources.
Conservation of Energy Sources. Objective 6.2: Encourage the utilization of alternative passive and renewable energy resources.	Consistent	The proposed projects entail the construction and operation of solar energy facility, which is considered an alternative source of energy.
Conservation of Energy Sources. Objective 6.6: Encourage compatibility with National and State energy goals and city and community general plans.	Consistent	The proposed projects are consistent with California Public Utilities Code § 399.11 et seq., “Increasing the Diversity, Reliability, Public Health and Environmental Benefits of the Energy Mix.” California’s electric utility companies are required to procure 50 percent of their electricity from eligible renewable energy resources by 2030. Additionally, the proposed projects would contribute toward the state’s need for renewable energy to meet the goals of its Renewable Portfolio Standard.
Protection of Air Quality and Addressing Climate Change. Goal 7: The County shall actively seek to improve the quality of air in the region.	Consistent	The proposed projects would be required to comply with all applicable ICAPCD rules and requirements during construction and operation to reduce air emissions. Overall, the proposed projects would improve air quality and reduce GHG emissions by reducing the amount of emissions that would be generated in association with electricity production from a fossil fuel burning facility. Therefore, the proposed projects are consistent with this goal.

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Table 3.11-2. Project Consistency with Applicable General Plan Policies

Applicable Policies	Consistency Determination	Analysis
Protection of Air Quality and Addressing Climate Change. Objective 7.1: Ensure that all project and facilities comply with current Federal, State and local requirements for attainment of air quality objectives.	Consistent	The proposed projects would comply with current federal and State requirements for attainment for air quality objectives through conformance with all applicable ICAPCD rules and requirements to reduce fugitive dust and emissions. Further, the proposed project would comply with the ICAPCD Air Quality CEQA Handbook's Mandatory Standard, Discretionary and Enhanced Air Quality Measures (Mitigation Measure AQ-1). Therefore, the proposed projects are consistent with this objective.
Protection of Air Quality and Addressing Climate Change. Objective 7.2: Develop management strategies to mitigate fugitive dust. Cooperate with all federal and state agencies in the effort to attain air quality objectives.	Consistent	The Applicant would cooperate with all federal and State agencies in the effort to attain air quality objectives through compliance with the ICAPCD Air Quality CEQA Handbook's Mandatory Standard, Discretionary and Enhanced Air Quality Measures (Mitigation Measure AQ-1). Therefore, the proposed projects are consistent with this objective.
Protection of Open Space and Recreational Opportunities. Objective 8.2: Focus all new renewable energy development within adopted Renewable Energy Overlay Zones.	Consistent	The project sites are located entirely within the RE Overlay Zone.
RE and Transmission Element		
Objective 1.4: Analyze potential impacts on agricultural, natural, and cultural resources, as appropriate.	Consistent	This EIR has been prepared to meet the requirements of CEQA for purposes of evaluating the potential environmental impacts associated with the proposed projects, which includes analysis on applicable environmental topics that analyze impacts on agricultural, natural, and cultural resources.
Objective 1.5: Require appropriate mitigation and monitoring for environmental issues associated with developing RE facilities.	Consistent	Biological resources reports have been prepared for the projects, which is summarized in Section 3.5, Biological Resources, along with potential impacts attributable to the proposed projects. With incorporation of Mitigation Measures BIO-1 through BIO-9 identified in Section 3.5, Biological Resources, less than significant impacts would result.

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Table 3.11-2. Project Consistency with Applicable General Plan Policies

Applicable Policies	Consistency Determination	Analysis
Objective 1.6: Encourage the efficient use of water resources required in the operation of renewable energy generation facilities.	Consistent	As previously mentioned, water consumption during construction would be used primarily for dust control, and obtained from proposed on-site groundwater wells. As described in Chapter 2, Project Description, the construction of a groundwater well requires approval of a CUP. Approval of the CUP would be contingent upon the availability of groundwater to serve the projects and ability to recharge the aquifer so that groundwater supplies are not substantially decreased by the proposed project.
Objective 1.7: Assure that development of RE facilities and transmission lines comply with ICAPCD's regulations and mitigation measures.	Consistent	Dust suppression will be implemented including the use of water and soil binders during construction. Section 3.4, Air Quality, discusses the proposed projects' consistency with ICAPCD's regulations in more detail.
Objective 2.1: To the extent practicable, maximize utilization of IID's transmission capacity in existing easements or rights-of-way. Encourage the location of all major transmission lines within designated corridors easements, and rights-of-way.	Consistent	The proposed projects involve the construction and operation of new RE infrastructure that would interconnect with existing IID transmission infrastructure thereby maximizing the use of existing facilities located within existing easements and/or ROW. As discussed in Chapter 2, Project Description, the power produced by the proposed projects would be conveyed to the local power grid via multiple substations which would connect to IID's existing 230 kV KN/KS Line, 161 kV "F" line, and the 92kV Midway Substation.
Seismic and Public Safety Element		
Land Use Planning and Public Safety. Goal 1: Include public health and safety considerations in land use planning.	Consistent	Division 5 of the County Land Use Ordinance has established procedures and standards for development within earthquake fault zones. Per County regulations, construction of buildings intended for human occupancy which are located across the trace of an active fault are prohibited. An exception exists when such buildings located near the fault or within a designated Special Studies Zone are demonstrated through a geotechnical analysis and report not to expose a person to undue hazard created by the construction. Since the project sites are located in a seismically active area, the projects are required
Land Use Planning and Public Safety. Objective 1.1: Ensure that data on geological hazards is incorporated into the land use review process, and future development process.		
Land Use Planning and Public Safety. Objective 1.3: Regulate development adjacent to or near all mineral deposits and geothermal operations.		

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Table 3.11-2. Project Consistency with Applicable General Plan Policies

Applicable Policies	Consistency Determination	Analysis
Land Use Planning and Public Safety. Objective 1.4: Require, where possessing the authority, that avoidable seismic risks be avoided; and that measures, commensurate with risks, be taken to reduce injury, loss of life, destruction of property, and disruption of service.		to be designed in accordance with the CBC for near source factors derived from a design basis earthquake based on a peak ground acceleration of 0.50 gravity. It should be noted that, the projects would be remotely operated and would not require any habitable structures on site. In considering these factors in conjunction with mitigation requirements outlined in the impact analysis, the risks associated with seismic hazards would be minimized. A preliminary geotechnical report has been prepared for the proposed projects. The preliminary geotechnical report has been referenced in this environmental document. Additionally, a design-level geotechnical investigation would be conducted to evaluate the potential for site specific hazards associated with seismic activity.
Land Use Planning and Public Safety. Objective 1.7: Require developers to provide information related to geologic and seismic hazards when siting a proposed projects.		
Emergency Preparedness. Goal 2: Minimize potential hazards to public health, safety, and welfare and prevent the loss of life and damage to health and property resulting from both natural and human-related phenomena.		
Emergency Preparedness. Objective 2.2: Reduce risk and damage due to seismic hazards by appropriate regulation.		
Emergency Preparedness. Objective 2.5: Minimize injury, loss of life, and damage to property by implementing all state codes where applicable.		
Emergency Preparedness. Objective 2.8: Prevent and reduce death, injuries, property damage, and economic and social dislocation resulting from natural hazards including flooding, land subsidence, earthquakes, other geologic phenomena, levee or dam failure, urban and wildland fires and building collapse by appropriate planning and emergency measures.		
Water Element		
Protection of Water Resources from Hazardous Materials. Program: The County of Imperial shall make every reasonable effort to limit or preclude the contamination or degradation of all groundwater and surface water resources in the County.	Consistent	Mitigation measures will require that the applicant of the proposed projects prepare site-specific drainage plans and water quality management plans to minimize adverse effects to local water resources.

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Table 3.11-2. Project Consistency with Applicable General Plan Policies

Applicable Policies	Consistency Determination	Analysis
Protection of Water Resources from Hazardous Materials. Program: All development proposals brought before the County of Imperial shall be reviewed for potential adverse effects on water quality and quantity, and shall be required to implement appropriate mitigation measures for any significant impacts.	Consistent	See previous response.
Housing Element		
Not Applicable. The proposed projects are solar energy projects and do not include the development of housing.		

Source: County of Imperial 2008

Notes:
AQAP=air quality attainment plan; CBC=California Building Code; CUP=conditional use permit; EIR=environmental impact report; GHG=greenhouse gas; ICAPCD=Imperial County Air Pollution Control District; IID=Imperial Control District; LOS=level of service; RE=renewable energy; ROW=right-of-way

County of Imperial Land Use Ordinance

The County's Land Use Ordinance provides the physical land use planning criteria for development within the jurisdiction of the County. The Land Use Ordinance identifies the permitted and conditional uses within a zoning designation. Uses identified as conditionally permitted require a CUP, which is subject to the discretionary approval of the County Board of Supervisors per a recommendation by the County Planning Commission.

PERMITTED AND CONDITIONAL USES

A-2 Zoning. As shown in As shown in Figure 3.11-2, the western portion of the VEGA SES 5 project site (APN 025-260-022) is zoned A-2-RE. Pursuant to Title 9, Division 5, Chapter 8 of the Land Use Ordinance the purpose of the A-2 zone is to "designate areas that are suitable and intended primarily for agricultural uses (limited) and agricultural related compatible uses" (County of Imperial 2020).

According to Title 9, Division 5, Chapter 8 of the Land Use Ordinance the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

> *j) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)*
>
> *s) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *z) Electrical substations in an electrical transmission system (500 kv/230 kv/161 kv)*
>
> *bb) Facilities for the transmission of electrical energy (100-200 kv)*
>
> *ww) Resource extraction and energy development as per Division 17*
>
> *aaa) Solar energy electrical generator*

Height Limit in A-2 Zone. Section 90508.07 of the Land Use Ordinance limits the height of all non-residential structures and specifically states in Section 90508.07(c) that, "Non-Residential structures and commercial communication towers shall not exceed one hundred twenty (120) feet in height, and as may be required by the ALUC plan."

A-3 Zoning. As shown in As shown in Figure 3.11-2, the middle portion of the VEGA SES 5 project site (APN 025-260-022) is zoned A-3-RE. Pursuant to Title 9, Division 5, Chapter 9 of the Land Use Ordinance uses in the A-3 zoning designations are "limited primarily to agricultural-related uses and agricultural activities that are compatible with agricultural uses" (County of Imperial 2020).

Pursuant to Title 9, Division 5, Chapter 9, the following uses are permitted in the A-3 zone subject to approval of a CUP from Imperial County:

> *i) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)*
>
> *o) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *oo) Major facilities relating to the generation and transmission of electrical energy provided such facilities are not under State or Federal law, to be approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters, meeting the requirements in Division 17.*
>
> *zz) Solar energy plants meeting the requirements in Division 17*

Height Limit in A-3 Zone. Section 90509.07 of the Land Use Ordinance limits the height of all non-residential structures and specifically states in Section 90509.07(c) that, "Non-Residential structures and commercial communication towers shall not exceed one hundred twenty (120) feet in height, and as may be required by the ALUC plan."

S-2 Zoning. As shown in Figure 3.11-2, the VEGA SES 2 and 3 project sites are zoned S-2-RE, and the eastern portion of the VEGA SES 5 project site (APN 025-260-019) and the portion of APN 025-260-022 located east of the East Highline Canal are also zoned S-2-RE. The purpose of the S-2 zoning designation is to "preserve the cultural, biological, and open space areas that are rich and natural as well as cultural resources" (County of Imperial 2020). While certain uses are allowed within the S-2 zone, such uses must be compatible with the intent of the Conservation and Open Space Element of the General Plan.

Pursuant to Title 9, Division 5, Chapter 19, the following uses are permitted in the S-2 zone subject to approval of a CUP from Imperial County:

> *d) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *i) Major facilities relating to the generation and transmission of electrical energy provide[d] such facilities are not under State or Federal law, to [be] approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters. Such uses shall include but be limited to the following:*
>
> - *Electrical generation plants*

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- *Facilities for the transmission of electrical energy (100-200 kV)*
- *Electrical substations in an electrical transmission system (500 kv/230 kv/161 kV)*

Height Limit in S-2 Zone. Pursuant to Section 90519.07 of the Land Use Ordinance, the maximum height limit in the S-2 zone is 40 feet, except for communication towers, which have a maximum height limit of 100 feet.

RE Resources. According to Title 9, Division 17 of the Land use Ordinance, the purpose of the RE Resources regulations are to "facilitate the beneficial use of renewable energy resources for the general welfare of the people of Imperial County and the State of California; to protect renewable energy resources from wasteful or detrimental uses; and to protect people, property, and the environment from detriments that might result from the improper use of renewable energy resources" (County of Imperial 2017).

Title 9, Division 17 of the Land Use Ordinance includes the RE Overlay Zone, which authorizes the development and operation of renewable energy projects, with an approved CUP. Uses that are conditionally permitted require and require a CUP are subject to the discretionary approval of the County Board of Supervisors (Board) per a recommendation by the County Planning Commission.

Imperial County Airport Land Use Compatibility Plan

The Imperial County Airport Land Use Compatibility Plan (ALUCP) provides the criteria and policies used by the Imperial County Airport Land Use Commission to assess compatibility between the principal airports in Imperial County and proposed land use development in the areas surrounding the airports. The ALUCP emphasizes review of local general and specific plans, zoning ordinances, and other land use documents covering broad geographic areas.

The nearest airport to the project sites is the Calipatria Municipal Airport, located approximately 6 miles southwest of the VEGA SES 5 project site. According to Figure 3C of the ALUCP, no portion of the project sites is located within the Calipatria Municipal Airport's land use compatibility zones (ALUC 1996).

3.11.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to land use/planning are considered significant if any of the following occur:

- Physically divide an established community
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect

Impact Analysis

Impact 3.11-1 ***Would the project physically divide an established community?***

The project sites are located in a sparsely populated portion of Imperial County. There is a single-family residence located approximately 523 feet from the southwestern corner of the VEGA SES 5 project site (APN 025-260-022). However, there are no established residential communities located in

the vicinity of the project sites. The nearest established residential community is located approximately 5.67 miles northwest of the project sites in the unincorporated community of Niland. Therefore, implementation of the proposed projects would not divide an established community and no impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.11-2 Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The projects' consistency with applicable land use plans, policies, and regulations is evaluated below.

SCAG 2020-2045 RTP/SCS (Connect SoCal)

As noted above, the 2020-2045 RTP/SCS (Connect SoCal) (SCAG 2020) identifies two goals which include reducing GHG emissions to improve air quality (Goal 5), and to promote conservation of natural and agricultural lands (Goal 10).

The 2020-2045 RTP/SCS (Connect SoCal), identifies strategies to support the goal of reducing regional GHG and improve air quality. Strategies include leveraging technological innovations including incorporating solar energy, hydrogen fuel cell power storage, and power generation. Once in operation, the proposed projects would contribute to SCAG's goal in reducing GHG emissions and improving air quality.

The 2020-2045 RTP/SCS (Connect SoCal) also discusses the decline of agricultural land as an issue for the economy. As discussed in Section 3.3, Agricultural Resources, a portion of the VEGA SES 5 project site (APN 025-260-022) is designated as Farmland of Local Importance. The VEGA SES 5 project would temporarily convert Farmland of Local Importance to non-agricultural uses. However, as a condition of project approval (CUP condition), the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of its lifespan. The reclamation plan includes the removal, recycling, and/or disposal of all solar arrays, inverters, transformers, and other structures on the project site, as well as restoration of the site to its pre-project condition. Therefore, the proposed project would not permanently convert Farmland of Local Importance to non-agricultural uses. Therefore, no impacts due to a conflict with the 2020-2045 RTP/SCS (Connect SoCal) would occur.

County of Imperial General Plan

The County's General Plan applies to the solar energy facility and supporting infrastructure portions associated with the projects. An analysis of the projects' consistency with the General Plan goals and objectives relevant to the projects is provided in Table 3.11-2. As shown in Table 3.11-2, the proposed projects would generally be consistent with the goals and objectives of the General Plan. No amendment to the General Plan for a zone change would be required because the project sites are entirely within the RE Overlay Zone. Therefore, no impacts due to a conflict with the General Plan would occur.

County of Imperial Land Use Ordinance

Development of the solar energy facilities and supporting infrastructure is subject to the County's zoning ordinance. The projects are located on five privately-owned legal parcels zoned A-2-RE, A-3-RE, and S-2-RE.

A-2 Zoning. Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

> *j) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)*
>
> *s) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *z) Electrical substations in an electrical transmission system (500 kv/230 kv/161 kv)*
>
> *bb) Facilities for the transmission of electrical energy (100-200 kv)*
>
> *ww) Resource extraction and energy development as per Division 17*
>
> *aaa) Solar energy electrical generator*

Height Limit in A-2 Zone. The maximum height limit for non-residential structures and commercial communication towers in the A-2 zone is 120 feet. The proposed projects' 40-foot-high gen-tie poles would not exceed the height limit in the A-2 zone.

A-3 Zoning. Pursuant to Title 9, Division 5, Chapter 9, the following uses are permitted in the A-3 zone subject to approval of a CUP from Imperial County:

> *i) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)*
>
> *o) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *oo) Major facilities relating to the generation and transmission of electrical energy provided such facilities are not under State or Federal law, to be approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters, meeting the requirements in Division 17.*
>
> *zz) Solar energy plants meeting the requirements in Division 17*

Height Limit in A-3 Zone. The maximum height limit for non-residential structures and commercial communication towers in the A-3 zone is 120 feet. The proposed projects' 40-foot-high gen-tie poles would not exceed the height limit in the A-3 zone.

S-2 Zoning. Pursuant to Title 9, Division 5, Chapter 19, the following uses are permitted in the S-2 zone subject to approval of a CUP from Imperial County:

> *d) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *i) Major facilities relating to the generation and transmission of electrical energy provide[d] such facilities are not under State or Federal law, to [be] approved exclusively by an agency,*

or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters. Such uses shall include but be limited to the following:

- *Electrical generation plants*
- *Facilities for the transmission of electrical energy (100-200 kV)*
- *Electrical substations in an electrical transmission system (500 kv/230 kv/161 kV)*

Further, Title 9, Division 17 of the Land use Ordinance, includes the RE Overlay Zone, which authorizes the development and operation of renewable energy projects, with an approved CUP (County of Imperial 20017). Therefore, the proposed projects qualify as permitted uses with the approval of the CUPs by the County to allow for the construction and operation of the proposed solar energy facilities. With approval of the CUPs, the proposed projects would not conflict with the County's zoning ordinance. No impacts due to a conflict with the County of Imperial Land Use Ordinance(s) would occur.

Height Limit in S-2 Zone. The maximum height limit in the S-2 zone is 40 feet. The proposed projects' 40-foot-high gen-tie poles would not exceed the height limit in the S-2 zone.

Imperial County Airport Land Use Compatibility Plan

The nearest airport to the project sites is the Calipatria Municipal Airport, located approximately 6 miles southwest of the VEGA SES 5 project site. According to Figure 3C of the ALUCP, no portion of the project sites is located within the Calipatria Municipal Airport's land use compatibility zones (ALUC 1996). On March 16, 2022, the Imperial County Airport Land Use Commission determined that the proposed project is compatible with the ALUCP. Therefore, the proposed projects would not conflict with the Imperial County ALUCP, and no significant impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

3.11.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Decommissioning and restoration would not physically divide an established community or conflict with any applicable land use plans, policies, or regulations. Decommissioning would be conducted in compliance with a required Reclamation Plan that would be implemented at the end of the proposed projects' life and would adhere to Imperial County's decommissioning requirements. Further, decommissioning activities would be subject to mandatory compliance with applicable local, State, and federal regulations designed to avoid adverse impacts to the project area and surrounding environment. Therefore, environmental impacts due to a conflict with an applicable land use plan, policy or regulation would be less than significant.

Residual

With the approval of CUPs and reclamation plans to address post-project decommissioning, the proposed projects would generally be consistent with applicable state, regional, and local plans and policies. Based on these circumstances, the proposed projects would not result in any residual significant and unmitigable land use impacts.

3.12 Noise and Vibration

This section identifies the ambient noise environment for the project area and describes applicable federal, state, and local regulations, potential project-related noise and vibration impacts, and recommended mitigation measures to avoid or reduce potential impacts of the proposed VEGA 2, 3 & 5 Solar Energy Projects. The information for this section is summarized from a project-specific Noise Impact Assessment, prepared by ECORP Consulting, Inc. This report is included in Appendix J of this EIR.

3.12.1 Existing Conditions

Noise

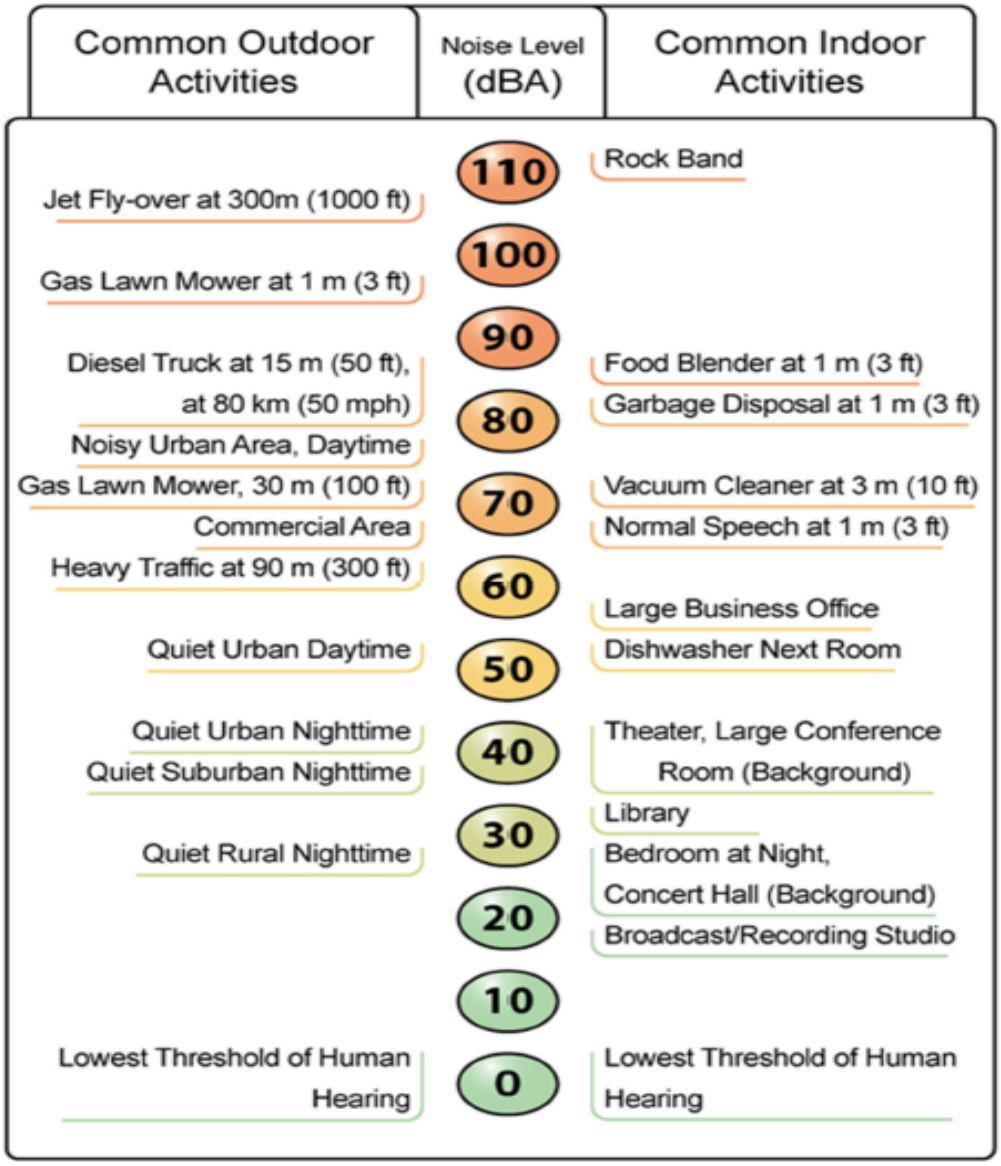
Noise is defined as unwanted sound. Pressure waves traveling through air exert a force registered by the human ear as sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level), which is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. Consequently, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 hertz (Hz) and above 5,000 Hz to imitate the human ear's decreased sensitivity to low and extremely high frequencies. This emulation of the human ear's frequency sensitivity is referred to as A-weighting and is expressed in units of dBA. Frequency A weighting follows an international standard method of frequency de-emphasis and is typically applied to community noise measurements. In practice, the specific sound level from a source is measured using a meter incorporating an electrical filter corresponding to the A-weighting curve. All noise levels reported are A-weighted unless otherwise stated.

The dB scale is logarithmic and an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound and twice as loud as a 60-dBA sound.

Typical noise levels associated with common noise sources are depicted in Figure 3.12-1.

Figure 3.12-1. Common Noise Levels



Source: Appendix J of this EIR

Sound Propagation and Attenuation

Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics. No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation

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value of 1.5 dB per doubling of distance is normally assumed. For line sources, an overall attenuation rate of 3 dB per doubling of distance is assumed (Appendix J of this EIR).

Noise levels may also be reduced by intervening structures; generally, a single row of detached buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm generally reduces noise levels by 10 to 20 dBA. However, noise barriers or enclosures specifically designed to reduce site-specific construction noise can provide a sound reduction of 35 dBA or greater. To achieve the most potent noise-reducing effect, a noise enclosure/barrier must physically fit in the available space, must completely break the "line of sight" between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces (Appendix J of this EIR).

The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more. Generally, in exterior noise environments ranging from 60 dBA Community Noise Equivalent Level (CNEL) to 65 dBA CNEL, interior noise levels can typically be maintained below 45 dBA, a typically residential interior noise standard, with the incorporation of an adequate forced air mechanical ventilation system in each residential building, and standard thermal-pane residential windows/doors with a minimum rating of Sound Transmission Class (STC) 28. (STC is an integer rating of how well a building partition attenuates airborne sound (Appendix J of this EIR).

Noise Descriptors

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL (Community Noise Equivalent Level) are measures of community noise.

The A weighted decibel sound level scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20

dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). Regarding increases in A-weighted noise levels (dBA), the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived by humans.
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference.
- A change in level of at least 5 dBA is required before any noticeable change in community response would be expected. An increase of 5 dBA is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

Existing Ambient Noise Levels

The project sites are bound mostly by vacant undisturbed land, with the exception of agricultural lands and county roadways adjacent to the VEGA SES 5 project site. Noffsinger Road and the Union Pacific Railway traverse the VEGA SES 5 project site and the Coachella Canal crosses the VEGA SES 2 project site. In order to quantify existing ambient noise levels in the project area, ECORP Consulting, Inc. conducted four short-term noise measurements on January 12, 2021. The noise measurement sites (Figure 3.12-2) were representative of typical existing noise exposure within and adjacent to the project sites during the daytime. The 15-minute measurements were taken between 11:35 a.m. and 12:54 p.m. Short-term (L_{eq}) measurements are considered representative of the noise levels throughout the day. As shown in Table 3.12-1, the existing noise levels (baseline) in the project-vicinity range from 45.5 to 48.1 dBA L_{eq}.

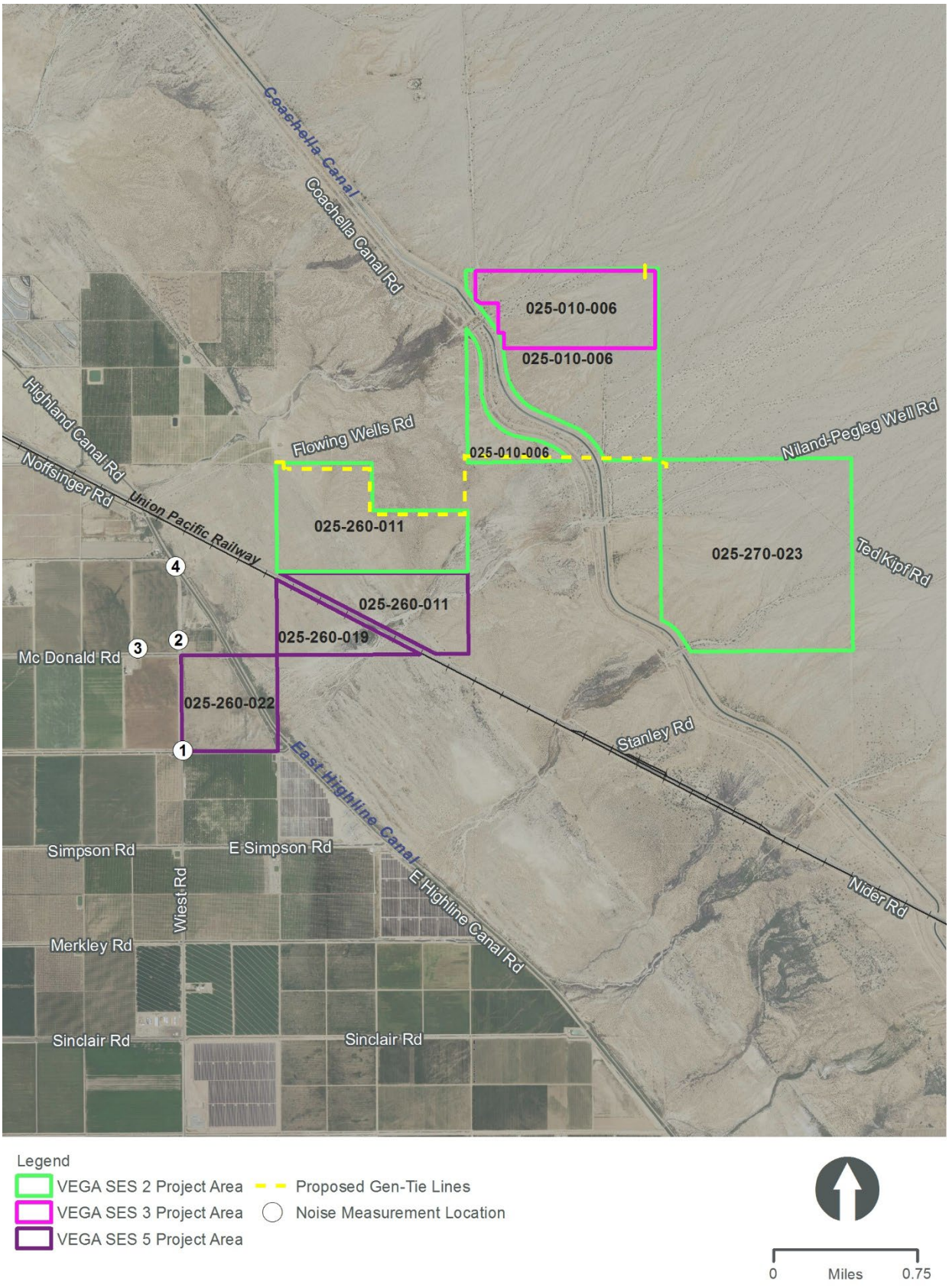
Table 3.12-1. Existing (Baseline) Noise Measurements

Measurement Location Number	Location	L_{eq} dBA	L_{min} dBA	L_{max} dBA	Time
1	West Schrimpf Road and Wiest Road	45.5	43.1	52.0	11:35 a.m. – 11:50 a.m.
2	Wiest Road and McDonald Road	47.5	37.2	61.9	11:57 a.m. – 12:12 p.m.
3	McDonald Road, ~700 feet west of Wiest Road	45.8	31.6	70.7	12:16 p.m. – 12:31 p.m.
4	Wiest Road, ~1,000 feet south of Wiest Road's intersection with Noffsinger Road	48.1	32.2	69.1	12:39 p.m. – 12:54 p.m.

Source: Appendix J of this EIR

The most common noise in the project vicinity is produced by automotive vehicles (e.g., cars, trucks, buses, motorcycles) traversing country roads adjacent to the project sites. Traffic moving along streets produces a sound level that remains relatively constant and is part of the minimum ambient noise level in the project vicinity.

Figure 3.12-2. Noise Measurement Locations



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Noise Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as hospitals, historic sites, cemeteries, and certain recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The nearest existing noise-sensitive land use to the project sites is a single-family residence located approximately 523 feet from the southwestern corner of the VEGA SES 5 project site (APN 025-260-022).

Vibration

Vibration Sources and Characteristics

Sources of earthborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or manmade causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions). Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the peak particle velocity (PPV); another is the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

PPV is generally accepted as the most appropriate descriptor for evaluating the potential for building damage. For human response, however, an average vibration amplitude is more appropriate because it takes time for the human body to respond to the excitation (the human body responds to an average vibration amplitude, not a peak amplitude). Because the average particle velocity over time is zero, the RMS amplitude is typically used to assess human response. The RMS value is the average of the amplitude squared over time, typically a 1- sec. period (Appendix J of this EIR).

Table 3.12-2 displays the reactions of people and the effects on buildings produced by continuous vibration levels. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high-noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Ground vibration can be a concern in instances where buildings shake, and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. For instance, heavy-duty trucks generally generate groundborne vibration velocity levels of 0.006 PPV at 50 feet under typical circumstances, which as identified in Table 3.12-2 is considered very unlikely to cause damage to buildings of any type.

Table 3.12-2. Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibration Levels

Peak Particle Velocity (inches/second)	Approximate Vibration Velocity Level (VdB)	Human Reaction	Effect on Buildings
0.006 – 0.019	67 – 74	Range of threshold of perception	Vibrations unlikely to cause damage of any type
0.08	87	Vibrations readily perceptible	Recommended upper level to which ruins and ancient monuments should be subjected
0.1	92	Level at which continuous vibrations may begin to annoy people, particularly those involved in vibration sensitive activities	Virtually no risk of architectural damage to normal buildings
0.2	94	Vibrations may begin to annoy people in buildings	Threshold at which there is a risk of architectural damage to normal dwellings
0.4 – 0.6	98 - 104	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Architectural damage and possibly minor structural damage

Source: Appendix J of this EIR

Common sources for groundborne vibration are planes, trains, and construction activities such as earth-moving which requires the use of heavy-duty earth moving equipment. Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. Vibration decreases rapidly with distance. Groundborne vibration levels associated with typical construction equipment at 25 feet distant are summarized in Table 3.12-3.

Table 3.12-3. Representative Vibration Source Levels for Construction Equipment

Equipment Type	Peak Particle Velocity at 25 Feet (Inches per Second)
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks	0.076
Hoe Ram	0.089
Jackhammer	0.035
Small Bulldozer/Tractor	0.003
Vibratory Roller	0.210

Source: Appendix J of this EIR

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Proximity to Airports

The project sites are not located within 2 miles of a public airport or a public use airport. The nearest airport to the proposed projects is the Calipatria Municipal Airport, located approximately 6 miles southwest of the VEGA SES 5 project site.

3.12.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the projects.

Federal

Occupational Safety and Health Act of 1970

OSHA regulates onsite noise levels and protects workers from occupational noise exposure. To protect hearing, worker noise exposure is limited to 90 dBA over an eight-hour work shift (29 Code of Regulations 1910.95). Employers are required to develop a hearing conservation program when employees are exposed to noise levels exceeding 85 dBA. These programs include provision of hearing protection devices and testing employees for hearing loss on a periodic basis.

State

State of California General Plan Guidelines

The State of California regulates vehicular and freeway noise affecting classrooms, sets standards for sound transmission and occupational noise control, and identifies noise insulation standards and airport noise/land-use compatibility criteria. The State of California General Plan Guidelines, published by the Governor's Office of Planning and Research (OPR), also provides guidance for the acceptability of projects within specific CNEL/L_{dn} contours. The guidelines also present adjustment factors that may be used in order to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

State Office of Planning and Research Noise Element Guidelines

The State OPR Noise Element Guidelines include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The Noise Element Guidelines contain a Land Use Compatibility table that describes the compatibility of various land uses with a range of environmental noise levels in terms of the CNEL. The County of Imperial has utilized the adjustment factors provided and has modified the state's Land Use Compatibility standards for the purpose of implementing the Noise Element of its General Plan. Table 3.12-4 summarizes the acceptable and unacceptable community noise exposure limits for various land use categories as currently defined by the State of California. These community noise exposure limits are also incorporated into the County of Imperial General Plan Noise Element.

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Table 3.12-4. Land Use Compatibility for Community Noise Environments

Land Use Category	Community Noise Exposure – L_{dn} or CNEL (dBA)						
	50	55	60	65	70	75	80
Residential							
Transient Lodging – Motel, Hotel							
Schools, Libraries, Churches, Hospitals, Nursing Homes							
Auditorium, Concert Hall, Amphitheaters							
Sports Arena, Outdoor Spectator Sports							
Playgrounds, Neighborhood Parks							
Golf Courses, Riding Stables, Water Recreation, Cemeteries							
Office Buildings, Business, Commercial and Professional							
Industrial, Manufacturing, Utilities, Agriculture							

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Table 3.12-4. Land Use Compatibility for Community Noise Environments

Land Use Category		Community Noise Exposure – L_{dn} or CNEL (dBA)						
		50	55	60	65	70	75	80
	Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.						
	Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design.						
	Normally Unacceptable	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.						
	Clearly Unacceptable	New construction or development generally should not be undertaken.						

Source: OPR 2017; ICPDS 1993
Notes:
CNEL - community noise equivalent level; dBA – A-weighted decibel; Ldn – day-night average sound level

Local

County of Imperial General Plan Noise Element

The County of Imperial General Plan Noise Element identifies and defines existing and future environmental noise levels from sources of noise within or adjacent to the County of Imperial; establishes goals and objectives to address noise impacts and provides Implementation Programs to implement adopted goals and objectives. Table 3.12-5 summarizes the projects' consistency with the applicable General Plan noise policies. While this EIR analyzes the projects' consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

The County of Imperial has established the following interior noise standards to be considered in acoustical analyses:

- The interior noise standard for detached single family dwellings shall be 45 dB CNEL.
- The interior noise standard for schools, libraries, offices and other noise-sensitive areas where the occupancy is normally only in the day time, shall be 50 dB averaged over a 1-hour period ($L_{eq}(1)$).

Table 3.12-5. Projects' Consistency with Applicable General Plan Noise Policies

General Plan Policies	Consistency with General Plan	Analysis
1. Acoustical Analysis of proposed projects. The County shall require the analysis of proposed discretionary projects, which may generate excessive noise, or which may be impacted by existing excessive noise levels.	Consistent	Under existing conditions, the ambient noise environment is characterized as relatively quiet with peak noise levels influenced by vehicular traffic traveling on SR 78, SR 111, and SR 115. Given that the projects are not characterized as a sensitive land use, project facilities would be unaffected by existing noise levels. The project facilities would be constructed within areas zoned for agricultural use with noise levels up to 69 dBA identified as normally acceptable. Project operations are expected to produce noise levels that would not exceed County standards and, hence impacts are expected to be less than significant. This EIR provides an analysis of the potential short- and long-term noise impacts of the projects. As discussed, short-term and long-term noise levels were found to be less than significant.
2. Noise/Land Use Compatibility. Where acoustical analysis of a proposed project is required, the County shall identify and evaluate potential noise/land use conflicts that could result from the implementation of the project. Projects which may result in noise levels that exceed the "Normally Acceptable" criteria of the Noise/Land Use Compatibility Guidelines shall include mitigation measures to eliminate or reduce the adverse noise impacts to an acceptable level.	Consistent	Noise levels associated with project operations would not exceed noise limits for the A-2-RE, A-3-RE, and S-2-RE zones. See Section 3.12.3 for additional discussion.
4. Interior Noise Environment. Where acoustical analysis of a proposed project is required, the County shall identify and evaluate projects to ensure compliance to the California (Title 24) interior noise standards and the additional requirements of this Element.	Consistent	This EIR provides an analysis of the potential short- and long-term noise impacts of the projects. As discussed, short-term and long-term noise levels were found to be less than significant. Noise levels associated with project operations would be unlikely to exceed noise limits for the A-2-RE, A-3-RE, and S-2-RE zones.
5. New Noise Generating projects. The County shall identify and evaluate projects which have the potential to generate noise in excess of the Property Line Noise Limits. An acoustical analysis must be submitted which demonstrates the project's compliance.	Consistent	This EIR provides an analysis of the potential short- and long-term noise impacts of the projects. As discussed, short-term and long-term noise levels were found to be less than significant. Noise levels associated with project operations would be unlikely to exceed noise limits for the A-2-RE, A-3-RE, and S-2-RE zones.

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Table 3.12-5. Projects' Consistency with Applicable General Plan Noise Policies

General Plan Policies	Consistency with General Plan	Analysis
6. Projects Which Generate Off-site Traffic Noise. The acoustical analysis shall identify and evaluate projects, which would generate traffic and increase noise levels on off-site roadways. If the project site has the potential to cause a significant noise impact on sensitive receptors along those roadways, the acoustical analysis report shall consider noise reduction measures to reduce the impact to a level less than significant.	Consistent	As described in Chapter 2, the projects would involve a minimal number of operational related vehicle trips and therefore, is unlikely to produce any increase in traffic noise levels on local roadways.

Source: ICPDS 1993

Construction Noise Standards

Construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB L_{eq}, when averaged over an eight (8) hour period, and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB L_{eq} when averaged over a one (1) hour period.

Construction equipment operation are required to be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 5:00 p.m. Saturday. No commercial construction operations are permitted on Sunday or holidays. In cases of a person constructing or modifying a residence for himself/herself, and if the work is not being performed as a business, construction equipment operations may be performed on Sundays and holidays between the hours of 9:00 a.m. and 5:00 p.m. Such non-commercial construction activities may be further restricted where disturbing, excessive, or offensive noise causes discomfort or annoyance to reasonable persons of normal sensitivity residing in an area.

County of Imperial Noise Ordinance

Noise generating sources in Imperial County are regulated under the County of Imperial Codified Ordinances, Title 9, Division 7 (Noise Abatement and Control). Noise limits are established in Chapter 2 of this ordinance. Under Section 90702.00 of this rule, 70 dB is the normally acceptable limit for the Industrial, Manufacturing, Utilities, and Agricultural category of land use (Table 3.12-6).

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Table 3.12-6. Imperial County Exterior Noise Standards

Land Use Zone	Time Period	Noise Level, L_{eq} 1-hour
R-1 Residential	Night (10 p.m. to 7 a.m.) Day (7 a.m. to 10 p.m.)	45 dBA 50 dBA
R-2 Residential	Night (10 p.m. to 7 a.m.) Day (7 a.m. to 10 p.m.)	50 dBA 55 dBA
R-3, R-4, and all other residential	Night (10 p.m. to 7 a.m.) Day (7 a.m. to 10 p.m.)	50 dBA 55 dBA
Commercial	Night (10 p.m. to 7 a.m.) Day (7 a.m. to 10 p.m.)	55 dBA 60 dBA
Manufacturing, other industrial, agricultural, and extraction industry	Anytime	70 dBA
Industrial	Anytime	75 dBA

Notes:
dBA – A-weighted decibel; L_{eq} – equivalent sound level

Imperial County Right-to-Farm Ordinance

In recognition of the role of agriculture in the county, the County of Imperial has adopted a "right-to-farm" ordinance (County of Imperial Codified Ordinances, Division 2, Title 6: Right to Farm). A "right-to-farm" ordinance creates a legal presumption that ongoing standard farming practices are not a nuisance to adjoining residences and requires a disclosure to landowners near agricultural land operations or areas zoned for agricultural purposes. The disclosure advises persons regarding potential discomfort and inconvenience that may occur from operating machinery as a result of conforming and accepted agricultural operations.

3.12.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to noise, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to noise and vibration are considered significant if any of the following occur:

- Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Generate excessive groundborne vibration or groundborne noise levels.
- For a project located in the vicinity of a private airstrip of an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport,

would the project expose people residing or working in the project area to excessive noise levels.

Methodology

Noise and Vibration

This analysis of the existing and future noise environments is based on empirical observations. Predicted construction noise levels were calculated utilizing the FHWA's Roadway Construction Model (see Appendix J of this EIR for details). Groundborne vibration levels associated with construction-related activities for the projects were evaluated utilizing typical groundborne vibration levels associated with construction equipment. Potential groundborne vibration impacts related to structural damage and human annoyance were evaluated, taking into account the distance from construction activities to nearby structures and typically applied criteria for structural damage and human annoyance.

In order to estimate the worst-case operational noise levels that may occur at the nearest noise-sensitive receptor, onsite operational noise levels have been calculated with the SoundPLAN 3D noise model (which predicts noise propagation from a noise source based on the location, noise level, and frequency spectra of the noise sources as well as the geometry and reflective properties of the local terrain, buildings, and barriers), coupled with noise measurements that were taken by ECORP Consulting, Inc. (ECORP) at an existing solar energy generation facility. Specifically, ECORP conducted a 30-minute reference noise measurement within the IVC solar generation facility in Imperial County with a Larson Davis SoundExpert LxT precision sound-level meter, which satisfies the American National Standards Institute for general environmental noise measurement instrumentation. This reference measurement identified an ambient noise environment of 47.1 dBA at the existing solar energy generation facility (see Appendix J of this EIR for details). Therefore, a noise level of 47.1 dBA was employed as the reference noise level in the SoundPLAN 3D noise model to determine noise-level propagation associated with project operations.

Impact Analysis

Impact 3.12-1 Would the project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Onsite Construction Noise

Construction noise associated with the proposed projects would be temporary and would vary depending on the nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing, grading, excavation, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic

movement of machinery lifts). During construction, exterior noise levels could negatively affect sensitive land uses in the vicinity of the construction site.

The nearest existing noise-sensitive land use to the project site is a single-family residence located 523 feet from the southwestern corner of the VEGA SES 5 project site. However, VEGA SES 2 and 3 are located on a different set of parcels than VEGA SES 5. Therefore, the closest residence to VEGA SES 2 and 3 projects is approximately 3,154 feet west of the VEGA SES 2 project boundary.

As previously described, the County's General Plan Noise Element states construction equipment operation shall be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 5:00 p.m. on Saturdays. No commercial construction operations are permitted on Sundays or holidays. Construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB L_{eq}, when averaged over an 8-hour period, and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB L_{eq} when averaged over a one 1-hour period.

The anticipated short-term construction noise levels generated for the necessary construction equipment are presented in Table 3.12-7.

Table 3.12-7. Construction Average Noise Levels (dBA) at the Nearest Receptor

Combined Equipment	Estimated Exterior Construction Noise Level at Nearest Receptor (dBA L_{eq})	Construction Noise Standards (dBA L_{eq})	Exceeds Standards?
VEGA SES 2 and 3			
Demolition and Grubbing	50.4	75	**No**
Grading	52.2	75	**No**
Construction and Paving	54.6	75	**No**
VEGA SES 5			
Demolition and Grubbing	66.0	75	**No**
Grading	67.8	75	**No**
Construction and Paving	70.2	75	**No**

Source: Appendix J of this EIR

Notes:

The nearest residence is located approximately 3,154 feet from the VEGA SES 2 western boundary. The nearest residence is located approximately 523 feet from the Project's VEGA SES 5 southwestern boundary.

L_{eq} = The equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

As shown in Table 3.12-7, the individual or cumulative pieces of construction equipment during construction of the VEGA SES 2 and 3 projects in 2023 and VEGA SES 5 project in 2024 would not exceed the 75 dBA Imperial County construction noise standard at the nearest noise-sensitive

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receptor. Therefore, the proposed projects would not generate a substantial temporary increase in ambient noise levels in the vicinity of the project sites in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies during construction. Impacts would be less than significant.

Offsite Construction Worker Traffic Noise

Project construction would also result in additional traffic on adjacent roadways over the time period that construction occurs. The number of on–site construction workers for the solar project facilities are not expected to exceed 150 workers at any one time. The number of on-site construction workers for the battery storage facility and the substation is not expected to exceed 100 workers at any one time. Onsite parking would be provided for all construction workers. According to the Traffic Impact Study prepared for the VEGA SES 2, 3, & 5 Solar Energy Projects (Appendices K1 and K2 of this EIR), a maximum of 510 daily automobile trips would be generated during project construction, accounting for construction worker commutes and equipment deliveries. The majority of these trips are expected to be accommodated on SR 78, SR 111, and SR 115. Construction workers would access the VEGA 5 project site from SR 111 onto east on McDonald Road. The VEGA 2 and 3 project sites require an additional 1.65 miles of travel on Wiest Road and Flowing Wells Road.

Doubling of traffic on a roadway is required to result in an increase of 3 dB (outside of the laboratory, a 3-dBA change is considered a just-perceivable difference). The roadway segment of SR 111 closest to the project site currently accommodates 3,500 average daily traffic trips (ADT). The County General Plan Circulation and Scenic Highways Element (2008) designates the roadway segments of McDonald Road and Weist Road as Minor (Local) Collector, which on average can accommodate 1,900 to 16,200 ADT. Flowing Wells Road does not have a designation within the General Plan, but there are no sensitive receptors along Flowing Wells Road that would experience any sounds changes along this roadway. Additionally, construction is temporary and once project construction is complete, all construction-related traffic noise would cease. Thus, the estimated 510 daily trips during project construction would not result in a doubling of traffic on these facilities, and its contribution to existing traffic noise would not be perceptible.

Based on the considerations above, the proposed projects would not generate a substantial temporary increase in ambient noise levels related to construction worker traffic in the vicinity of the project sites in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies during construction. Impacts would be less than significant.

Operation

The main stationary operational noise associated with the projects would be from the proposed transformers, inverters, substation, and transmission lines. Onsite project operations have been calculated using the SoundPLAN 3D noise model. As previously stated, a noise level of 47.1 dBA was employed as the reference noise level in the SoundPLAN 3D noise model to determine noise-level propagation associated with the project operations. Table 3.12-8 shows the predicted project noise levels at the nearest noise-sensitive land use, a single-family residence located approximately 523 feet southwest of the VEGA 5 project site (APN 025-260-022).

Table 3.12-8. Modeled Operational Noise Levels at Nearest Sensitive Receptor

Location	Modeled Operational Noise Attributed to Project (L_{eq} dBA)	County Daytime Standard (L_{eq} dB)	County Nighttime Standard (L_{eq} dB)	Exceed Standard?
Property line of the nearest residence	36.7	50.0	45.0	**No**

Source: Appendix J of this EIR

Notes:

Reference noise measurement used to calculate Project onsite noise propagation identified at 47.1 dBA, per 30-minute measurements taken at a VEGA SES solar generation facility in Imperial County.

As shown in Table 3.12-8, project operational noise would not exceed County daytime or nighttime standards.

Project operations would result in minimal additional traffic on adjacent roadways. The only visitors to the site would be that of repair or maintenance workers, whose presence at the site would be infrequent. Sporadic vehicle activity resulting from maintenance and operations trips would not result in a doubling of traffic, and therefore its contribution to existing traffic noise would not be perceptible.

Given the above, project operation would not generate a substantial permanent increase in ambient noise levels in the vicinity of the project sites in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies during construction. Impacts would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.12-2 Would the project generate excessive groundborne vibration or groundborne noise levels?

Construction

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the projects would be primarily associated with short-term construction-related activities. Construction on the project sites would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

As stated in Section 3.12.1, construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. It is noted that pile drivers would not be necessary during project construction. Vibration decreases rapidly with distance and it is acknowledged that construction activities would occur throughout the project sites and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with typical construction equipment at 25 feet distant are summarized in Table 3.12-3.

The County of Imperial does not regulate vibrations associated with construction. However, a discussion of construction vibration is included for informational purposes. Caltrans and the Federal

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Transit Authority (FTA) have developed two of the decisive works in the assessment of vibrations from transportation and construction sources (Caltrans 2020; FTA 2018). Caltrans recommends a standard threshold of 0.2 inch per second PPV with respect to the prevention of structural damage for older residential buildings (Caltrans 2020). This is also the level at which vibrations may begin to annoy people in buildings. Consistent with FTA recommendations (FTA 2018) for calculating construction vibration, construction vibration was measured from the center of the project site. The nearest structure of concern to the construction site, with regard to groundborne vibrations, is the Coachella Canal located within the proposed project boundary and approximately 30 feet across the Coachella Canal Access Road (Appendix J of this EIR).

Potential project construction vibration levels were calculated based on the representative vibration levels presented for various construction equipment types in Table 3.12-3 and the construction vibration assessment methodology published by the FTA (FTA 2018). Table 3.12-9 presents the expected project-related vibration levels at a distance of 30 feet.

Table 3.12-9. Project Construction Vibration Levels at 30 Feet

Receiver PPV Levels (Inch per Second)							
Large Bulldozer, Caisson Drilling, and Hoe Ram	Loaded Trucks	Jackhammer	Small Bulldozer	Vibratory Roller	Peak Vibration	Threshold	Exceed Threshold?
0.068	0.058	0.027	0.002	0.160	**0.160**	**0.3**	**No**

Source: Appendix J of this EIR

As shown in Table 3.12-9, vibration as a result of construction activities would not exceed 0.3 PPV at the nearest structure. Thus, project construction would not exceed the recommended vibration threshold and this impact would be less than significant.

Operation

Project operations would not include the use of any large-scale stationary equipment that would result in excessive vibration levels, nor would it involve any operational activities that would result in excessive vibration. Therefore, the projects would result in no impact associated with groundborne vibration during operations.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.12-3 For a project located in the vicinity of a private airstrip of an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The project sites are not located within 2 miles of a public airport or a public use airport. The nearest airport to the proposed projects is the Calipatria Municipal Airport, located approximately 6 miles southwest of the VEGA SES 5 project site. The Imperial County Airport Land Use Commission has established a set of land use compatibility criteria for lands surrounding the airports in Imperial County

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in the Imperial County Airport Land Use Compatibility Plan (ALUCP). According to Figure 3C of the ALUCP, the project sites are outside of the noise contours of the Calipatria Municipal Airport. Therefore, the projects would not expose people residing or working in the project area to excessive noise levels and no impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

3.12.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Decommissioning or restoration of the solar facilities would use similar equipment to what was evaluated in the construction noise and vibration analysis. Adhering to Imperial County standards for construction noise levels would reduce the noise and vibration impacts to below a level of significance.

Residual

Adhering to the Imperial County standards for construction noise levels would reduce the noise and vibration impacts to below a level of significance.

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3.13 Transportation

This section addresses the proposed projects' impacts on traffic and the surrounding roadway network associated with construction and operation of the proposed projects. The following discussion describes the existing conditions in the surrounding area, the existing federal, state, and local regulations regarding transportation, and an analysis of the potential impacts of the proposed projects.

Information in this section is summarized from the VEGA SES 2/3 Solar Energy Storage Project Traffic Impact Study and the VEGA SES 5 Solar Energy Storage Project Traffic Impact Study prepared by KOA. These reports are included in Appendix K1 and K2 of this EIR, respectively.

3.13.1 Existing Conditions

Traffic Study Area

The traffic study area is determined based on the County of Imperial Department of Public Works *Traffic Study and Report Policy* dated March 12, 2007, revised June 29, 2007, and approved by the Board of Supervisors of the County of Imperial on August 7, 2007 ("Traffic Study and Report Policy"). The traffic study area for the projects includes those locations that will likely be affected by the projects where a minimum of 50 peak hour vehicles impacts the location.

Intersections

The traffic study area for the proposed projects includes the following intersections:

1. McDonald Road and Weist Road
2. McDonald Road and SR-111
3. SR-111 and SR-115
4. SR-111 and north ramps with SR-78
5. SR-111 and south ramps with SR-78

Roadway Segments

The traffic study area for the proposed projects includes the following roadway segments:

1. McDonald Road from SR-111 to Weist Road
2. SR-111 from McDonald Road to Niland Avenue
3. SR-111 from McDonald Road to SR-115
4. SR-111 from SR-115 to SR-78 north ramps
5. SR-111 from SR-78 north ramps to SR-78 south ramps

Existing Roadway Network

Each of the key roadways, as well as associated study intersections within the traffic study area, are discussed below.

1. State Route 111 (SR-111) is a two-lane highway with no median and a posted speed limit of 65 mph.

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2. McDonald Road is a two-lane paved local roadway that runs in an east-west direction. This road provides access from the site to/from SR-111.
3. Weist Road is a north-south roadway that connects to McDonald Road. North of McDonald Road, Weist Road is unpaved.

Existing Level of Service

Level of service (LOS) is a professional industry standard by which the operating conditions of a given roadway segment or intersection are measured. LOS ranges from A through F, where LOS A represents the best operating conditions and LOS F represents the worst operating conditions. LOS A facilities are characterized as having free-flowing traffic conditions with no restrictions on maneuvering or operating speeds; traffic volumes are low and travel speeds are high. LOS F facilities are characterized as having forced flow with many stoppages and low operating needs.

Intersections

All of the study area intersections analyzed currently operate at acceptable LOS B or better during the AM and PM peak hours under existing conditions.

Roadway Segments

All of the roadway segments analyzed currently operate at acceptable LOS B or better under existing conditions.

Alternative/Public Transportation

Fixed Route Transportation

Imperial Valley Transit (IVT) is an inter-city fixed route bus system, subsidized by the Imperial Valley Association of Governments (IVAG), administered by the County Department of Public Works and operated by a public transit bus service. The service is wheelchair accessible and Americans with Disabilities Act compliant. IVT Routes are defined categorized in the following manner:

- **Fixed Routes.** Fixed routes operate over a set pattern of travel and with a published schedule. The fixed route provides a low cost, reliable, accessible, and comfortable way to travel.
- **Deviated Fixed Route.** In several service areas, IVT operates on a deviated fixed-route basis so that persons with disabilities and limited mobility are able to travel on the bus. Passengers must call and request this service the day before service is desired in the communities of Seeley and Ocotillo and the east side of the Salton Sea.
- **Remote Zone Routes.** Remote zone routes operate once a week. These routes are “lifelines” in nature in that they provide connections from some of the more distant communities in the Imperial County area (IVT 2021).

The project sites are not within the Fixed Route Transportation system and, therefore, would not receive regular bus service to the project sites or within the vicinity of the project sites. The nearest IVT bus stop is the 51N Brawley to Bombay Beach bus stop at the northwest quadrant of the Beal Road and Low Road intersection in the community of Slab City. VEGA SES 5 is the closest project site to this bus stop and is approximately 4 miles southeast from the bus stop.

Bicycle Facilities

The project sites are located within a rural portion of Imperial County. There are no bicycle facilities in the immediate proximity of the project sites.

Project Site Access

VEGA SES 2 and 3

The project sites are located within an unincorporated area of Imperial County, approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. As shown in Figure 3.13-1, primary access to and from the site will be from SR-111 along McDonald Road to Weist Road. Construction-related traffic would cross the East Highline Canal at Noffsinger Road. Weist Road continues to Flowing Wells Road. The crossing of the UP railroad tracks is at an unsignalized crossing on Weist Road. The site will be accessed from Flowing Wells Road. Weist Road, Noffsinger Road, and Flowing Wells Road are unpaved roadways.

VEGA SES 5

As shown in Figure 3.13-2, access to and from the site will be from SR-111 along McDonald Road. A portion of the site construction traffic will travel to the east side of the channel, by using Weist Road and Noffsinger Road. To access the portion of the site east of the UP railroad tracks, access across the tracks will be at Flowing Wells Road.

3.13.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the proposed projects.

State

California Department of Transportation

Caltrans manages more than 50,000 miles of California's highway and freeway lanes, provides inter-city rail services, permits more than 400 public-use airports and special-use hospital heliports, and works with local agencies. Specifically, Caltrans is responsible for the design, construction, maintenance, and operation of the California State Highway System.

As it relates to the proposed project and potential construction access routes within the County, Caltrans District 11 is responsible for maintaining and managing SR-111.

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Figure 3.13-1. VEGA SES 2 and 3 Access Route

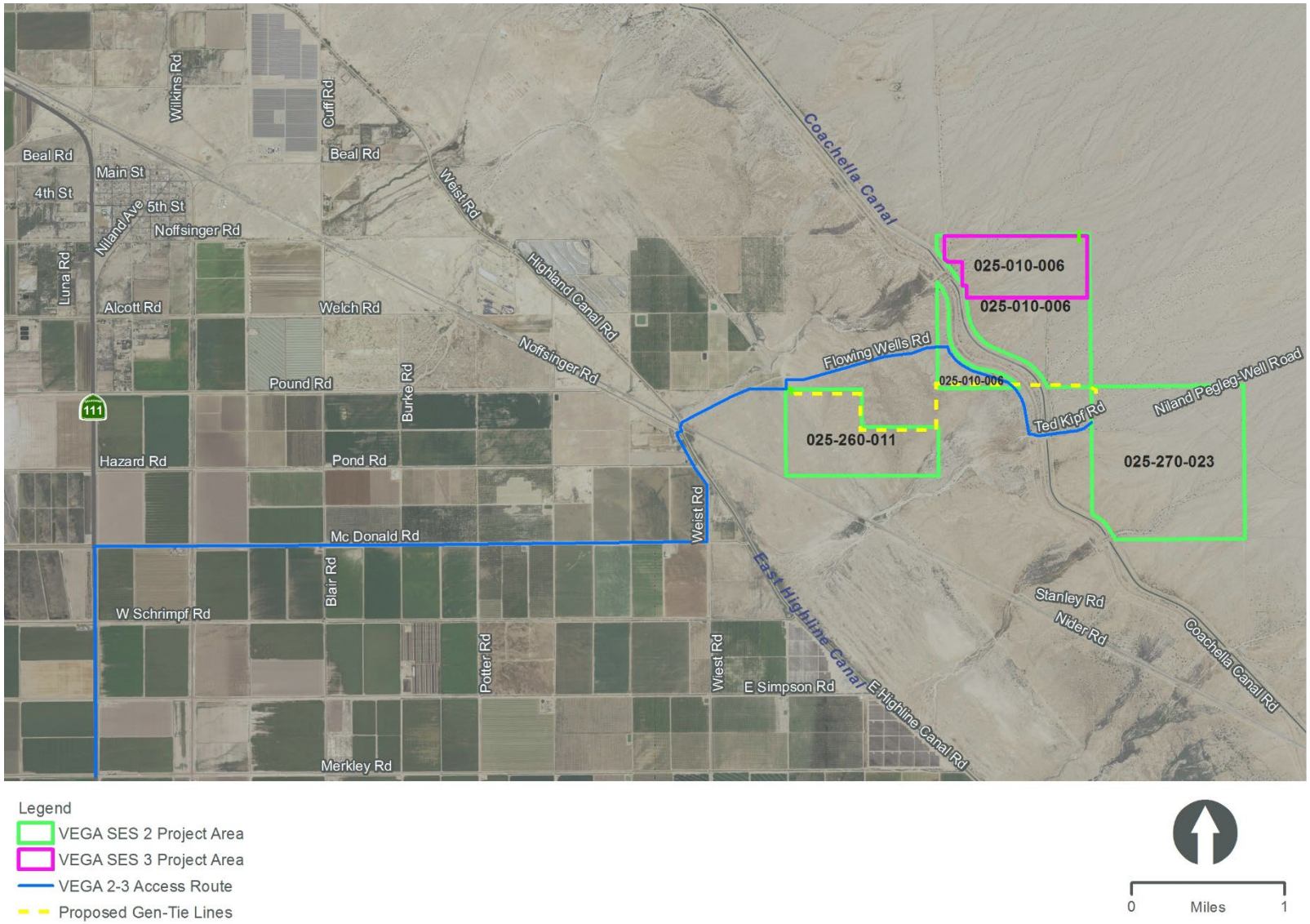

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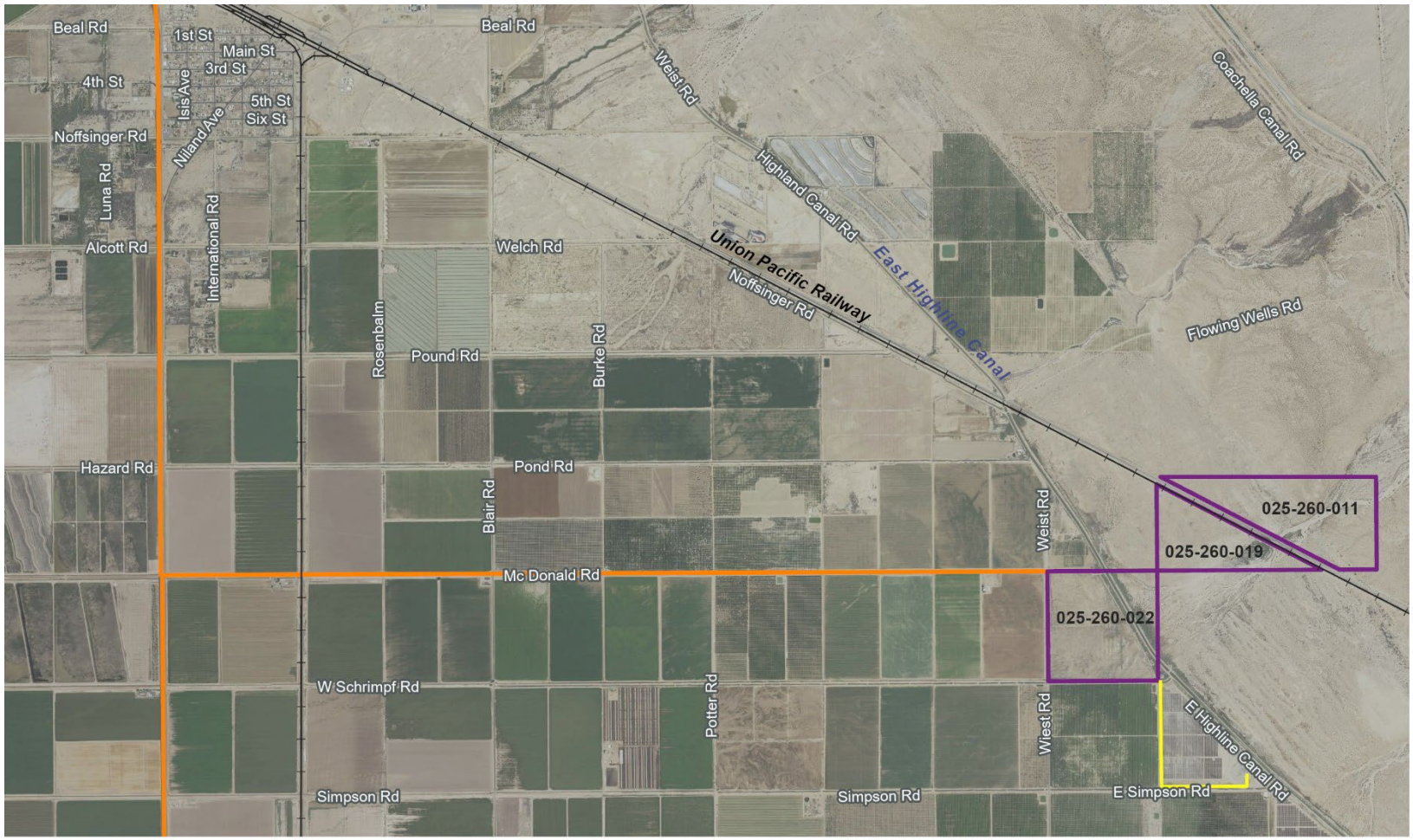
Figure 3.13-2. VEGA SES 5 Access Route



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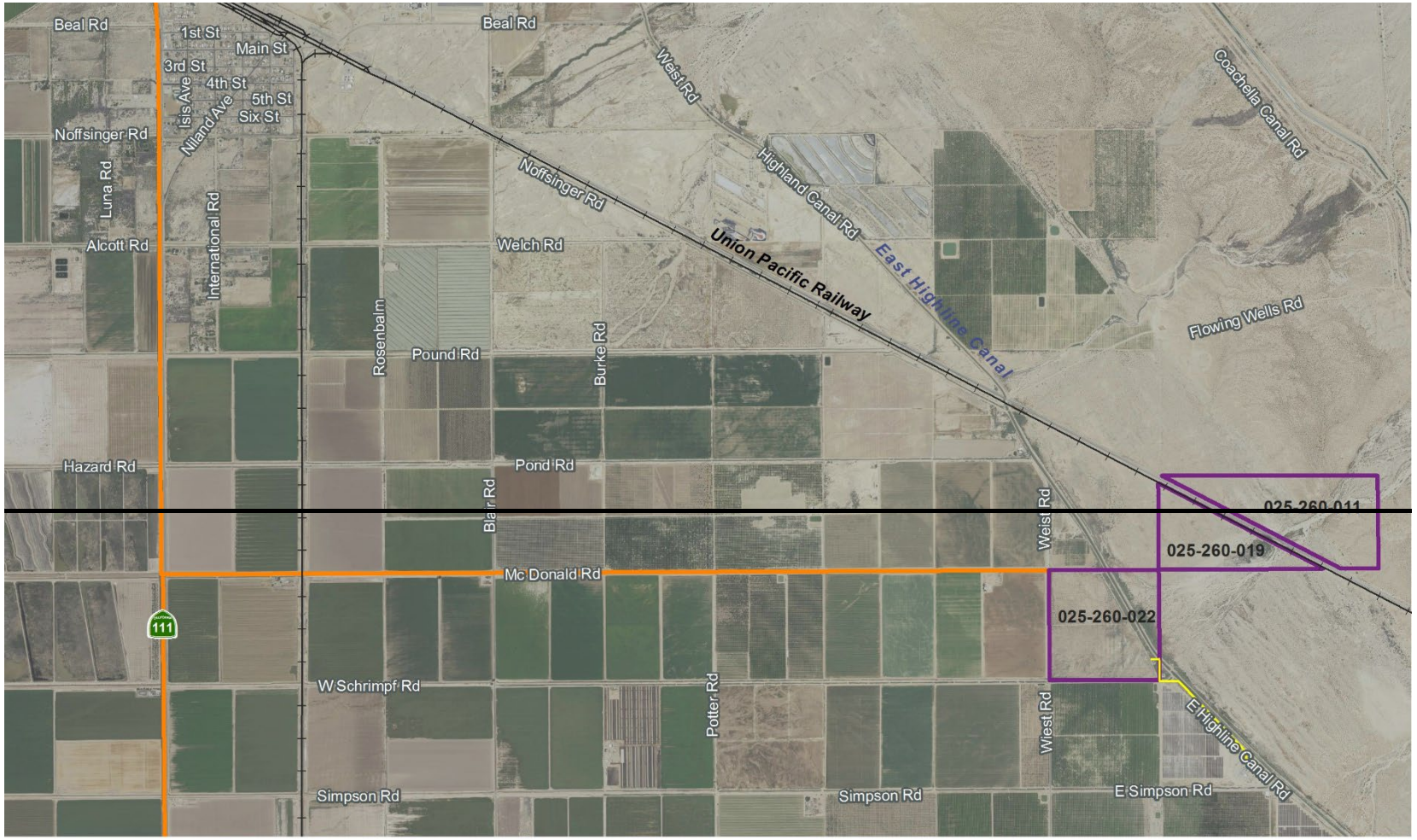

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Regional

SCAG 2020-2045 RTP/SCS (Connect SoCal)

On September 3,2020, SCAG adopted the 2020–2045 RTP/SCS (SCAG 2020). The RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. Input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses, and local stakeholders within the Counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The 2020–2045 RTP/SCS demonstrates how the region will reduce emissions from transportation sources to comply with SB 375 and meet the NAAQS set forth by the Clean Air Act.

The updated RTP/SCS contains thousands of individual transportation projects that aim to improve the region's mobility and air quality and revitalize the economy. Since the RTP/SCS's adoption, the county transportation commissions have identified new project priorities and have experienced technical changes that are time-sensitive. Additionally, the new amendments for the plan have outlined minor modifications to project scopes, costs and/or funding and updates to completion years. The amendments to the RTP/SCS do not change any other policies, programs, or projects in the plan.

Local

County of Imperial Circulation and Scenic Highways Element

The Circulation and Scenic Highways Element identifies the location and extent of transportation routes and facilities. It is intended to meet the transportation needs of local residents and businesses and as a source for regional coordination. The inclusion of Scenic Highways provides a means of protecting and enhancing scenic resources within highway corridors in Imperial County. The purpose of the Circulation and Scenic Highways Element is to provide a comprehensive document that contains the latest knowledge about the transportation needs of the County and the various modes available to meet these needs. Additionally, the purpose of this Element is to provide a means of protecting and enhancing scenic resources within both rural and urban scenic highway corridors.

Coordination across jurisdictional standards for road classification and design standards was identified as a crucial component to the 2008 update of the Circulation and Scenic Highways Element. The intent of this element is to provide a system of roads and streets that operate at an LOS "C" or better (County of Imperial 2008).

Level of Service

LOS is a professional industry standard by which the operating conditions of a given roadway segment or intersection are measured. LOS ranges from A through F, where LOS A represents the best operating conditions and LOS F represents the worst operating conditions. LOS A facilities are characterized as having free-flowing traffic conditions with no restrictions on maneuvering or operating speeds; traffic volumes are low and travel speeds are high. LOS F facilities are characterized as having forced flow with many stoppages and low operating needs. Additionally, with the growth of Imperial County, transportation management and systems management will be necessary to preserve and increase roadway "capacity." LOS standards are used to assess the performance of a street or highway system and the capacity of a roadway.

County of Imperial Bicycle Master Plan Update: Final Plan

In 2012, the County of Imperial adopted an updated Bicycle Master Plan to serve as the guiding document for the development of an integrated network of bicycle facilities and supporting programs designed to link the unincorporated areas and attractive land uses throughout the County. This document is an update to the previously adopted Countywide Bicycle Master Plan; and was prepared to accomplish the following goals:

1. To promote bicycling as a viable travel choice for users of all abilities in the County.
2. To provide a safe and comprehensive regional connected bikeway network.
3. To enhance environmental quality, public health, recreation, and mobility benefits for the County through increased bicycling.

The County of Imperial's General Plan, Circulation and Scenic Highways Element, and Conservation and Open Space Element, provide a solid planning basis for the Bicycle Master Plan. In spite of the fact that there are a limited number of bicycle facilities in Imperial County and no comprehensive bicycle system, there is a growing interest in cycling and numerous cyclists bike on a regular basis for both recreation and commuting to work and school.

3.13.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to transportation and traffic are considered significant if any of the following occur:

- Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
- Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.

Methodology

The assessment evaluates the proposed projects' trip generation during and after construction, and roadway conditions for roads that would be utilized to access the project sites for construction.

County of Imperial

ROADWAY SEGMENT LEVEL OF SERVICE STANDARDS

The County of Imperial does not have published significance criteria for traffic impacts. However, the Circulation and Scenic Highways Element of the County General Plan does state that the LOS goal for intersections and roadway segments is to operate at LOS C or better. Therefore, if an intersection or segment degrades from LOS C or better to LOS D or worse with the addition of project traffic, the impact is considered significant.

PEAK HOUR INTERSECTION LEVEL OF SERVICE STANDARDS

The County of Imperial traffic impact study guidelines consider LOS C or better during the AM and PM peak hours to be the threshold of significance for intersection LOS. Therefore, if the proposed projects exceed the County's LOS C threshold for surrounding roadways intersections, then the proposed projects may have a significant project impact.

California Department of Transportation

Freeway LOS analysis is based upon procedures developed by Caltrans. Consistent with Caltrans requirements, LOS D or better is used as the threshold for acceptable freeway operations. For freeway segments that operate at LOS D or lower, an incremental increase in volume/capacity (v/c) of greater than 0.01 is considered to be a significant impact.

Project Trip Generation

The construction of the VEGA SES 2 and 3 Projects is estimated to take 12–18 months and would begin in 2023. The number of on-site construction workers for the VEGA SES 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the VEGA SES 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time.

The construction of the VEGA SES 5 Project is estimated to take 12 months and would begin in 2024. The number of on-site construction workers for the VEGA SES 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the VEGA SES 5 battery storage facility and substation is not expected to exceed 50 workers at any one time.

The trip generation was estimated if the construction phases were to overlap. Delivery trucks are expected to follow the same routes as the construction workers. An estimated two trucks would arrive at the project site each day during the first few weeks of construction of the solar generating facility. Truck trips have been converted into passenger equivalent volumes (PCE) using a PCE factor of 2.5.

Table 3.13-3 provides the estimated average daily on-road project trip generation (i.e., trips to and from the site) for the construction phases of the proposed projects. As shown, the maximum number of on-road trips during construction would be approximately 510 daily trips ends (500 worker trips and 10 truck trips) for the VEGA SES 2 and 3 Projects and 260 daily trips (250 worker trips and 10 truck trips) for the VEGA SES 5 Project.

The proposed projects require minimal operations and maintenance activities and would not require presence of full-time employees. However, it is conservatively assumed that for day-to-day inspection and minor maintenance, some employees would commute to the project sites. The annual operations are assumed to be as follows:

- Routine maintenance activities would include panel washing, which is expected to occur two times annually.
- Periodic (approximately every 3 months) removal of vegetation manually and/or by treatment with herbicides.

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Table 3.13-1. Construction Phase Trip Generation

Construction Phase (Duration)	Intensity (Unit)		Daily Rate	Daily Trips	
	VEGA SES 2&3	VEGA SES 5		VEGA SES 2&3	VEGA SES 5
Solar Facility Construction Workers	150 (Employees)	75 (Employee)	2	300	150
Battery Storage Workers	100 (Employees)	50 (Employee)	2	200	100
Equipment Deliveries and Construction Truck Trips (PCE)	4 (trucks)	4 (Trucks)	2.5	10	10
Total Daily Trips				**510**	**260**

Source: Appendix K1 and K2 of this EIR
PCE = passenger equivalent volumes

Impact Analysis

Impact 3.13-1 Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

During the construction phase of the proposed projects, the maximum number of trip ends generated on a daily basis would be approximately 510 trips for the VEGA SES 2 and 3 Projects and 260 trips for the VEGA SES 5 Project. Under construction year conditions with and without the proposed projects, all roadway segments analyzed would operate at LOS A, and all intersections would operate at a LOS B or better during both AM and PM peak hours.

Implementation of the proposed projects would not require any public road widening to accommodate vehicular trips associated with the proposed projects (construction phase and operational phase), while maintaining adequate LOS. Additionally, future operations and maintenance would be conducted remotely, with minimal trips to the project sites for panel washing and other solar maintenance.

There is no regular bus service to the general area and project-related construction and operations and maintenance phases would not impact mass transit. The proposed projects would not interfere with bicycle facilities because the proposed projects are located in a rural portion of the County with no existing or potential future designated bike routes in the area.

Therefore, the proposed projects would not result in any significant impacts to any roadway segments or transportation-related facilities/infrastructure within the area surrounding the project sites during construction and operation; and would not conflict with a program plan, ordinance, or policy as it relates to transportation. Impacts are considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

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Impact 3.13-2 Would the project conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Section 15064.3(b) of the CEQA Guidelines provides guidance on determining the significance of transportation impacts and focuses on the use of vehicle miles traveled (VMT), which is defined as the amount and distance of automobile travel associated with a project. The Natural Resources Agency (NRA) has adopted guidance to incorporate SB 743 into CEQA analysis. The NRA's Technical Advisory on Evaluating Transportation Impacts in CEQA (NRA 2018), includes screening thresholds for small projects. Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact. Although the proposed projects would increase VMT during the construction phase as a result of trips made by construction workers and transportation of construction material and equipment, these increases are temporary in nature. Further, as discussed above, operation of proposed projects would only require intermittent maintenance (including inspection, panel washing, and vegetation removal), which would be a nominal amount of vehicle trips generated. Therefore, the proposed projects would not conflict or be inconsistent with Section 15064.3(b) of the CEQA Guidelines this impact is considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.13-3 Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The solar projects would occur on privately-owned land located in a rural area. To accommodate emergency access, PV panels would be spaced to maintain proper clearance. Internal access roads, up to 30 feet wide, would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles. Access roads would be graded and compacted (native soils) as required for construction, operations, maintenance, and emergency vehicle access. Additionally, any proposed haul routes would be submitted to the County for approval prior to construction. Therefore, the projects would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). Impacts are considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.13-4 Would the project result in inadequate emergency access?

The project sites would include both a primary and secondary access driveway (if required). As previously stated, PV panels would be spaced to maintain proper clearance for emergency access. Internal access roads, up to 30 feet wide, would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles. Access roads would be graded and compacted (native soils) as required for construction, operations, maintenance, and emergency vehicle access. The access and service roads would also have turnaround areas at any dead-end to allow clearance for fire trucks per fire department standards. If needed, the access

and service roads would also have turnaround areas at any dead-end to allow clearance for fire trucks per fire department standards.

As previously described, the VEGA SES 2 and 3 Project sites will be accessed from Flowing Wells Road. Weist Road, Noffsinger Road, and Flowing Wells Road are unpaved roadways. Flowing Wells Road, although occasionally maintained by the County of Imperial, is on BLM land and a right-of-way (ROW) approval from the BLM is required. There is no alternative route that either exists or can be used to gain access to the VEGA SES 2 and 3 Project sites that do not cross some federal lands; hence Flowing Wells Road, is the only viable route. The VEGA SES 2 and 3 Projects would not require changes to Flowing Wells Road in terms of alignment, cross-section, width, or length. The project applicant is requesting a 24-foot-wide ROW given that the road currently has no designated width. The VEGA SES 2 and 3 projects, if required as part of the permitting or ROW approval, would grade and maintain Flowing Wells Road during construction as required by the BLM, County and/or Air District, including future years maintenance for safe access to the sites. A maintenance agreement with the County/BLM will be included in the conditions of approval.

To access the portion of the VEGA SES 5 Project site east of the UP railroad tracks, access across the tracks will be at Flowing Wells Road and access to the property will be via an easement that will be acquired. The easement will be a direct vertical south from Flowing Wells Road at the western boundary of APN 025-260-011.

Based on this context, impacts on this issue area are considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

3.13.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

This section included an analysis of construction traffic for the proposed projects. As presented above, construction traffic would not result in a significant impact on any of the roadway segments or intersections because of the low volume of traffic. A similar scenario would occur during the decommissioning and site restoration stage for the proposed projects. ADT would be similar to or less than the ADT required for construction. Similarly, the decommissioning activities would not result in a significant impact related to possible safety hazards, or possible conflicts with adopted policies, plans, or programs as the decommissioning and subsequent restoration would revert the project sites to pre-project conditions. Therefore, decommissioning and restoration of the project sites would not generate traffic resulting in a significant impact on the circulation network. A less than significant impact is identified and no mitigation is required.

Residual

The construction and operation of the proposed projects would not result in direct impacts on intersections and roadway segments. Therefore, less than significant impacts have been identified. No mitigation is required and no residual unmitigated impacts would occur with implementation of the proposed projects.

3.14 Tribal Cultural Resources

This section discusses tribal cultural resources that may be potentially impacted by the proposed projects. The following identifies the existing cultural resources within the project sites, analyzes potential impacts of the proposed projects, and recommends mitigation measures to avoid or reduce potential impacts of the proposed projects.

3.14.1 Existing Conditions

Tribal Cultural Setting

See Section 3.6, Cultural Resources of this EIR, for description of the regional ethnohistory.

Records Search

A records search from the SCIC of the CHRIS at San Diego State University was requested in November 2020 to determine the extent of previous surveys within a 1-mile of the project area, and whether previously documented pre-contact or historic-period archaeological sites, architectural resources, or traditional cultural properties exist within the project areas.

The results from the CHRIS records search revealed that 22 previous cultural resources investigations have been conducted within 1 mile of the project sites between 1979 and 2016.

The CHRIS records search determined that 28 previously recorded cultural resources are located within 1 mile of the project areas. Previously recorded resources comprise of dumps/trash scatters, trash scatter and foundation, a railroad, a canal, trash scatter and ceramic scatter (multi-component), lithic scatter, ceramic scatters, lithic and ceramic scatters, a village, and ceramic isolates on the VEGA SES 2 and 3 project area; as well as pre-contact resources consisting of lithic scatters, hearths, milling features, and cremation burials; and historic-period resources consisting of a railroad, refuse scatters, a canal, and the historic town site of Flowing Well on the VEGA SES 5 project area. Seven of these previously recorded resources which include the Coachella Canal, a pre-contact seasonal camp, a precontact fishing village, a historic General Land Office survey marker with a glass shard and a plate, historic refuse scatters and the historic period East Highline Canal.

Sacred Lands File Results

The California Native American Heritage Commission (NAHC) identifies, catalogs, and protects Native American cultural resources on private and public lands in California. Tribal Cultural Resources defined in Public Resources Code Section 21074 include sites, features, places, cultural landscapes, sacred places, or objects with cultural value to a California Native American tribe. The NAHC also records the historical territories of state recognized tribes into a database called the Sacred Lands File (SLF). A records search of the SLF is conducted to ensure that the tribes potentially affected by a project are properly notified and consulted.

A SLF search request was submitted on November 6 and November 16, 2020 to the California NAHC and the search results were received on December 22, 2020, and January 8, 2021. The search of the SLF was negative and failed to indicate the presence of Native American cultural resources in the project areas.

3.14.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the project.

Federal

Native American Graves Protection and Repatriation Act (1990); Title 25, United States Code Section 3001, et seq.

The Native American Graves Protection and Repatriation Act defines “cultural items,” “sacred objects,” and “objects of cultural patrimony;” establishes an ownership hierarchy; provides for review; allows excavation of human remains but stipulates return of the remains according to ownership; sets penalties; calls for inventories; and provides for the return of specified cultural items.

State

Assembly Bill 52

AB 52 amends PRC 5097.94 and adds eight new sections to the PRC relating to Native Americans. AB 52 was passed in 2014 and took effect on July 1, 2015. It establishes a new category of environmental impacts that must be considered under CEQA called tribal cultural resources (PRC 21074) and establishes a process for consulting with Native American tribes and groups regarding potential impacts to tribal resources. Under AB 52, a project that may substantially change the significance of a tribal cultural resource is a project that may have a significant impact on the environment. If a project may cause a significant impact on a tribal cultural resource, the lead agency shall implement measures to avoid the impacts when feasible.

Public Resources Code Section 21074

PRC Section 21074 defines a tribal cultural resource as a site, feature, place, cultural landscape, sacred place, and any object with cultural value to a California Native American Tribe. A tribal cultural resource must be on or eligible for the CRHR or must be included in a local register of historical resources. The lead agency can determine if a tribal cultural resource is significant even if it has not been evaluated for the CRHR or is not included on a local register.

Assembly Bill 4239

AB 4239, passed in 1976, established the NAHC as the primary government agency responsible for identifying and cataloging Native American cultural resources. The bill authorized the Commission to act in order to prevent damage to and insure Native American access to sacred sites and authorized the Commission to prepare an inventory of Native American sacred sites located on public lands.

Public Resources Code Section 21074

PRC Section 21074 defines a tribal cultural resource as a site, feature, place, cultural landscape, sacred place, and any object with cultural value to a California Native American Tribe. A tribal cultural resource must be on or eligible for the CRHR or must be included in a local register of historical resources. The lead agency can determine if a tribal cultural resource is significant even if it has not been evaluated for the CRHR or is not included on a local register.

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Public Resources Code 5097.97

No public agency and no private party using or occupying public property or operating on public property under a public license, permit, grant, lease, or contract made on or after July 1, 1977, shall in any manner whatsoever interfere with the free expression or exercise of Native American religion as provided in the U.S. Constitution and the California Constitution; nor shall any such agency or party cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require.

Public Resources Code 5097.98 (b) and (e)

PRC 5097.98 (b) and (e) require a landowner on whose property Native American human remains are found to limit further development activity in the vicinity until he/she confers with the NAHC-identified most likely descendants (MLD) to consider treatment options. In the absence of MLDs or of a treatment acceptable to all parties, the landowner is required to reenter the remains elsewhere on the property in a location not subject to further disturbance.

California Health and Safety Code, Section 7050.5

California HSC 7050.5 makes it a misdemeanor to disturb or remove human remains found outside a cemetery. This code also requires a project owner to halt construction if human remains are discovered and to contact the County Coroner.

Local

Imperial County General Plan

The Imperial County General Plan provides goals, objectives, and policies for the identification and protection of significant cultural resources. The Conservation and Open Space Element of the General Plan includes goals, objectives, and policies for the protection of cultural resources and scientific sites that emphasize identification, documentation, and protection of cultural resources. While Section 3.11, Land Use Planning, of this EIR analyzes the project's consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors and Planning Commission ultimately make a determination as to the project's consistency with the General Plan. Goals and Objectives applicable to the proposed project are summarized in Table 3.14-1.

Table 3.14-1. Project Consistency with Applicable General Plan Goals and Objectives

General Plan Policies	Consistency with General Plan	Analysis
Conservation and Open Space Element - *Open Space and Recreation Conservation* **Goal 1** - Environmental resources shall be conserved for future generations by minimizing environmental impacts in all land use decisions and educating the public on their value. **Objective 1.4** - Ensure the conservation and management of the County's natural and cultural resources.	Consistent	Cultural Resources Inventory reports were prepared for the proposed projects. Based on the SLF search, there are no known tribal cultural resources within the project sites. However, as discussed below, the proposed projects have the potential to encounter undocumented tribal cultural resources and Native American human remains. Implementation of Mitigation Measure CR-1 would reduce potentially significant impacts on unknown historic or unique archaeological materials during construction of the project sites. Implementation of Mitigation Measure CR-2 would reduce potential impacts on human remains to a level less than significant.
Objective 3.1 - Protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.	Consistent	

Source: County of Imperial 1993
Notes:
SLF=sacred lands file

3.14.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to tribal cultural resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to tribal cultural resources are considered significant if the project causes a substantial adverse change in the significance of a tribal cultural resource defined in PRC section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC section 5020.1(k)
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe

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Methodology

This analysis evaluates the potential for the projects, as described in Chapter 2, Project Description, to interact with tribal cultural resources on the project sites. Based on the extent of these interactions, this analysis considers whether these conditions would result in an exceedance of one or more of the applied significance criteria as identified above.

As indicated in the environmental setting, cultural resources inventory reports were prepared for the project sites. The reports provide the results of a records search, a SLF search conducted by the NAHC, and field survey, which have been completed for the project sites pursuant to CEQA. These reports are included in Appendix G1. The information from these cultural resources inventory reports were reviewed and summarized to present the existing conditions and to identify potential environmental impacts, based on the significance criteria presented in this section. Impacts associated with tribal cultural resources that could result from the proposed projects' construction and operational activities were evaluated qualitatively based on site conditions; expected construction practices; materials, locations, and duration of project construction and related activities.

Impact Analysis

Impact 3.14-1 ***Would the project cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:***

- *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)*
- *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?*

The NAHC maintains the confidential SLF which contains sites of traditional, cultural, or religious value to the Native American community. A SLF search request was submitted on November 6 and November 16, 2020 to the California NAHC and the search results were received on December 22, 2020, and January 8, 2021. The search of the SLF was negative and failed to indicate the presence of Native American cultural resources in the project area. AB 52 requires a lead agency to begin consultation with a California Native American Tribe that is traditionally and culturally affiliated with the geographic areas of the proposed project. In accordance with AB 52, the County provided notification of the proposed project to Native American tribes that the County understands to be traditionally and culturally affiliated with the geographic area of the proposed project. This notification was provided in a letter sent via email on April 7, 2021, to the Quechan Indian Tribe. On April 8, 2021, the Quechan Indian Tribe requested consultation with the County on the proposed projects. The County is in the process of consulting with the Quechan Indian Tribe and has requested that they provide any information regarding any Traditional Cultural Properties, Sacred Sites, resource collecting areas, or any other areas of concern known to occur in the project area.

To date, no tribes have indicated the potential for traditional cultural properties or sacred sites. Therefore, the project is not anticipated to cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1, and, per the criteria set forth in Section 5024.1, considering the significance of the resource to a California Native American tribe. As stated in Section 3.6 Cultural Resources, potential impacts to archaeological resources and human remains would be less than significant with implementation of Mitigation Measures CR-1 to CR-5. Impacts specifically related to tribal cultural resources would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

3.14.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

If at the end of the PPA term, no contract extension is available for a power purchaser, no other buyer of the energy emerges, or there is no further funding of the projects, the projects will be decommissioned and dismantled. No impact is anticipated from restoration activities as the ground disturbance and associated impacts on tribal cultural resources will have occurred during the construction phase of the proposed projects.

Residual

No unmitigable impacts on tribal cultural resources would occur with implementation of the proposed projects.

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3.15 Utilities and Service Systems

This section includes an evaluation of potential impacts for identified Utilities/Service Systems that could result from implementation of the projects. Utilities/Service Systems include wastewater treatment facilities, stormwater drainage facilities, water supply and treatment, and solid waste disposal. The impact analysis provides an evaluation of potential impacts to Utilities/Service Systems based on criteria derived from CEQA Guidelines in conjunction with actions proposed in Chapter 2, Project Description. The information for this section is summarized from the following technical reports:

- Water Supply Assessment for the ZGlobal VEGA SES 2, LLC and VEGA SES 3, LLC Solar Energy Projects (Appendix L1 of this EIR)
- SB 610 – Water Supply Assessment for the ZGlobal VEGA SES 5,LLC Solar Energy Project (Appendix L2 of this EIR)

The IS/NOP prepared for this EIR determined that impacts with regards to solid waste disposal, storm drainage, and wastewater treatment would be less than significant. Therefore, these impacts are not addressed in detail in this EIR; however, the rationale for eliminating these issues is discussed in Chapter 6.0, Effects Found Not Significant.

3.15.1 Existing Conditions

Water Service

The Imperial Irrigation District (IID) is a public entity organized in 1911 pursuant to the Irrigation District Law (California Water Code sections 20500 et. seq.). IID is empowered to provide irrigation and energy related services to customers within its district boundaries and, through service contracts, to customers outside of its district boundaries.

IID is located in Imperial County in southeastern California. The District is bounded to the south by Mexico. The district boundaries are comprised of four units: the Imperial Unit which is centrally located encompassing the Imperial Valley, the West Mesa Unit and the East Mesa Unit which are located immediately to the west and east, respectively, of the Imperial Unit. Pilot Knob Unit is located further east. The East Highline and Westside Main canals generally form the two sides of the water service area while the Central Main runs up the middle. To the north is the Salton Sea, into which all drainage from the IID water service area flows. IID delivers water to a few users in the East Mesa via the Coachella Canal (IID 2021).

VEGA SES 2 and 3

APN 025-260-011 and parts of APN 025-010-006 and APN 025-270-023 are located within IID's East Mesa Unit service area where water is only available for agricultural uses.

VEGA SES 5

VEGA SES 5 APN 025-260-011, APN 025-260-019, and the area of APN 025-260-022 east of the East Highline Canal are located within IID's East Mesa Unit, while 114.4 acres of the area of APN 025-260-022 west of the East Highline Canal is within IID's Imperial Unit. The VEGA SES 5 project parcel areas within the IID's East Mesa Unit do not currently have water service from IID.

Groundwater

VEGA SES 2 and 3

As shown in Figure 3.15-1, the VEGA SES 2 and 3 projects are located within the western part of the East Salton Sea Groundwater Basin (Basin), designated as basin number 7-033, as defined by the Department of Water Resources (DWR). The Basin is bounded on the northeast by the Chocolate Mountains and on the southwest by the San Andreas and Banning Mission Creek fault zones. The northwest and southeast edges of the groundwater basin are approximately defined by transitions between major surface drainages coming off of the Chocolate Mountains. The groundwater basin has an area of approximately 196,000 acres, or 306 square miles. The Basin has not been adjudicated (Appendix L1 of this EIR).

Groundwater occurs within unconsolidated to semi-consolidated coarse sediment eroded from the Chocolate Mountains. The sediment generally occurs within large alluvial fans that originate at drainages and canyons within the bedrock formations in the mountains and spread out as they decrease in elevation toward the floor of the Imperial Valley or the Salton Sea. The alluvial fan sediments range in age from Tertiary to Quaternary. DWR reports that the alluvium is at least 400 feet thick (Appendix L1 of this EIR).

VEGA SES 5

As shown in Figure 3.15-1, the majority of the VEGA SES 5 project is located within the western part of the East Salton Sea Groundwater Basin. However, approximately 20 acres in the southwest corner of APN 025-260-022 of the VEGA SES 5 site overlies the adjacent Imperial Valley Groundwater Basin, designated as basin number 7-030. All groundwater for the VEGA SES 5 project would be sourced from the East Salton Sea Groundwater Basin (Basin). Therefore, the Imperial Valley Groundwater Basin is not addressed further in this EIR (Appendix L2 of this EIR).

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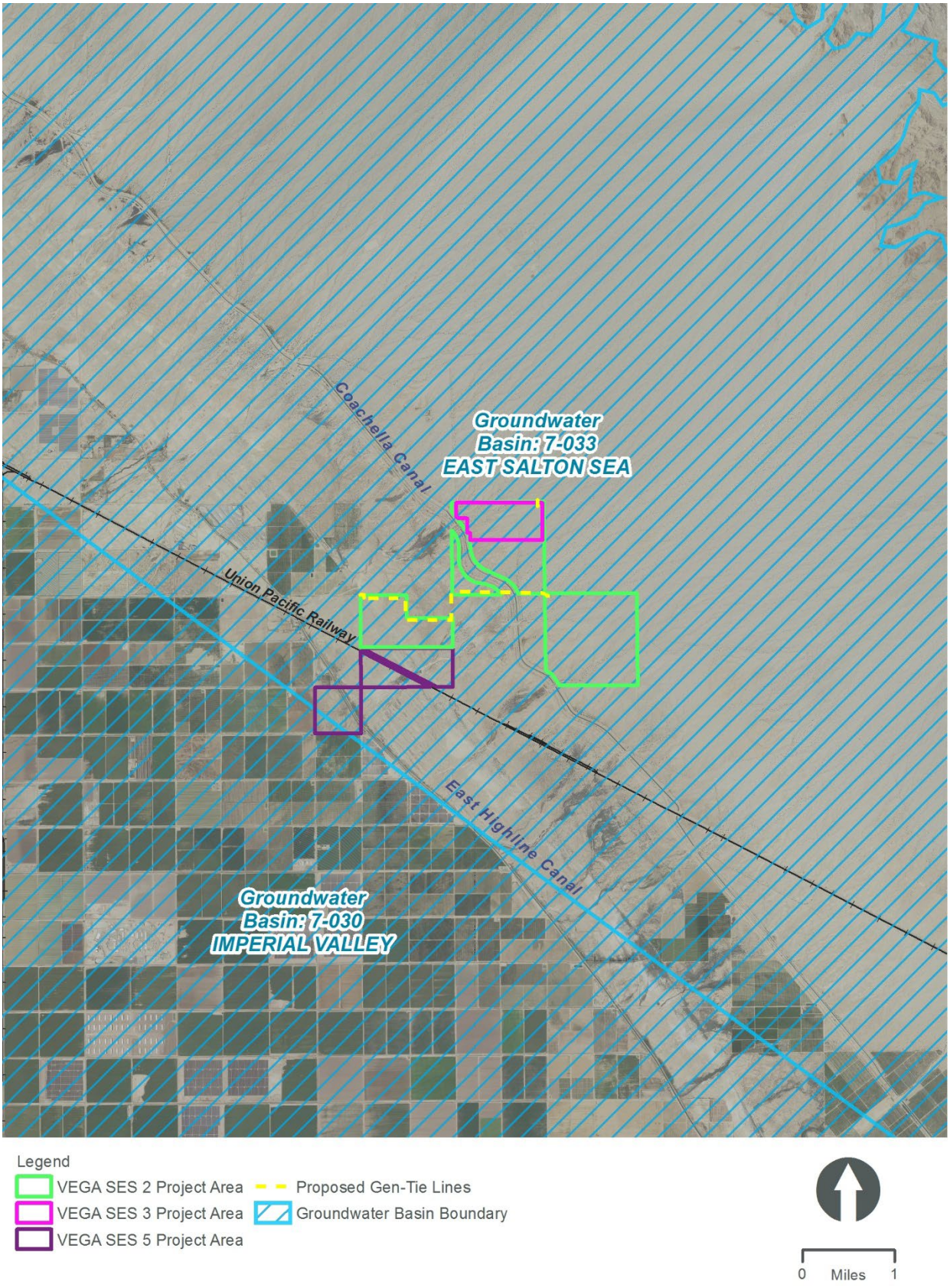
Figure 3.15-1. Groundwater Basins



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East Salton Sea Groundwater Basin - Groundwater Supply and Recharge

DWR reports that the population in the East Salton Sea Groundwater Basin in 2010 was approximately 1,093 persons and that the population is expected to decrease 10 percent by 2030. There are no public water supply wells in the Basin and 11 total wells present. Only 4,906 acres of the 196,000-acre Basin, or 2.54 percent, are irrigated. The total groundwater storage capacity of the groundwater basin is estimated to be 360,000 acre-feet (Appendix L1 of this EIR).

The average annual rainfall is very low and typically does not provide a sufficient quantity of moisture to percolate deep into the alluvial sediments. As a result, recharge of groundwater occurs primarily due to runoff from the Chocolate Mountains during major storm events, which may not occur every year. The average annual recharge is estimated to be 200 acre-feet per year. That estimate is from a 1975 version of DWR Bulletin 118. No changes to basin conditions are reported in the most recent updates to DWR Bulletin 118 (Appendix L1 of this EIR).

According to DWR's California Data Exchange Center and the USGS's National Water Information System mapping application, only one active groundwater monitoring location within the Basin was prepared and that well is located approximately 3,600 feet southeast of the southeast corner of the project and 950 feet northeast of the Coachella Canal. The well has USGS identification number 331144115231501, which identifies the latitude and longitude of the well (i.e., 33°11'44" latitude, -115°23'15" longitude), and California state well number 011S015E23M001, which indicates the township, range, and quarter-quarter section (i.e., northwest quarter or the southwest quarter of township 11S, range 15E, San Bernardino Base and Meridian). The ground surface elevation at the well location is reported to be 120 feet above mean sea level (ft msl) while the borehole in which the well was installed is reported to have been drilled to a depth of 550 feet below ground surface (ft bgs) (Appendix L1 of this EIR).

Figure 3.15-2 is a hydrograph from USGS showing the groundwater level and groundwater elevation measured since 1963 in the sole active monitoring well in the Basin. As indicated on Figure 3.15-2, the groundwater level decreased at a relatively rapid rate from 1979 to approximately 2000, with the depth to water dropping from approximately 21 ft bgs to approximately 47 ft bgs over that period. Since 2000, the groundwater level has continued to decrease, but at a slower rate, with the level in March 2020 (the last date with a reported measurement by USGS) being approximately 50 ft bgs. While the groundwater level has decreased by almost 30 feet since 1979, it has changed by less than one foot over the past decade. Based on the depth to groundwater and the borehole depth for the monitoring well, the potential loss of aquifer volume since 1979 is only six percent of the total available storage reported by DWR (Appendix L1 of this EIR).

Water quality samples were collected and analyzed from the monitoring well within the Basin in June and September 1963. Table 1 in Appendix L1 of this EIR shows the water quality results from June 1963. The September results were comparable. The groundwater sampled from the monitoring well has a normal pH but the levels of sodium, chloride, and sulfate are elevated compared to what would be expected from percolation of local rainfall. The dissolved solids concentration of 2,190 milligrams per liter (mg/L) is more than twice the value of the high end of the range of the secondary maximum contaminant level (MCL) for drinking water of 1,000 mg/L. The high dissolved solids concentration renders the water unsuitable for potable or agricultural uses without treatment. However, the existing water quality is suitable for use for construction and maintenance purposes (Appendix L1 of this EIR).

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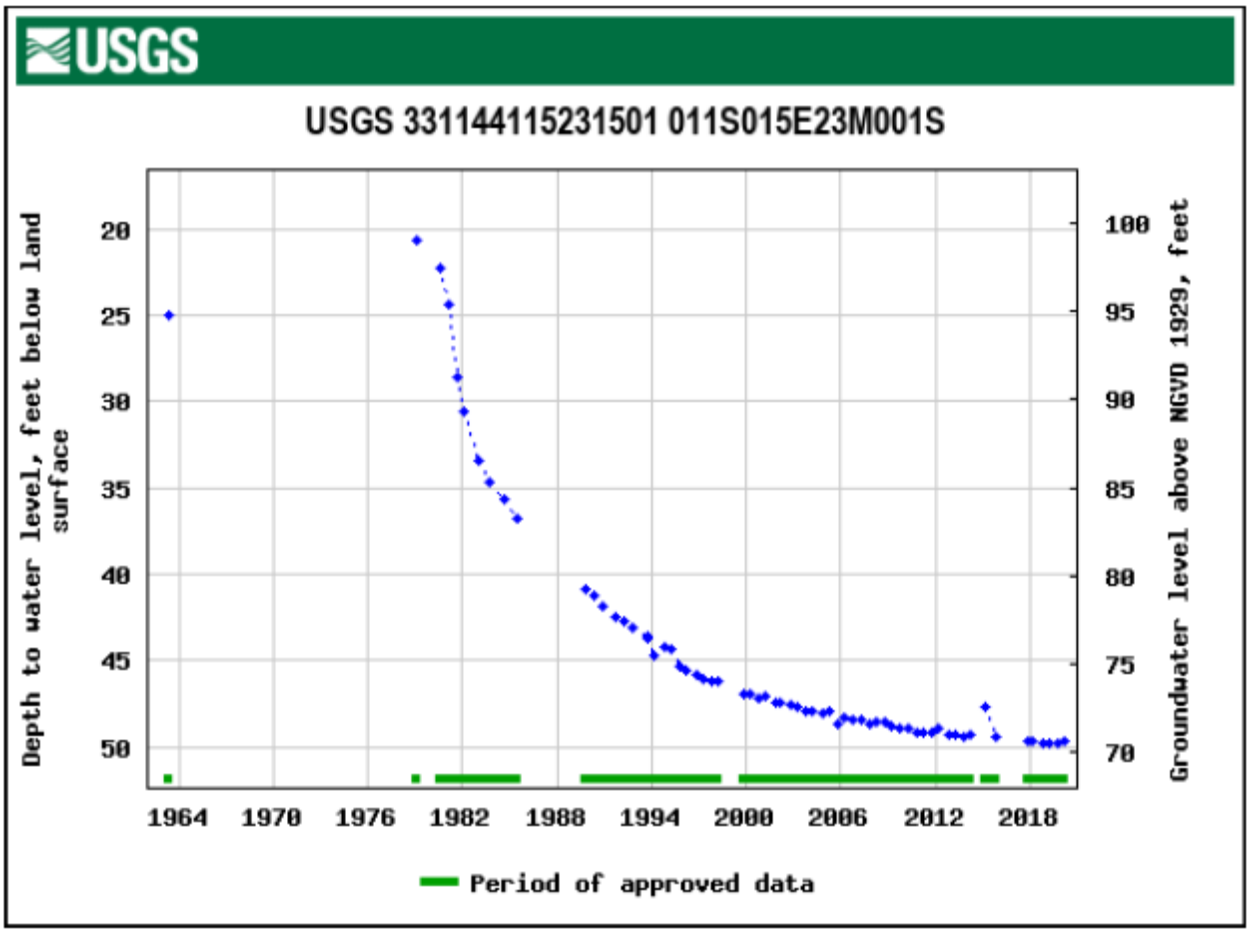
Figure 3.15-2. USGS Groundwater Level Hydrograph



Source: Appendix L1 of this EIR

Groundwater Sustainability

A series of three bills passed by the California legislature and were signed by Governor Brown on September 16, 2014. These three bills, Assembly Bill (AB) 1739, SB 1168, and SB 1319, together comprise the Sustainable Groundwater Management Act of 2014 (SGMA). SGMA provides a structure under which local agencies are to develop a sustainable groundwater management program. SGMA focuses on basins or subbasins designated by DWR as high or medium priority basins, and those with critical conditions of overdraft.

According to DWR, the East Salton Sea Groundwater Basin is a very low priority basin. DWR has not identified the Basin as over drafted, nor has it projected that the basin will become over drafted if present management conditions continue. Thus, the Basin is not subject to the current requirements of the SGMA, including the formation of a groundwater sustainability agency (GSA) and preparation of a groundwater sustainability plan (GSP) (Appendix L1 and L2 of this EIR).

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3.15.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the proposed project.

State

Senate Bill 610

With the introduction of SB 610, any project under CEQA shall provide a WSA if:

- The project meets the definition of the Water Code Section 10912:

  For the purposes of this part, the following terms have the following meanings:

  (a) ‘‘Project’’ means any of the following:

  (1) A proposed residential development of more than 500 dwelling units.

  (2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

  (3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

  (4) A proposed hotel or motel, or both, having more than 500 rooms.

  (5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

  (6) A mixed-use project that includes one or more of the projects specified in this subdivision.

  (7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

  (b) If a public water system has fewer than 5,000 service connections, then ‘‘project’’ means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system’s existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system’s existing service connections.

After review of Water Code Section 10912, the solar facility is deemed a “project” because it is a proposed industrial use occupying more than 40 acres of land.

California Water Code

Water Code Sections 10656 and 10657 restrict state funding for agencies that fail to submit their urban water management plan to the Department of Water Resources. In addition, Water Code Section 10910 describes the WSA that must be undertaken for projects referred under PRC Section 21151.9, including an analysis of groundwater supplies. Water agencies are given 90 days from the start of consultation in which to provide a WSA to the CEQA lead agency. Water Code Section 10910 also

specifies the circumstances under which a project for which a WSA was once prepared would be required to obtain another assessment. Water Code Section 10631, directs that contents of the urban water management plans include further information on future water supply projects and programs and groundwater supplies.

Water Quality Control Plan for the Colorado River Basin

The Water Quality Control Plan for the Colorado River Basin (or Basin Plan) prepared by the Colorado River RWQCB (Region 7) identifies beneficial uses of surface waters within the Colorado River Basin region, establishes quantitative and qualitative water quality objectives for protection of beneficial uses, and establishes policies to guide the implementation of these water quality objectives.

3.15.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to utilities and service systems are considered significant if any of the following occur:

Water Supply

- Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years

Methodology

The WSAs (Appendix L1 and L2 of this EIR) were prepared using project-specific data to calculate the project's water consumption during construction and at build-out collectively ("operational").

Impact Analysis

Impact 3.15-1 Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

VEGA SES 2, 3 and 5

Construction is anticipated to require 12 to 18 months to complete each project (VEGA SES 2, 3, and 5). Water demand varies depending on the project phase. During construction, water will be needed for dust control and soil conditioning during installation of the photovoltaic panels, battery storage units, and related infrastructure. During the operational phase of the project, water will be needed for routine maintenance activities, which primarily consists of washing the photovoltaic panels to maintain generation efficiency.

Table 3.15-1 provides the estimated water needs for construction and operation of the projects. The construction water demand is primarily for dust control. Thus, the water needs are proportional to the size of the disturbed area and the local climate. The construction water needs are typically in the range of 0.5 acre-feet of water per project acre. Construction of the VEGA SES 2 and 3 projects is expected to occur simultaneously, and the combined construction water demand is approximately ~~630~~ 775 acre-feet. Construction is anticipated to require 12 to 18 months to complete. Thus, the monthly water demand during that period may range from ~~35~~ 43 acre-feet to ~~52.5~~65 acre-feet, on average (Appendix L1 of this EIR).

Table 3.15-1. Project Water Demand

Site	Area (acres)	Output (megawatts)	Construction Water (acre-feet)	Operational Water (acre-feet per year)
VEGA SES 2	1,323	240	~~630~~775 (Total combined)	~~10~~24
VEGA SES 3	230	60		~~2~~6
VEGA SES 5	410	50	~~365~~205	~~20~~5

Source: Appendix L1 and L2 of this EIR

Construction of the VEGA SES 5 project would have a construction water demand of approximately ~~365~~ 205 acre-feet. Construction is anticipated to require 12 months to complete. Thus, the monthly water demand during that period will average about ~~30~~ 17 acre-feet (Appendix L2 of this EIR).

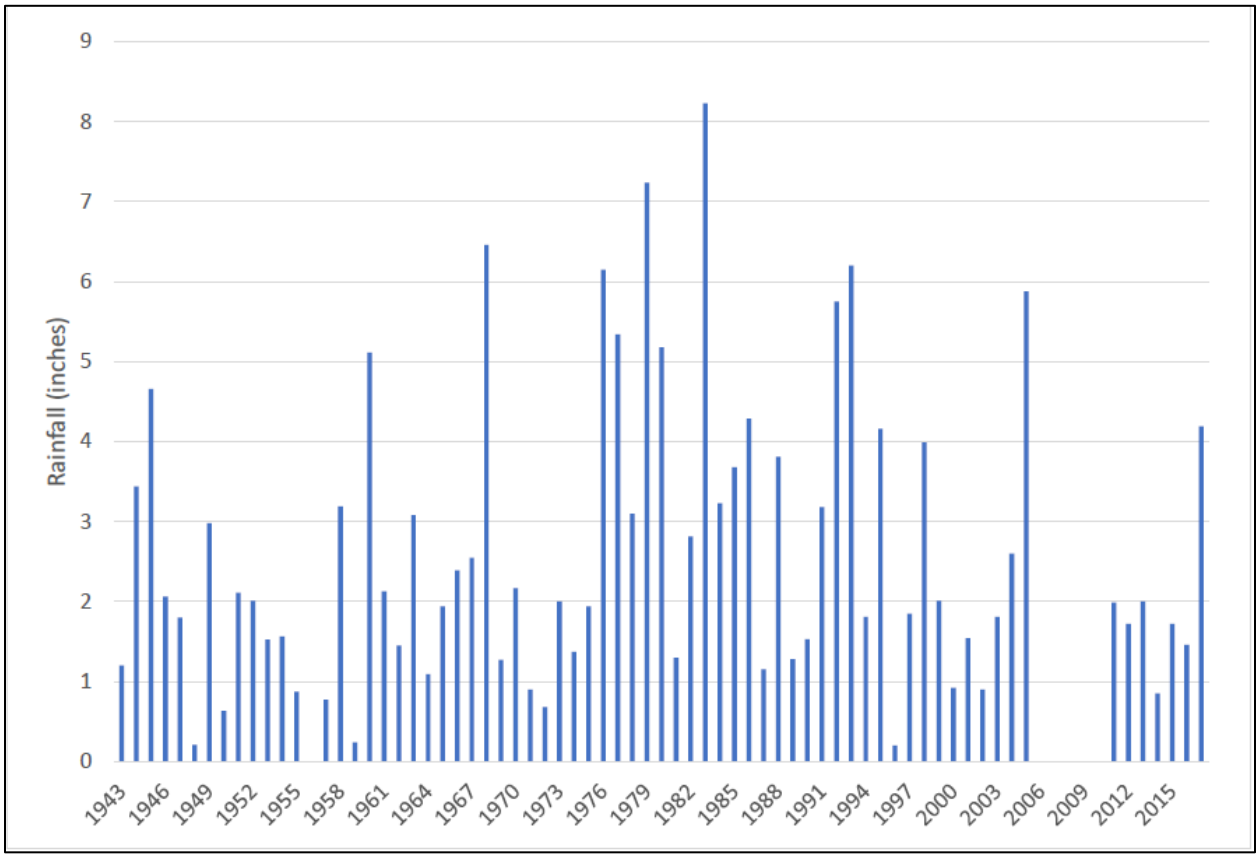
The operational water demand for panel washing and other maintenance needs is based primarily on the number of panels, which relates to the energy production or output, in megawatts alternative current (MW-AC). The operational water needs are typically in the range of 0.1 acre-feet of water per MW-AC. The operational water demand is anticipated to range from ~~10~~ 24 acre-feet per year for VEGA SES 2 to ~~two~~ 6 acre-feet per year for VEGA SES 3. The operational water demand is anticipated to be ~~20~~ 5 acre-feet per year for VEGA SES 5. The maintenance activities for each system are anticipated to be conducted up to twice a year over a one-to-two-week period each event, so the maintenance water demand is intermittent and not spread throughout the year. The operational water demand will occur throughout the life of the projects.

Dry Year Supply

The volume and sustainability of dry-year water supply for the proposed projects was analyzed by comparing annual rainfall with changes in groundwater levels in the Basin. This comparison is made for a normal or average water year, for single dry year, and for multiple dry water years. Local rainfall data were obtained from the Western Region Climate Center for Niland, California, located approximately four miles northwest of the projects.

Figure 3.15-3 shows the annual water year rainfall for Niland, California from 1943 through 2017. The average water year rainfall during this period is 2.58 inches. The driest year was 1956, when no precipitation was recorded. The driest year during the period of available groundwater elevation data (see Figure 3.15-2) was 1996, with only 0.2 inch of rainfall reported. The wettest year was 1983, when 8.23 inches of rain was measured. As indicated on Figure 3.15-3, a relatively wet period occurred from 1976 to 1986, with 10 of 11 water years exceeding the average annual rainfall. In comparison, the period from 1996 to 2016 was relatively dry, with 18 of 21 water years having below normal rainfall (Appendix L1 of this EIR).

Figure 3.15-3. Water Year Rainfall at Niland



Source: Appendix L1 of this EIR

The historic rainfall data on Figure 3.15-3 can be compared with the groundwater levels shown on Figure 3.15-2 to assess the effects of wet and dry periods on groundwater supply in the Basin. The wettest year recorded, 1983, and the relatively wet period from 1976 to 1986, correspond to a period when groundwater levels were dropping rapidly. In contrast, the dry period from 1996 to 2016 corresponds to a period when the rate of decline of the groundwater elevation was attenuating rapidly and beginning to stabilize. Thus, the available groundwater level and rainfall data do not indicate any relationship between wet, normal, single dry year, or multiple dry years and available groundwater supply. As noted previously, recharge of groundwater occurs primarily due to runoff from the mountains during individual major storm events (Appendix L1 of this EIR).

The total groundwater storage capacity of the Basin is estimated to be 360,000 acre-feet and the groundwater level decline from 1979 to 2018 decreased groundwater storage by approximately six percent. Thus, the current storage in the Basin may be in the range of 335,000 to 340,000 acre-feet. The VEGA SES 2 and 3 projects' single year combined construction water demand of ~~630~~ 775 acre-feet and the annual combined operational water needs of ~~12~~ 30 acre-feet are miniscule (0.25 percent and 0.~~004~~ 009 percent, respectively) compared to the available groundwater in storage (Appendix L1 of this EIR). The VEGA SES 5 project's single year construction water demand of ~~365~~ 205 acre-feet and the annual combined operational water needs of ~~20~~ 5 acre-feet are miniscule (~~0.1~~0.06 percent and ~~0.006~~0.0015 percent, respectively) compared to the available groundwater in storage (Appendix L1 and L2 of this EIR). Furthermore, the long term annual operational water needs are much less than the estimated annual recharge of 200 acre-feet per year. Overall, there is adequate water available to supply the projects' water needs during single dry, and multiple dry year periods.

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On a cumulative basis, the construction water demand for the VEGA SES 2, 3, and 5 solar energy projects is equivalent to 0.3 percent of the available groundwater in storage. The annual cumulative operational water needs for all three solar energy projects is equivalent to 0.01 percent of the available groundwater in storage in the Basin. Thus, the cumulative effect on groundwater availability in the Basin would also be miniscule such that there would be adequate water available to supply the water needs of all three solar projects during single dry, and multiple dry year periods.

Conclusion

The WSAs (Appendix L1 and L2 of this EIR) have determined that the groundwater water supply is adequate for the proposed projects.

The VEGA SES 2 and 3 projects have a maximum estimated cumulative one-year total water demand of ~~630~~775 AF over 12 to 18 months, primarily for dust control. The operational demand is anticipated to be a combined total of ~~12~~ 30 acre-feet per year for panel washing and other maintenance activities. The annual operational water needs are equivalent to ~~six~~ 15 percent of the average annual recharge and ~~0.004~~0.009 percent of the estimated current storage volume of the Basin (Appendix L1 of this EIR).

The VEGA SES 5 project has a maximum estimated cumulative one-year total water demand of ~~365~~205 AF over 12 months, primarily for dust control. The operational demand is anticipated to be ~~20~~ 5 acre-feet per year for panel washing and other maintenance activities. The annual operational water needs are equivalent to ~~10~~ 2.5 percent of the average annual recharge and ~~0.006~~0.0015 percent of the estimated current storage volume of the Basin (Appendix L2 of this EIR).

The construction water demand exceeds the reported average annual recharge to the Basin of 200 acre-feet per year. However, the construction water needs are short-term and temporary. This temporary water use is not anticipated to cause persistent and long-term lowering of groundwater levels. Therefore, the construction water demand will not cause or contribute to overdraft, exhaustion of water supplies, lowering of groundwater levels to depths that would be uneconomic for pumping, land subsidence, or significant alteration of groundwater quality.

The annual operational water needs of the projects combined would be ~~16~~ 17.5 percent of the annual recharge and ~~0.0010~~0.0105 percent of the estimated current storage volume of the Basin. Therefore, the long-term operation and maintenance of the projects would not have any measurable effect or impact on groundwater resources in the Basin.

For all the reasons described herein, there will be sufficient water available for existing water uses in the Basin, along with the projects' water demands during normal, single dry year, and multiple dry year periods for the anticipated life of the projects.

Mitigation Measure(s)

No mitigation measures are required.

3.15.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

If at the end of the PPA term, no contract extension is available for a power purchaser, no other buyer of the energy emerges, or there is no further funding of the projects, the projects will be decommissioned and dismantled. Water demand for decommissioning activities is assumed to be

similar to construction activities. As described above, there will be sufficient water available for existing water uses in the Basin, along with the projects' water demands during normal, single dry year, and multiple dry year periods for the anticipated life of the projects. The proposed projects would have sufficient water supplies available to serve the projects from existing entitlements and resources, and impacts would be less than significant.

Residual

The proposed projects would not result in significant impacts on the water supply of Imperial County; therefore, no mitigation is required. The proposed projects would not result in residual impacts.

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4 Analysis of Long-Term Effects

4.1 Growth-Inducing Impacts

In accordance with Section 15126.2(d) of CEQA Guidelines, an EIR must:

> *"discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth ... Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."*

Projects promoting direct growth will impose burdens on a community by directly inducing an increase in population or resulting in the construction of additional developments in the same area. For example, projects involving the expansion, modifications, or additions to infrastructure, such as sewer, water, and roads, could have the potential to directly promote growth by removing existing physical barriers or allowing for additional development through capacity increases. New roadways leading into a previously undeveloped area directly promote growth by removing previously existing physical barriers to development and a new wastewater treatment plant would allow for further development within a community by increasing infrastructure capacity. Because these types of infrastructure projects directly serve related projects and result in an overall impact to the local community, associated impacts cannot be considered isolated. Indirect growth typically includes substantial new permanent employment opportunities and can result from these aforementioned modifications.

The proposed projects are located within the unincorporated area of Imperial County and does not involve the development of permanent residences that would directly result in population growth in the area. The unemployment rate in Imperial County, as of September 2022, was 16.0 percent (State of California Employment Development Department 2022). The applicant expects to utilize construction workers from the local and regional area, a workforce similar to that involved in the development of other utility-scale solar facilities. Based on the unemployment rate, and the availability of the local workforce, construction of the proposed projects would not have a growth-inducing effect related to workers moving into the area and increasing the demand for housing and services.

Once construction is completed, the facilities would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. Security personnel may conduct unscheduled security rounds and would be dispatched to the project sites in response to a fence breach or other alarm. It is anticipated that maintenance of the facilities would require minimal site presence to perform periodic visual inspections and minor repairs. On intermittent occasions, the presence of additional workers may be required for repairs or replacement of equipment and panel cleaning; however, because of the nature of the facilities, such actions would likely occur infrequently. Overall, minimal maintenance requirements are anticipated. The proposed projects would not result in substantial population growth, as the number of employees required to operate and maintain the facility is minimal.

While the proposed projects would contribute to energy supply, which indirectly supports population growth, the proposed projects are a response to the state's need for renewable energy to meet its

Renewable Portfolio Standard, and while it would increase the availability of renewable energy, it would also replace existing sources of non-renewable energy. Unlike a gas-fired power plant, the proposed projects are not being developed as a source of base-load power in response to growth in demand for electricity. The power generated would be added to the state's electricity grid with the intent that it would displace fossil fueled power plants and their associated environmental impacts, consistent with the findings and declarations in SB 100 that a benefit of the Renewable Portfolio Standard is displacing fossil fuel consumption within the state. The projects are being proposed in response to state policy and legislation promoting development of renewable energy.

The proposed projects would supply energy to accommodate and support existing demand and projected growth, but the energy provided by the projects would not foster any new growth because (1) the additional energy would be used to ease the burdens of meeting existing statewide energy demands within and beyond the area of the project sites; (2) the energy would be used to support already-projected growth; or, (3) the factors affecting growth are so diverse that any potential connection between additional energy production and growth would necessarily be too speculative and uncertain to merit further analysis.

Under CEQA, an EIR should consider potentially significant energy implications of a project (CEQA Guidelines Appendix F(II); PRC Section 21100(b)(3)). However, the relationship between the proposed projects' increased electrical capacity and the growth-inducing impacts outside the surrounding area is too speculative and uncertain to warrant further analysis. When a project's growth-inducing impacts are speculative, the lead agency should consider 14 CCR §15145, which provides that, if an impact is too speculative for evaluation, the agency should note this conclusion and terminate discussion of the impact. As the court explained in Napa Citizens for Honest Gov't v. Napa County Board of Supervisors, 91 Cal. App.4th 342, 368: "Nothing in the Guidelines, or in the cases, requires more than a general analysis of projected growth" *Napa Citizens, 91* CA4th at 369. The problem of uncertainty of the proposed projects' growth-inducing effects cannot be resolved by collection of further data because of the diversity of factors affecting growth.

While this document has considered that the proposed projects, as energy projects, might foster regional growth, the particular growth that could be attributed to the proposed projects are unpredictable, given the multitude of variables at play, including uncertainty about the nature, extent, and location of growth and the effect of other contributors to growth besides the proposed projects. No accurate and reliable data is available that could be used to predict the amount of growth outside the area that would result from the proposed projects' contribution of additional electrical capacity. The County of Imperial has not adopted a threshold of significance for determining when an energy project is growth-inducing. Further evaluation of this impact is not required under CEQA.

Additionally, the projects would not involve the development of any new roadways, new water systems, or sewer; and thus, the projects would not further facilitate additional development into outlying areas. For these reasons, the proposed projects would not be growth-inducing.

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4.2 Significant Irreversible Environmental Changes

In accordance with CEQA Guidelines Section 15126.2(c), an EIR must identify any significant irreversible environmental changes that would be caused by implementation of the proposed project being analyzed. Irreversible environmental changes may include current or future commitments to the use of non-renewable resources or secondary growth-inducing impacts that commit future generations to similar uses.

Energy resources needed for the construction of the proposed projects would contribute to the incremental depletion of renewable and non-renewable resources. Resources, such as timber, used in building construction are generally considered renewable and would ultimately be replenished. Non-renewable resources, such as petrochemical construction materials, steel, copper, lead and other metals, gravel, concrete, and other materials, are typically considered finite and would not be replenished over the lifetime of the project. Thus, the project would irretrievably commit resources over the anticipated 30-year life of the projects.

At the end of the projects' operation term, the applicant may determine that the projects should be decommissioned and deconstructed. Should the projects be decommissioned, the project applicant is required to restore land to its pre-project state. Consequently, some of the resources on the sites could potentially be retrieved after the sites have been decommissioned. Concrete footings, foundations, and pads would be removed and recycled at an off-site location. All remaining components would be removed, and all disturbed areas would be reclaimed and recontoured. The applicant anticipates using the best available recycling measures at the time of decommissioning.

Implementation and operation of the proposed projects would promote the use of renewable energy and contribute incrementally to the reduction in demand for fossil fuel use for electricity-generating purposes. Therefore, the incremental reduction in fossil fuels would be a positive effect of the commitment of nonrenewable resources. Additionally, the projects are consistent with the state's definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California PRC.

4.3 Unavoidable Adverse Impacts

In accordance with CEQA Guidelines Section 15126(b), EIRs must include a discussion of significant environmental effects that cannot be avoided if the proposed project is implemented. The impact analysis, as detailed in Section 3 of this EIR, concludes that no unavoidable significant impacts were identified. Where significant impacts have been identified, mitigation measures are proposed, that when implemented, would reduce the impact level to less than significant.

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5 Cumulative Impacts

The CEQA Guidelines (Section 15355) define a cumulative impact as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." The CEQA Guidelines [Section 15130(a)(1)] further states that "an EIR should not discuss impacts which do not result in part from the project."

Section 15130(a) of the CEQA Guidelines provides that "[A]n EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable..." Cumulatively considerable, as defined in Section 15065(a)(3), "means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

An adequate discussion of significant cumulative impacts requires either: (1) "a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency"; or (2) "a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact."

The CEQA Guidelines recognize that cumulative impacts may require mitigation, such as new rules and regulations that go beyond project-by-project measures. An EIR may also determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The Lead Agency must identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable (CEQA Guidelines Section 15130(a)(3)).

This EIR evaluates the cumulative impacts of the projects for each resource area, using the following steps:

1. Define the geographic and temporal scope of cumulative impact analysis for each cumulative effects issue, based on the project's reasonably foreseeable direct and indirect effects.
2. Evaluate the cumulative effects of the project in combination with past and present (existing) and reasonably foreseeable future projects and, in the larger context of the Imperial Valley.
3. Evaluate the projects' incremental contribution to the cumulative effects on each resource considered in Chapter 3, Environmental Analysis. When the projects' incremental contribution to a significant cumulative impact is considerable, mitigation measures to reduce the projects' "fair share" contribution to the cumulative effect are discussed, where required.

5.1 Geographic Scope and Timeframe of the Cumulative Effects Analysis

The geographic area of cumulative effects varies by each resource area considered in Chapter 3. For example, air quality impacts tend to disperse over a large area, while traffic impacts are typically more localized. Similarly, impacts on the habitats of special-status wildlife species need to be considered within its range of movement and associated habitat needs.

The analysis of cumulative effects in this EIR considers a number of variables including geographic (spatial) limits, time (temporal) limits, and the characteristics of the resource being evaluated. The geographic scope of each analysis is based on the topography surrounding the project sites and the natural boundaries of the resource affected, rather than jurisdictional boundaries. The geographic scope of cumulative effects will often extend beyond the scope of the direct effects of a project, but not beyond the scope of the direct and indirect effects of that project.

The cumulative development scenario includes projects that extend through year (2030), which is the planning horizon of the County of Imperial General Plan. Because of uncertain development patterns that are far in the future, it is too speculative to accurately determine the type and quantity of cumulative projects beyond the planning horizon of the County's adopted County General Plan. Evaluating the proposed projects' cumulative impacts when future facility decommissioning occurs is highly speculative because decommissioning is expected to occur in 25 to 30 years' time. Therefore, cumulative impacts during decommissioning are speculative for detailed consideration in this analysis.

5.2 Projects Contributing to Potential Cumulative Impacts

The CEQA Guidelines identify two basic methods for establishing the cumulative environment in which the projects are to be considered: the use of a list of past, present, and probable future projects (the "list approach") or the use of adopted projections from a general plan, other regional planning document, or certified EIR for such a planning document (the "plan approach").

For this EIR, the list approach has been utilized to generate the most reliable future projections of possible cumulative impacts. When the impacts of the projects are considered in combination with other past, present, and future projects to identify cumulative impacts, the other projects considered may also vary depending on the type of environmental impacts being assessed. As described above, the general geographic area associated with different environmental impacts of the projects defines the boundaries of the area used for compiling the list of projects considered in the cumulative impact analysis. Figure 5-1 provides the general location for each of these projects in relation to the project sites.

5.3 Cumulative Impact Analysis

This cumulative impact analysis utilizes an expanded list method (as defined under CEQA) and considers environmental effects associated with those projects identified in Table 5-1 in conjunction with the impacts identified for the projects in Chapter 3 of this EIR. Table 5-1 includes projects known at the time of release of the NOP of the Draft EIR, as well as additional projects that have been proposed since the NOP date. Figure 5-1 provides the general location for each of these projects in relation to the project sites.

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Table 5-1. Projects Considered in the Cumulative Impact Analysis

Map Label[1]	Project Name	Project Type	Distance from Project Sites (miles)	Size (acres)	Capacity (MW)	Status[2]
1	IV Solar Company	PV Solar Facility	3.4	123	23	Operational
2	Arkansas Solar	PV Solar Facility	3.5	481	50	Operational
3	Alhambra Solar	PV Solar Facility	7.5	482	50	Operational
4	Sonora Solar	PV Solar Facility	1.5	488	50	Operational
5	Imperial Valley Solar 2	PV Solar Facility	4.2	158.65	20	Operational
6	Calipatria Solar Farm	PV Solar Facility	4.3	159	20	Operational
7	Midway Solar Farm I	PV Solar Facility	5.7	480	50	Operational
8	Midway Solar Farm II	PV Solar Facility	4.9	320	30	Operational
9	Midway Solar Farm III	PV Solar Facility	5.4	162	20	Operational
10	Midway Solar Farm IV	PV Solar Facility	5.9	150	20	Approved – Not Built
11	Citizens Solar	PV Solar Facility	Adjacent to the south of VEGA SES 5 site	223	30	Operational
12	Wilkinson Solar Farm	PV Solar Facility	4.7	302	30	Approved – Not Built
13	Lindsey Solar Farm	PV Solar Facility	4.9	148	20	Operational
14	Ormat Wister Solar	PV Solar Facility	4.5	640	20	Approved – Under Construction
15	Orni 30	PV Solar Facility	12.9	225	40/160	Pending Entitlement
16	Nider Solar	PV Solar Facility		320	100	Pending Entitlement

1 – See Figure 5-1 for cumulative project location.

2 – Project status based on information provided by County staff and on Imperial County Planning & Development Service's RE Geographic Information System Mapping Application (https://icpds.maps.arcgis.com/apps/webappviewer/index.html?id=0d869c18d11645cc918391fdcac24b80). Accessed on December 6, 2022.

MW – megawatts; PV – photovoltaic

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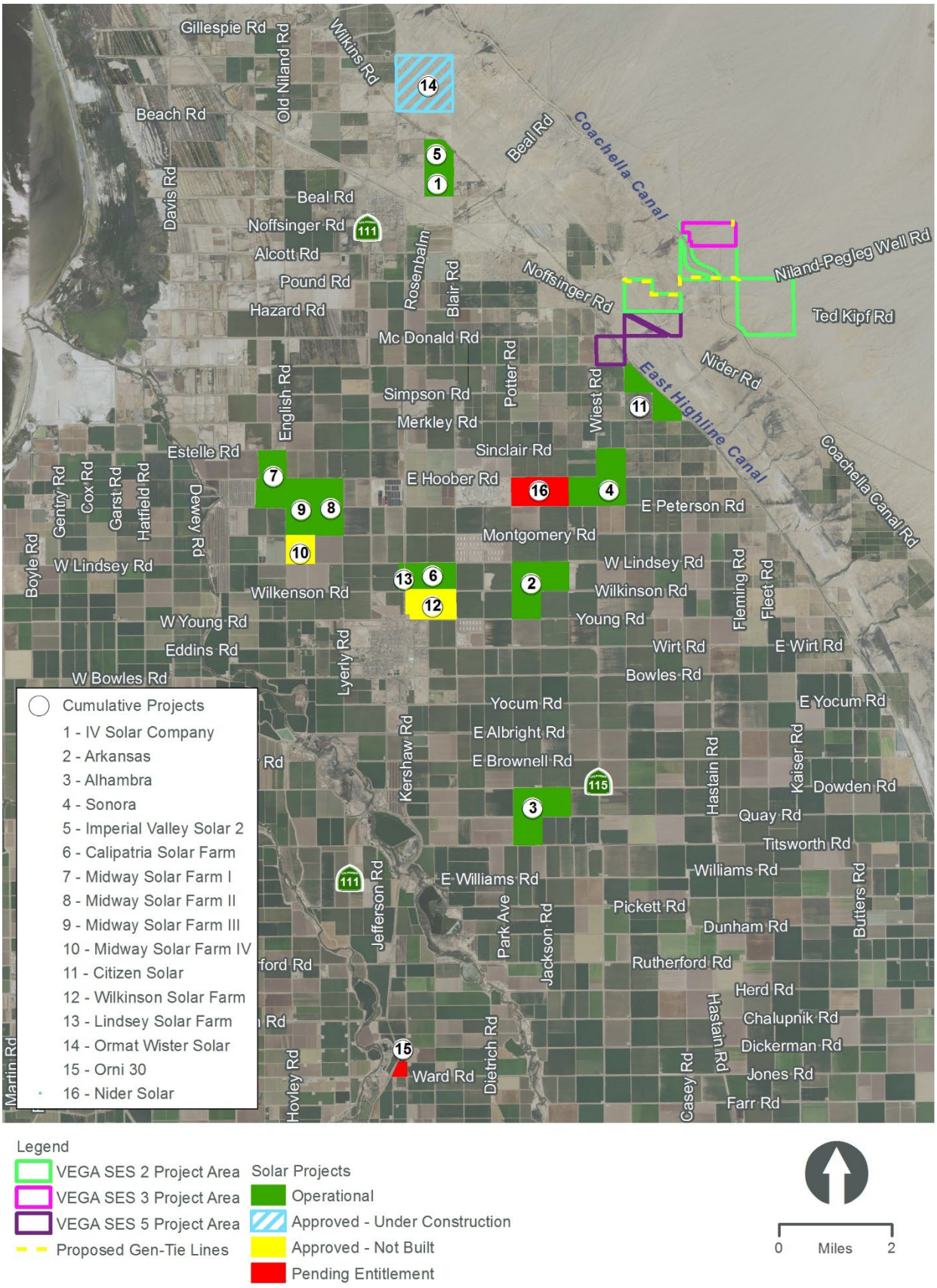
Figure 5-1. Cumulative Projects



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5.3.1 Aesthetics

The cumulative study area for projects considered in the visual resources cumulative impact analysis considers a 5-mile radius from the project sites. Views beyond 5 miles are obstructed by a combination of the flat topography coupled with the Earth's curvature. The short-term visual impacts of the project would be in the form of general construction activities including grading, use of construction machinery, and installation of the transmission poles and stringing of transmission lines, but would only be available to a very limited amount of people and would have to be in relative close proximity to the project site. Longer-term visual impacts of the project would be in the form of the presence of solar array grids, an electrical distribution and transmission system, and substation.

As provided in Section 3.2, Aesthetics, implementation of the proposed projects would convert the project sites from vacant and fallow agricultural lands to solar energy facilities. In the context of topographical conditions and relatively low profile of the project components, the proposed projects would not create an adverse or permanent visual obstruction of the background views of the desert or mountain areas to the north and east of the project sites. Existing views of the Chocolate Mountains are already partially obstructed by existing tall vegetation and masked by atmospheric conditions (e.g., haze). Additionally, as previously identified, proposed onsite apparatus would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. Solar PV arrays would be spaced approximately 15 to 25 feet apart allowing for views of the Chocolate Mountains from the public right-of-way. Further, views from project adjacent roadways that are publicly accessible, would be partially to fully obscured by roadside vegetation or berms, and such views would likely be of short duration given the probability of the viewers being in moving vehicles. Therefore, impacts to visual character would be less than significant.

The visual changes associated with the project would be located in a remote area viewed by a minimal number of people, the project site is not located within scenic vistas, and is not readily viewable from any frequently travelled interstates or scenic highways. Additionally, with the exception of the transmission line, the project's structural features would generally be less than 8 feet in height and, therefore, would not substantially disrupt background views of mountains to the north and east. Further, the project sites would be restored to their existing condition following the decommissioning of the solar uses. As a result, although the visual character of the project sites would change from undeveloped to one with developed characteristics, a less than significant impact associated with the proposed projects has been identified.

Development of the proposed projects in conjunction with the cumulative projects identified in Table 5-1 will gradually change the visual character of this portion of the Imperial Valley. However, projects located within private lands and/or under the jurisdiction of the County of Imperial are being designed in accordance with the County of Imperial's General Plan and Land Use Ordinance, which includes policies to protect visual resources in the County.

Finally, all projects listed in Table 5-1 would not produce a substantial amount of light and glare, as no significant source of light or glare is proposed; or the project will otherwise comply with the County lighting ordinance, as would all other related projects. Based on these considerations, there would be no significant cumulatively considerable aesthetic impact, and cumulative aesthetic impacts would be less than significant.

5.3.2 Agricultural Resources

Cumulative impacts on agricultural resources take into account the proposed projects' temporary impacts as well as those likely to occur as a result of other existing, proposed, and reasonably

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foreseeable projects. To determine cumulative impacts on agricultural resources, an assessment is made of the temporal nature of the impacts on individual resources (e.g., temporary such as in solar projects versus permanent as in industrial or residential developments) as well as the inventory of agricultural resources within the cumulative setting.

As discussed in Section 3.3, Agricultural Resources, the project sites do not contain Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Therefore, the proposed projects would not convert land designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland to non-agricultural uses or incrementally add to the conversion of agricultural land in Imperial County on a temporary or permanent basis. Furthermore, the project sites are located within the Renewable Energy Zone and is, therefore, considered an appropriate use in this area. Additionally, as a condition of project approval (CUP condition), the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of its lifespan.

The VEGA 2 and 3 project sites do not contain agricultural resources and are not mapped as agricultural land. The majority of the VEGA SES 5 project site is designated as Other Land with a portion of the VEGA SES 5 project site is designated as Farmland of Local Importance. It should be noted that analysis of Other Land and Farmland of Local Importance is not required under CEQA significance criteria, as these designations are not considered an “agricultural land” per CEQA Statute Section 21060.1(a). However, in terms of preservation of agricultural land Mitigation Measure AG-1 would be implemented to reduce potential impacts related to pests to a less than significant level.

Each individual cumulative project would be or would have been required to provide mitigation for any impacts on agricultural resources in accordance with the County’s policies directed at mitigating the impact associated with the conversion of important farmlands, the implementation of which would reduce the impact to less than significant. Because the project would not result in the conversion of farmland, the projects contribution to this impact would be less than cumulatively considerable.

5.3.3 Air Quality

Imperial County is used as the geographic scope for analysis of cumulative air quality impacts. As shown in Table 5-1, many of the cumulative projects are large-scale renewable energy generation projects, where the main source of air emissions would be generated during the construction phases of these projects; however, there would also be limited operational emissions associated with operations and maintenance activities for these facilities. Additionally, a majority of the projects listed in Table 5-1 are already constructed and operational. Furthermore, the remaining cumulative projects are currently under construction (Wister Solar), or approved and not built (Midway Solar Farm IV and Wilkinson Solar Farm), and not anticipated to involve overlapping construction activities with the proposed projects. Therefore the potential for a cumulative, short-term air quality impact as a result of construction activities is anticipated to be less than significant.

Currently, the SSAB is either in attainment or unclassified for all federal and state air pollutant standards with the exception of 8-Hour O_3 and $PM_{2.5}$. On November 13, 2009, EPA published Air Quality Designations for the 2006 24-Hour Fine Particle ($PM_{2.5}$) NAAQS wherein Imperial County was listed as designated nonattainment for the 2006 24-hour $PM_{2.5}$ NAAQS. However, the nonattainment designation for Imperial County is only for the urban area within the County and it has been determined that the proposed project is not located within the nonattainment boundaries for $PM_{2.5}$.

The AQAP for the SSAB, through the implementation of the AQMP and SIP for PM_{10}, sets forth a comprehensive program that will lead the SSAB into compliance with all federal and state air quality standards. With respect to PM_{10}, the ICAPCD implements Regulation VIII – Fugitive Dust Rules, to

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control these emissions and ultimately lead the basin into compliance with air standards, consistent with the AQAP. Within Regulation VIII are Rules 800 through 806, which address construction and earthmoving activities, bulk materials, carry-out and track-out, open areas, paved and unpaved roads, and conservation management practices. Best Available Control Measures to reduce fugitive dust during construction and earthmoving activities include but are not limited to:

- Phasing of work in order to minimize disturbed surface area;
- Application of water or chemical stabilizers to disturbed soils;
- Construction and maintenance of wind barriers; and
- Use of a track-out control device or wash down system at access points to paved roads.

Compliance with Regulation VIII is mandatory on all construction sites, regardless of size. However, compliance with Regulation VIII does not constitute mitigation under the reductions attributed to environmental impacts. In addition, compliance for a project includes: (1) the development of a dust control plan for the construction and operational phase; and (2) notification to the air district is required 10 days prior to the commencement of any construction activity.

Construction

The proposed projects would generate air emissions due to vehicle and dust emissions associated with construction activities. Similar effects would also be realized upon site decommissioning, which would be carried out in conjunction with the project's restoration plan, and subject to applicable ICAPCD standards. Likewise, the other cumulative projects that are approved, but not yet built (Midway Solar Farm IV and Wilkinson Solar Farm) or pending entitlement (Nider Solar Project and Orni 30) identified in Table 5-1 would result in the generation of air emissions during construction activities.

With respect to the proposed projects, during the construction and decommissioning phases, the project would generate PM_{10}, $PM_{2.5}$, ROG, CO, SO_2, and NO_X emissions during each active day of construction. As discussed in Section 3.4, Air Quality, the VEGA SES 2 and 3 projects' daily construction emissions daily construction emissions would not exceed the ICAPCD thresholds for ROG, NOx, CO, SO_2, and $PM_{2.5}$. However, the VEGA SES 2 and 3 projects' daily construction emissions would exceed the ICAPCD threshold for PM_{10} and represents a significant air quality impact. The VEGA SES 2 and 3 projects' impact could be cumulatively considerable because the Imperial County portion of the SSAB are nonattainment already for O_3 and PM_{10} under state standards and for O_3 and $PM_{2.5}$ federal standards. Thus, existing O_3 and PM_{10} levels in the SSAB are at unhealthy levels during certain periods. Additionally, the cumulative construction effects could again be experienced in the future during decommissioning and site restoration activities.

Several of the projects listed in Table 5-1 are already constructed and in operation. In the event the proposed projects are constructed in conjunction with the Nider Solar Project (pending entitlement), Midway Solar Farm IV and Wilkinson Solar Farm (approved but not built), each project would be subject to mitigation pursuant to ICAPCD's Regulations. Therefore, the cumulative impact would be reduced to a level less than significant through compliance with these measures. Further, because the proposed projects will be required to implement measures consistent with ICAPCD regulations designed to alleviate the cumulative impact associated with fugitive dust (PM_{10}) and NO_X, the projects contribution would be rendered less than cumulatively considerable and is therefore, less than significant.

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Operation

As the proposed project would have no major stationary emission sources and would require minimal vehicular trips, operation of the proposed solar facilities would result in substantially lower emissions than project construction. The projects' operational emissions would not exceed the Tier I thresholds; therefore, the impact would be less than significant. Operational impacts of other renewable energy facilities identified in Table 5-1 would also be similar. Although these cumulative projects generally involve large areas, their operational requirements are very minimal, requiring minimal staff or use of machinery or equipment that generate emissions. Further, alternative energy projects, such as the project, would assist attainment of regional air quality standards and improvement of regional air quality by providing clean, renewable energy sources. Consequently, the projects would provide a positive contribution to the implementation of applicable air quality plan policies and compliance with EO S-3-05.

However, from a cumulative air quality standpoint, the potential cumulative impact associated with the generation of O_3, $PM_{2.5}$ and PM_{10} emissions during operation of the cumulative projects is a consideration because existing O_3 and PM_{10} levels in the SSAB are at unhealthy levels during certain periods. Imperial County is classified as non-attainment for $PM_{2.5}$ for the urban areas of Imperial County. However, the projects' operational contribution to O_3, $PM_{2.5}$ and PM_{10} would be below a level of significance. As with the construction phases, the cumulative projects would be required to comply with ICAPCD's Regulation VIII for dust control (Regulation VIII applies to both the construction and operational phases of projects). As a result, the ICAPCD would be required to comply with the various dust control measures and to prepare and implement operational dust control plans as approved by the ICAPCD, which is a component of ICAPCD's overall framework of the AQAP that sets forth a comprehensive program for SSAB's compliance with all federal and state air quality standards. Therefore, the projects would not contribute to long-term cumulatively considerable air quality impacts and the projects would not result in cumulatively significant air quality impacts, and cumulative impacts would be less than significant.

5.3.4 Biological Resources

The geographic scope for considering cumulative impacts on biological resources includes the Imperial Valley and related biological habitats. Table 5-1 lists the projects considered for the biological resources cumulative impact analysis.

In general terms, in instances where a potential impact could occur, CDFW and USFWS have promulgated a regulatory scheme that limits impacts on these species. The effects of the project would be rendered less than significant through mitigation requiring compliance with all applicable regulations that protect plant, fish, and animal species, as well as waters of the U.S. and state. Other cumulative projects would also be required to avoid impacts on special-status species and/or mitigate to the satisfaction of the CDFW and USFWS for the potential loss of habitat. As described in Section 3.4, Biological Resources, the projects have the potential to result in impacts on biological resources. These impacts are generally associated with the potential construction-related effects to burrowing owl, bird species, and bats (foraging only).

Burrowing Owls are protected by the CDFW mitigation guidelines for burrowing owl (CDFW 2012) and Consortium guidance (1993), which require a suite of mitigation measures to ensure direct effects to burrowing owls during construction activities are avoided and indirect effects through burrow destruction and loss of foraging habitat are mitigated at prescribed ratios. Mitigation measures identified in Section 3.5, Biological Resources, contain these requirements thereby minimizing

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potential impacts on these species to a less than significant level. Additionally, as provided in Section 3.5, Biological Resources, special-status bird species have a potential to be present. In addition, several common bird species could nest on the project site. As a result of project-related construction activities, one or more of these species could be impacted. However, with the implementation of mitigation as identified in Section 3.5, Biological Resources, these impacts would be reduced to a level of less than significant, primarily through avoidance of direct and indirect impacts to these species via pre-construction surveys and monitoring requirements during construction. Similarly, the cumulative projects within the geographic scope of the project would be required to comply with the legal framework as described above, and similar avoidance and minimization measures. Based on these considerations, impacts on biological resources would not be cumulatively considerable.

As with the proposed projects, each of the cumulative projects would be required to provide mitigation for impacts on biological resources. The analysis below is conducted qualitatively and in the context that the cumulative projects would be subject to a variety of statutes and administrative frameworks that require mitigation for impacts on biological resources.

Birds listed at 50 CFR 10.3 are protected by the MBTA (16 USC 703 et seq.), a Federal statute that implements treaties with several countries on the conservation and protection of Birds listed at 50 CFR 10.3 are protected by the MBTA (16 USC 703 et seq.), a Federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The MBTA is enforced by USFWS. This act prohibits the killing of any migratory birds without a valid permit. Any activity which contributes to unnatural migratory bird mortality could be prosecuted under this act. With few exceptions, most birds are considered migratory under this act. Raptors and active raptor nests are protected under California FGCs 3503.5, 3503, and 3513.

The CWA and California's Porter-Cologne Water Quality Control Act provide protection for water-related biological resources by controlling pollution, setting water quality standards, and preventing jurisdictional streams, lakes, and rivers from being filled without a federal permit. Two types of jurisdictional features were documented within the BSA: USACE non-wetland Waters of the U.S. and CDFW State Waters. These drainages ultimately flow into the Salton Sea, which is considered a Traditionally Navigable Water. As such, these drainage features would likely be considered federally and state jurisdictional. Consultation will be initiated with USACE and CDFW to avoid or minimize impacts upon federally and state jurisdictional drainage features.

The proposed projects would comply with these and other laws, regulations and guidelines and therefore would not contribute substantially to a cumulative biological resources impact. Similarly, the cumulative projects within the geographic scope of the proposed projects will be required to comply with the legal frameworks set forth above, as well as others, and will be required to mitigate their impacts to a less than significant level. Therefore, the project would not contribute to a cumulatively considerable impact to biological resources, and cumulative impacts would be less than significant.

5.3.5 Cultural Resources

As discussed in Section 3.6, Cultural Resources, the Old Coachella Canal (P-13-7858) and East Highline Canal (P-13-8333) have been previously evaluated for potential eligibility for listing in the NRHP and CRHR. However, neither the Old Coachella Canal or the East Highline Canal would be impacted by project construction and no impact to historical resources would occur.

As discussed in Section 3.6, Cultural Resources, there are 168 cultural resources within the project area, therefore, there is potential of finding a buried archaeological site during construction. However, like all construction projects in the state, the possibility exists. This potential impact is considered

significant. Implementation of Mitigation Measures CR-1 through CR-4 would reduce potential impacts associated with the unanticipated discovery of unknown buried archaeological resources. Implementation of Mitigation Measure CR-5 would reduce potential impacts on human remains to a level less than significant.

Future projects with potentially significant impacts on cultural resources would be required to comply with federal, state, and local regulations and ordinances protecting cultural resources through implementation of similar project-specific mitigation measures during construction. Therefore, through compliance with regulatory requirements, standard conditions of approval, and Mitigation Measures CR-1 through CR-5, the proposed projects would have a less than cumulatively considerable contribution to impacts on cultural resources.

During operations and decommissioning of the projects, no additional impacts on archeological resources would be anticipated because the soil disturbance would have already occurred and been mitigated during construction.

As discussed in Section 3.6, Cultural Resources, no tribes have responded that indicate the potential for traditional cultural properties or sacred sites. Therefore, the proposed projects are not anticipated to cause a substantial adverse change in the significance of a tribal cultural resource, and impacts on tribal cultural resources would be less than significant. Future cumulative projects would also be required to comply with the requirements of AB 52 to determine the presence/absence of tribal cultural resources and engage in consultation to determine appropriate mitigation measures to minimize or avoid impacts on tribal cultural resources. Based on these considerations, the projects would not contribute to or result in a significant cumulatively considerable impact tribal cultural resources.

5.3.6 Geology and Soils

The Imperial Valley portion of the Salton Trough physiographic province of Southern California is used as the geographic scope for the analysis of cumulative impacts on geology/soils and mineral resources. Cumulative development would result in an increase in population and development that could be exposed to hazardous geological conditions, depending on the location of proposed developments. Geologic and soil conditions are typically site specific and can be addressed through appropriate engineering practices. Cumulative impacts on geologic resources would be considered significant if the project would be impacted by geologic hazard(s) and if the impact could combine with off-site geologic hazards to be cumulatively considerable. None of the projects identified within the geographic scope of potential cumulative impacts would intersect or be additive to the project's site-specific geology and soils impacts; therefore, no cumulatively considerable effects are identified for geology/soils, and cumulative impacts would be less than significant.

Development of the proposed projects, in combination with other projects in the area, has the potential to contribute to a cumulatively significant paleontological resources impact due to the potential loss of paleontological resources unique to the region. However, mitigation is included in this EIR to reduce potentially significant project impacts to paleontological resources during construction of the proposed project. Implementation of Mitigation Measure GEO-2 would ensure that the potential impacts on paleontological resources do not rise to the level of significance. Future projects with potentially significant impacts on paleontological resources would be required to comply with federal, state, and local regulations and ordinances protecting paleontological resources through implementation of similar project-specific mitigation measures during construction. Therefore, through compliance with regulatory requirements, standard conditions of approval, and Mitigation Measure GEO-2, the

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proposed projects would have a less than cumulatively considerable contribution to impacts on paleontological resources.

5.3.7 Hazards/Hazardous Materials

The geographic scope considered for cumulative impacts from health, safety, and hazardous materials is the area within 1 mile of the boundary of the project sites. One mile is the standard American Society of Testing and Materials (ASTM) standard search distance for hazardous materials.

Under cumulative conditions, implementation of the projects in conjunction with the projects listed in Table 5-1 is not anticipated to present a public health and safety hazard to residents. Additionally, the projects and related projects would all involve the storage, use, disposal, and transport of hazardous materials to varying degrees during construction, operation, and decommissioning. Impacts from these activities are less than significant for the projects because the storage, use, disposal, and transport of hazardous materials are extensively regulated by various Federal, state, and local laws, regulations, and policies. It is foreseeable that the projects and related projects would implement and comply with these existing hazardous materials laws, regulations, and policies. Therefore, the related projects would not cause a cumulative impact, and the projects would not result in a cumulatively considerable incremental contribution to a cumulative impact related to use or routine transport of hazardous materials.

5.3.8 Greenhouse Gas Emissions

Emissions of GHGs have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. Although the emissions of the projects alone would not cause global climate change, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. In turn, global climate change has the potential to result in rising sea levels, which can inundate low-lying areas; affect rainfall and snowfall, leading to changes in water supply; and affect habitat, leading to adverse effects on biological resources. MDAQMD has proposed a threshold of 100,000 $MTCO_2e$ per year, for residential and commercial projects; which was applied to the projects' analysis as provided in Section 3.8, Greenhouse Gases. As provided, the proposed projects' CO_2 emissions would not exceed MDAQMD's threshold of 100,000 $MTCO_2e$ per year. As the projects' emissions do not exceed the MDAQMD's threshold, the proposed project would not result in a cumulatively considerable impact to GHG emissions and would not conflict with the State GHG reduction targets. Other cumulative projects identified in Table 5-1 largely consist of utility-scale solar facilities. The nature of these projects is such that, like the projects, they would be consistent with the strategies of the Climate Change Scoping Plan. In order to meet the AB 32 GHG emissions reduction mandate, the Scoping Plan relies on achievement of the RPS target of 33 percent of California's energy coming from renewable sources by 2020 and 50 percent by 2030. The RPS target was updated in September 2018 under SB 100 to 60 percent by 2030. The projects and other similar projects are essential to achieving the RPS.

Given that the projects are characterized as renewable energy projects and places emphasis on solar power generation, project operations would be almost carbon-neutral with the majority of the operational GHG emissions associated with vehicle trips. Based on these considerations, no significant long-term operational GHG impacts would occur and, therefore, project-related GHG impacts would not be cumulatively considerable.

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5.3.9 Hydrology and Water Quality

Table 5-1 lists the projects considered for the hydrology and water quality cumulative impact analysis. The geographic scope for considering cumulative hydrology and water quality impacts is the Imperial Valley Hydrologic Unit as defined by the Colorado Basin RWQCB Basin Plan.

The construction of the projects is expected to result in short-term water quality impacts. Compliance with the SWRCB's NPDES general permit for activities associated with construction (2009-0009-DWQ) per Mitigation Measure HYD-1 would reduce water quality impacts. As with the proposed projects, each of the cumulative projects would be required to comply with the Construction General Permit. The SWRCB has determined that the Construction General Permit protects water quality, is consistent with the CWA, and addresses the cumulative impacts of numerous construction activities throughout the state. This determination in conjunction with the implementation of mitigation would ensure short-term water quality impacts are not cumulatively considerable.

The projects are not expected to result in long-term operations-related impacts related to water quality. The projects would mitigate potential water quality impacts by implementing site design, source control, and treatment control BMPs. Some cumulative projects would require compliance with the SWRCB's NPDES general permit for industrial activities, as well as rules found in the CWA, Section 402(p)(1) and 40 CFR 122.26, and implemented Order No. 90-42 of the RWQCB. With implementation of SWRCB, Colorado River RWQCB, and County policies, plans, and ordinances governing land use activities that may degrade or contribute to the violation of water quality standards, cumulatively considerable impacts on water quality would be minimized to a less than significant level.

Based on a review of the FEMA Flood Insurance Rate Map FIRM, the majority of the proposed projects are located within Zone X (unshaded). The FEMA Zone X (unshaded) designation is an area determined to be outside the 0.2 percent annual chance floodplain. However, there are ephemeral wash beds that transect the project site parcels and these areas are designated as Zone A or Special Flood Hazard Areas and are subject to "flash flooding." Compliance with County Flood Zone Ordinances, guidelines, and regulations would be required alongside the construction of retention basins to reduce potential impacts. Cumulative projects listed in Table 5-1 that are located in similar locations would also comply with County ordinances, guidelines, and regulations therefore, cumulatively considerable impacts on floodplains would be considered less than significant.

Based on these considerations, the projects would not contribute to or result in a significant cumulatively considerable impact to hydrology or water quality, and cumulative impacts would be less than significant.

5.3.10 Land Use Planning

The geographic scope for the analysis of cumulative land use and planning impacts is typically defined by government jurisdiction. The geographic scope for considering potential inconsistencies with the General Plan's policies from a cumulative perspective includes all lands within the County's jurisdiction and governed by its currently adopted General Plan. In contrast, the geographic scope for considering potential land use impacts or incompatibilities include the project site plus a one-mile buffer to ensure a consideration for reasonably anticipated potential direct and indirect effects.

As provided in Section 3.11, Land Use/Planning, the projects would not involve any facilities that could otherwise divide an established community. Based on this circumstance, no cumulatively considerable impacts would occur. As discussed in Section 3.11, Land Use/Planning, the projects would not conflict with the goals and objectives of the County of Imperial General Plan if all entitlements (Conditional

Use Permits) are approved by the County Board of Supervisors. In addition, a majority of the cumulative projects identified in Table 5-1 would not result in a conflict with applicable land use plans, policies, or regulations. In the event that incompatibilities or land use conflicts are identified for other projects listed in Table 5-1, the County would require mitigation to avoid or minimize potential land use impacts. The proposed projects would be consistent with the goals and objectives of the General Plan and no amendment to the General Plan for a zone change would be required because the project sites are entirely within the RE Overlay Zone. However, where General Plan Amendments and/or Zone Changes are required to extend the RE Overlay Zone for cumulative projects listed in Table 5-1, that project would be required to demonstrate consistency with the overall goals and policies of the General Plan, and would be required to demonstrate meeting the criteria for extending the RE Overlay onto the project site. Based on these circumstances, no significant cumulatively considerable impact would occur, and cumulative impacts would be less than significant.

5.3.11 Noise and Vibration

When determining whether the overall noise (and vibration) impacts from related projects would be cumulatively significant and whether the projects' incremental contribution to any significant cumulative impacts would be cumulatively considerable, it is important to note that noise and vibration are localized occurrences; as such, they decrease rapidly in magnitude as the distance from the source to the receptor increases. Therefore, only those related projects and identified in Table 5-1 that are in the vicinity of the project site and those that are considered influential in regards to noise and vibration would have the potential to be considered in a cumulative context with the project's incremental contribution.

Two cumulative projects (Orni 30 and Nider Solar) listed in Table 5-1 are pending entitlement and it is not anticipated that construction of the cumulative projects and proposed project would overlap. As discussed in Section 3.12, Noise and Vibration, the projects' noise levels would not exceed the County's 75 dBA L_{eq} construction noise threshold. Therefore, impacts from construction noise are considered less than significant. Similar to the proposed projects, other cumulative projects would be required to comply with the County's construction noise standards. Construction activity is limited to the hours of 7 a.m. to 7 p.m. Monday through Friday, and 9 a.m. to 5 p.m. on Saturdays. Adhering to the County's construction hours would reduce the noise and vibration impacts to below a level of significance. Thus, the incremental contribution of the projects to a cumulative noise impact would not be cumulatively considerable.

Stationary-source and vehicular noise from the aforementioned related projects would be similar in nature and magnitude to those discussed for the projects in Section 3.12, Noise and Vibration. For the proposed projects, no noise impacts have been identified. Operation of the other cumulative projects listed in Table 5-1 could result in the long-term stationary source noise levels that exceed applicable standards at nearby sensitive receptors and/or result in substantial increases in ambient noise levels. However, given that the project facilities would be constructed within the A-2-RE, A-3-RE, and S-2-RE zones, and components of the project associated with noise during operation would be located at appropriate distances from the residential uses scattered in this portion of the County, long-term operational noise levels are not expected to exceed normally acceptable noise levels for these zones (e.g., 70 dBA L_{dn}). Thus, the incremental contribution of the projects to significant cumulative noise impacts would not be cumulatively considerable.

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5.3.12 Transportation/Traffic

During the construction phase of the project, the maximum number of trips generated on a daily basis would be approximately 510 daily trips ends for VEGA SES 2 and 3, and 260 daily trips ends for VEGA SES 5. Under construction year conditions with and without the proposed projects, all roadway segments analyzed would operate at LOS A, and all intersections would operate at LOS B or better during both AM and PM peak hours. Implementation of the proposed projects would not require any public road widening to accommodate vehicular trips associated with the proposed projects (construction phase and operational phase), while maintaining adequate LOS. Additionally, future operations and maintenance would be conducted remotely, with minimal trips to the project sites for panel washing and other solar maintenance.

Since the proposed projects are located in a rural portion of the County there are no fixed routes for alternative transportation or non-motorized travel within the general area of the project sites that would be impacted by project construction or operation. Although the proposed projects would increase VMT during the construction phase, these increases are temporary in nature. Operation of proposed projects would only require intermittent maintenance which would result in a nominal amount of vehicle trips generated.

A majority of the projects listed in Table 5-1 are already constructed and in operation. As shown on Table 5-1, there are cumulative projects that are approved under construction (Wister Solar), approved and not built (Midway Solar Farm IV and Wilkinson Solar Farm), or pending entitlement (Orni 30 and Nider Solar). The construction phasing of these projects is not anticipated to overlap with the proposed projects. Furthermore, the cumulative projects are not anticipated to use the same construction haul route as the proposed projects. Future operations and maintenance would be conducted remotely, with minimal trips to the project site for panel washing and other solar maintenance. Based on these findings, the projects would not result in cumulatively considerable roadway or intersection impacts, and this impact would be less than significant.

5.3.13 Tribal Cultural Resources

As discussed in Section 3.14, Tribal Cultural Resources, a SLF search request was submitted on November 6 and November 16, 2020 to the California NAHC and the search results were received on December 22, 2020, and January 8, 2021. The search of the SLF was negative and failed to indicate the presence of Native American cultural resources in the project area. Additionally, on April 8, 2021, the Quechan Indian Tribe requested consultation with the County on the proposed projects. The County is in the process of consulting with the Quechan Indian Tribe and has requested that they to provide any information regarding any Traditional Cultural Properties, Sacred Sites, resource collecting areas, or any other areas of concern known to occur in the project area. However, the proposed projects are not anticipated to cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC section 21074 or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1 and Section 5024.1.

Future cumulative projects would also be required to comply with the requirements of AB 52 to determine the presence/absence of tribal cultural resources and engage in consultation to determine appropriate mitigation measures to minimize or avoid impacts on tribal cultural resources. Based on these considerations, the projects would not contribute to or result in a significant cumulatively considerable impact to tribal cultural resources. During operations and decommissioning of the

projects, no impacts on tribal cultural resources are anticipated because the soil disturbance would have already occurred and been mitigated during construction.

5.3.14 Utilities/Service Systems

Future development in Imperial County would increase the demand for utility service in the region. In terms of cumulative impacts, the appropriate service providers are responsible for ensuring adequate provision of public utilities within their jurisdictional boundaries. The proposed projects would not require or result in the relocation or construction of new or expanded wastewater facilities, storm water facilities, or water facilities. Additionally, the projects would be comprised of mostly recyclable materials and would not generate significant volumes of solid waste that could otherwise contribute to significant decreases in landfill capacity. Based on these considerations, the projects would result in less than significant impacts on existing utility providers and, therefore, would not result in cumulatively considerable impacts.

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6 Effects Found Not Significant

In accordance with Section 15128 of the CEQA Guidelines, an EIR must contain a statement briefly indicating the reasons that various potential significant effects of a project were determined not to be significant. Based on the Initial Study and Notice of Preparation prepared for the proposed projects (Appendix A of this EIR), Imperial County has determined that the proposed projects would not have the potential to cause significant adverse effects associated with the topics identified below. Therefore, these topics are not addressed in this EIR; however, the rationale for eliminating these topics is briefly discussed below.

6.1 Agriculture and Forestry Resources

6.1.1 Forestry Resources

No portion of the project sites or the immediate vicinity is zoned or designated as forest lands, timberlands, or timberland production. As such, the proposed projects would not result in a conflict with existing zoning or cause the need for a zone change. Therefore, implementation of the proposed projects would not impact forestry resources.

6.2 Energy

Information for this section is summarized from the Energy Impact Assessment prepared by ECORP Consulting, Inc. This report is included in Appendix M of this EIR.

6.2.1 Energy Types and Sources

California relies on a regional power system comprised of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Natural gas provides California with a majority of its electricity followed by renewables, large hydroelectric and nuclear. IID, the sixth largest electrical utility in California serving more than 150,000 customers in the Imperial Valley and parts of Riverside and San Diego counties, provides electrical services to the project area. IID controls more than 1,100 megawatts of energy derived from a diverse resource portfolio that includes its own generation, and long- and short-term power purchases. Located in a region with abundant sunshine, enviable geothermal capacity, wind and other renewable potential, IID has met or exceeded all Renewable Portfolio Standard requirements to date, procuring renewable energy from diverse sources, including biomass, biowaste, geothermal, hydroelectric, solar and wind (Appendix M of this EIR).

The Southern California Gas Company provides natural gas services to Imperial County. As the nation's largest natural gas distribution utility, the Southern California Gas Company delivers natural gas energy to 21.6 million consumers through 5.9 million meters in more than 500 communities. The Southern California Gas Company’s service territory encompasses approximately 24,000 square miles throughout Central and Southern California, from Visalia to the Mexican border (Appendix M of this EIR).

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6.2.2 Imperial County Energy Consumption

Electricity

The non-residential electricity consumption associated with all uses in Imperial County from 2017 to 2021 is shown in Table 6-1. As shown, the demand has increased since 2017.

Table 6-1. Non-Residential Electricity Consumption in Imperial County 2017-2021

Year	Electricity Consumption (kilowatt hours)
2021	841,302,847
2020	834,483,019
2019	839,095,659
2018	831,318,925
2017	817,450,656

Source: Appendix M of this EIR

Natural Gas

The non-residential natural gas consumption associated with all uses in Imperial County from 2017 to 2021 is shown in Table 6-2. As shown, the demand has remained relatively constant since 2017.

Table 6-2. Non-Residential Natural Gas Consumption in Imperial County 2017-2021

Year	Natural Gas Consumption (therms)
2021	33,421,848
2020	33,813,700
2019	34,736,596
2018	31,159,562
2017	33,090,927

Source: Appendix M of this EIR

Automotive Fuel Consumption

Automotive fuel consumption in Imperial County from 2017 to 2021 is shown in Table 6-3. As shown, fuel consumption has decreased between 2016 and 2020.

Table 6-3. Automotive Fuel Consumption in Imperial County 2017-2021

Year	Total Fuel Consumption (gallons)
2021	217,447,173
2020	195,778,823
2019	219,032,998
2018	219,075,991
2017	220,921,357

Source: Appendix M of this EIR

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6.2.3 Proposed Project Energy Consumption

Collectively, the proposed projects involve the construction of up to 350 MW alternating current PV solar energy facility with an integrated 350 MW battery storage system. Operation of the proposed projects would not result in the consumption of electricity or natural gas and thus, would not contribute to the County wide usage and would directly support the RPS goal of increasing the percentage of electricity procured from renewable sources.

Therefore, the energy analysis focuses on the two sources of energy that are most relevant to the projects: the equipment fuel necessary for construction and the automotive fuel necessary for ongoing maintenance activities. The amount of total construction-related fuel use was estimated using ratios provided in the Climate Registry's General Reporting Protocol for the Voluntary Reporting Program, Version 2.1. The amount of operational fuel use was estimated using CARB's EMFAC2021 computer program, which provides projections for typical daily fuel usage in Imperial County. This analysis conservatively assumes that all of the automobile trips projected to arrive at the project sites during operations would be new to Imperial County.

Energy consumption associated with the proposed projects is summarized in Table 6-4. Project increases in automotive fuel consumption are compared with the countywide fuel consumption in 2021 (Table 6-3), the most recent full year of data.

Table 6-4. Proposed Project Energy and Fuel Consumption

Energy Type	Annual Energy Consumption	Percentage Increase Countywide
Electricity Consumption[1]	0 kilowatt-hours	0.00000 percent
Natural Gas[2]	0 therms	0.00000 percent
Automotive Fuel Consumption		
VEGA SES 2 and 3		
Project Construction 2023	94,680 gallons	0.0435 percent
VEGA SES 5		
Project Construction 2024	77,635 gallons	0.0357 percent
VEGA SES 2, 3, and 5 (combined)		
Construction	172,315 gallons	0.0792 percent
Operation[3]	225.5 gallons	0.0001 percent

Source: Appendix M of this EIR

Notes:

[1]CalEEMod; [2]Climate Registry 2016; [3]EMFAC2021

The project increases in electricity and natural gas consumption are compared with all uses in Imperial County in 2021, the latest data available. The project increases in automotive fuel consumption are compared with the countywide fuel consumption in 2021, the most recent full year of data.

Fuel necessary for project construction would be required for the operation and maintenance of construction equipment and the transportation of materials to the project site. The fuel expenditure necessary to construct the solar facility and infrastructure would be temporary, lasting only as long as project construction. As shown in Table 6-4, the project's gasoline fuel consumption during the VEGA SES 2 and 3 construction period is estimated to be 94,680 gallons during 2023 construction, which would increase the annual countywide gasoline fuel usage by 0.0435 percent. The gasoline fuel consumption during VEGA SES 5 construction is estimated to be 77,635 gallons during 2024 construction, which would increase the annual countywide gasoline fuel usage by 0.0357 percent.

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Additionally, the construction during the VEGA SES 2, 3, and 5 projects (combined) has an estimated gasoline usage of 172,315 gallons, which would increase the annual countywide gasoline fuel usage by 0.0792 percent. As such, project construction would have a nominal effect on local and regional energy supplies. No unusual project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the state. Construction contractors would purchase their own gasoline and diesel fuel from local suppliers and would judiciously use fuel supplies to minimize costs due to waste and subsequently maximize profits. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and requiring recycling of construction debris, would further reduce the amount of transportation fuel demand during project construction. For these reasons, it is expected that construction fuel consumption associated with the projects would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

Once construction is completed the projects would be remotely controlled. No employees would be based at the project sites. The only operational emissions associated with the projects would be associated with motor vehicle use for routine maintenance work and site security as well as panel upkeep and cleaning. A conservative estimate of two vehicle trip per day was assumed. This is a conservative estimate as most days would require no operational related vehicle trips. As shown in Table 6-4, this would estimate to a consumption of approximately 225.5 gallons of automotive fuel per year, which would increase the annual countywide automotive fuel consumption by 0.0001 percent. Fuel consumption associated with both the construction equipment needed to construction the projects and the vehicle trips generated by the projects during ongoing maintenance activities would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. The proposed projects would result in a less than significant impact related to energy.

6.2.4 Compliance with State or Local Plans for Renewable Energy or Energy Efficiency

The purpose of the proposed projects is the construction of a renewable energy and storage facilities in Imperial County. Once in operation, it will decrease the need for energy from fossil fuel–based power plants in the state. The result would be a net increase in electricity resources available to the regional grid, generated from a renewable source. Therefore, the projects would directly support the RPS goal of increasing the percentage of electricity procured from renewable sources. Additionally, the projects would also be consistent with the County's General Plan Conservation and Open Space Element, Objective 9.2 which encourages renewable energy developments. Therefore, the projects would directly support state and local plans for renewable energy development. The proposed projects would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency; therefore, no impact would occur.

6.3 Mineral Resources

The project sites are not used for mineral resource production and the applicant is not proposing any form of mineral extraction. According to Figure 8: Imperial County Existing Mineral Resources of the Conservation and Open Space Element of the General Plan (County of Imperial 2016), no known mineral resources occur within the project sites nor do the project sites contain mapped mineral resources. Therefore, the proposed projects would not result in the loss of availability of any known mineral resources that would be of value to the region and the residents of California nor would the proposed projects result in the loss of availability of a locally important mineral resource.

Based on a review of the California Department Division of Oil, Gas, and Geothermal Resources Well Finder, there are no wells located on the project sites (California Department of Oil, Gas, and Geothermal Resources 2021). Therefore, implementation of the proposed projects would not impact any wells.

6.4 Population and Housing

Development of housing is not proposed as part of the projects. No full-time employees are required to operate the projects. The project facilities will be monitored remotely. It is anticipated that maintenance of the facilities will require minimal site presence to perform periodic visual inspections and minor repairs. On intermittent occasions, the presence of additional workers may be required for repairs or replacement of equipment and panel cleaning; however, due to the nature of the facilities, such actions will likely occur infrequently. Therefore, the proposed projects would not result in a substantial growth in the area, as the number of employees required to operate and maintain the facilities is minimal.

No housing exists within the project sites and no people reside within the project sites. Therefore, the proposed projects would not displace substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere. The proposed projects would result in no impact to population and housing.

6.5 Public Services

Fire Protection. Fire protection and emergency medical services in the area are provided by the Imperial County Fire Department. The project sites are located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan (County of Imperial 1997), the potential for a major fire in the unincorporated areas of the County is generally low. Both the access and service roads (along the perimeter of the project facility) would have turnaround areas to allow clearance for fire trucks per fire department standards (70 feet by 70 feet, and 20-foot-wide access road). Although the proposed projects would be designed, constructed, and operated in accordance with applicable fire protection and other environmental, health, and safety requirements (e.g., CPUC safety standards), the project applicant will be required to consult and coordinate with the Fire Department to address any fire safety and service concerns (i.e, battery storage system fire prevention and control components), and emergency response site access, so that adequate service is maintained. While the proposed projects may result in an increase in demand for fire protection service, with installation of internal fire prevention systems and ICFD consultation, including adherence to any special conditions regarding fire control and access, the projects would not result in an increase in demand that would, in turn, result in a substantial adverse physical impact associated with the provision of new or physically altered fire protection facilities; the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services. Based on these considerations, the project would not result in a need for fire facility expansion and a less than significant impact would occur.

Imperial County requires payment of impact fees for new development projects. Fire Impact Fees are imposed pursuant to Ordinance 1418 §2 (2006), which was drafted in accordance with the County's TischlerBise Impact Fee Study. The ordinance has provisions for non-residential industrial projects based on square footage. The project applicant will be required to pay the fire protection services'

impact fees. These fees would be included in the Conditions of Approval for the CUP and would therefore be less than significant.

Police Protection. Police protection services in the project area is provided by the Imperial County Sheriff's Department. Although the potential is low, the proposed project may attract vandals or other security risks. The increase in construction related traffic could increase demand on law enforcement services. However, the project sites would be fenced with 6-foot high chain link security fence and points of ingress/egress would be accessed via locked gates. In addition, periodic on-site personnel visitations for security would occur during operations and maintenance of the proposed projects, thereby minimizing the need for police surveillance. While the proposed projects may result in a temporary increase in demand for law enforcement service, the projects would not result in an increase in demand that would, in turn, result in a substantial adverse physical impact associated with the provision of new or physically altered sheriff facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. Further, as conditions of approval of the projects, the project applicant will be required to participate in the Imperial County Public Benefit Program for the life of the CUPs and shall at all times be a party to a public benefit agreement in a form acceptable to County Counsel in order to pay for all costs, benefits, and fees associated with the approved projects, and the applicant will be required to reimburse the Sheriff's Department for any investigations regarding theft on the project sites and related law enforcement. Approval of this public benefit agreement will be by the Board of Supervisors prior to the issuance of the first building permit. These potential impacts are less than significant.

Schools. The proposed projects do not include the development of residential land uses that would result in an increase in population or student generation. Construction of the proposed projects would not result in an increase in student population within the Imperial County's School District since it is anticipated that construction workers would commute in during construction operations. The proposed projects would have no impact on Imperial County schools.

Parks and Other Public Facilities. No full-time employees are required to operate the projects. The project facilities will be monitored remotely. It is anticipated that maintenance of the facilities will require minimal site presence to perform periodic visual inspections and minor repairs. Therefore, substantial permanent increases in population that would adversely affect local parks, libraries, and other public facilities are not expected. The projects are not expected to have an impact on parks, libraries, and other public facilities.

6.6 Recreation

The project sites are not used for formal recreational purposes. Also, the proposed projects would not generate new employment on a long-term basis. As such, the projects would not significantly increase the use or accelerate the deterioration of regional parks or other recreational facilities. The temporary increase of population during construction that might be caused by an influx of workers would be minimal and not cause a detectable increase in the use of parks. Additionally, the projects do not include or require the expansion of recreational facilities. Therefore, no impact is identified for recreation.

6.7 Utilities and Service Systems

Wastewater Facilities. The projects would generate a minimal volume of wastewater during construction. During construction activities, wastewater would be contained within portable toilet

facilities and disposed of at an approved site. No habitable structures are proposed on the project sites, such as O&M buildings; therefore, there would be no wastewater generation from the proposed projects. The proposed projects would not require or result in the relocation or construction of new or expanded wastewater facilities.

Storm Water Facilities. The proposed projects will involve the construction of drainage control facilities within the project sites, and included in the project impact footprint, of which environmental impacts have been evaluated. Otherwise, the projects do not require expanded or new storm drainage facilities off-site (i.e., outside of the project footprint) because the proposed solar facilities would not generate a significant increase in the amount of impervious surfaces that would increase runoff during storm events, and therefore, would not require the construction of off-site storm water management facilities. Water from solar panel washing would continue to percolate through the ground, as a majority of the surfaces within the project sites would remain pervious. The proposed projects would not require or result in the relocation or construction of new or expanded storm water facilities beyond those proposed as part of the projects and evaluated in the EIR.

Water Facilities. The proposed projects are not anticipated to result in a significant increase in water demand/use during operation; however, water will be needed for solar panel washing and dust suppression. During operation, water would be trucked to the project sites from a local water source. Therefore, the proposed projects would not require or result in the relocation or construction of new or expanded water facilities.

Power, Natural Gas, and Telecommunication Facilities. The proposed projects would involve construction of power facilities. However, these are components of the projects as evaluated in the EIR. The proposed projects would not otherwise generate the demand for or require or result in the relocation or construction of new or expanded electric power, natural gas, or telecommunications facilities that would in turn, result in a significant impact to the environment.

Solid Waste Facilities. Solid waste generation would be minor for the construction and operation of the projects. Solid waste would be disposed of using a locally-licensed waste hauling service, most likely Allied Waste. Trash would likely be hauled to the Calexico Solid Waste Site (13-AA-0004) located approximately 13 miles west of the proposed projects in Calexico. As of August 1, 2019, the Calexico Solid Waste Site has approximately 1,561,235 cubic yards of remaining capacity and is estimated to remain in operation through 2179 (CalRecycle 2021). Therefore, there is ample landfill capacity in the County to receive the minor amount of solid waste generated by construction and operation of the proposed projects.

Additionally, because the proposed projects would generate solid waste during construction and operation, the projects would be required to comply with state and local requirements for waste reduction and recycling; including the 1989 California Integrated Waste Management Act and the 1991 California Solid Waste Reuse and Recycling Access Act of 1991. Also, conditions of the CUPs would contain provisions for recycling and diversion of Imperial County construction waste policies.

Further, when the proposed projects reach the end of their operational life, the components would be decommissioned and deconstructed. When the projects conclude operations, much of the wire, steel, and modules of which the system is comprised would be recycled to the extent feasible. The project components would be deconstructed and recycled or disposed of safely, and the sites could be converted to other uses in accordance with applicable land use regulations in effect at the time of closure. Commercially reasonable efforts would be used to recycle or reuse materials from the decommissioning. All other materials would be disposed of at a licensed facility. A less than significant impact is identified for this issue.

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6.8 Wildfire

According to the Draft Fire Hazard Severity Zone Map for Imperial County prepared by the California Department of Forestry and Fire Protection, the project sites are not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2007). Therefore, the proposed projects would not substantially impair an adopted emergency response plan or emergency evacuation plan; expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire; exacerbate fire risk; or, expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. No impact is identified for wildfire.

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7 Alternatives

7.1 Introduction

The identification and analysis of alternatives is a fundamental concept under CEQA. This is evident in that the role of alternatives in an EIR is set forth clearly and forthrightly within the CEQA statutes. Specifically, CEQA §21002.1(a) states:

> *"The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided."*

The CEQA Guidelines require an EIR to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (CEQA Guidelines §15126.6(a)). The CEQA Guidelines direct that selection of alternatives focus on those alternatives capable of eliminating any significant environmental effects of the project or of reducing them to a less-than significant level, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly. In cases where a project is not expected to result in significant impacts after implementation of recommended mitigation, review of project alternatives is still appropriate.

The range of alternatives required within an EIR is governed by the "rule of reason" which requires an EIR to include only those alternatives necessary to permit a reasoned choice. The discussion of alternatives need not be exhaustive. Furthermore, an EIR need not consider an alternative whose implementation is remote and speculative or whose effects cannot be reasonably ascertained.

Alternatives that were considered but were rejected as infeasible during the scoping process should be identified along with a reasonably detailed discussion of the reasons and facts supporting the conclusion that such alternatives were infeasible.

Based on the alternatives analysis, an environmentally superior alternative is designated among the alternatives. If the environmentally superior alternative is the No Project Alternative, then the EIR shall identify an environmentally superior alternative among the other alternatives (CEQA Guidelines §15126.6(e)(2)).

7.2 Criteria for Alternatives Analysis

As stated above, pursuant to CEQA, one of the criteria for defining project alternatives is the potential to attain the project objectives. Established objectives of the project applicant for the proposed project include:

- Construct and operate a solar energy facility capable of producing up to 350 megawatt (MW) alternating current (AC) of electricity to assist the State of California in achieving its 60 percent renewable portfolio standard by 2030.
- Provide a 350 MW energy (battery storage) system, that would accommodate and store the power generated by the project so that the facility can continue to provide renewable energy during non-daylight hours.

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- Interconnect directly to IID's existing electrical transmission system.
- Help California meet its statutory and regulatory goal of increasing renewable power generation, including greenhouse gas reduction goals of Senate Bill 32.
- Minimize and mitigate any potential impact to sensitive environmental resources within the project area.

7.3 Alternatives Considered but Rejected

7.3.1 Alternative Site

Section 15126.6(f)(2) of the CEQA Guidelines addresses alternative locations for a project. The key question and first step in the analysis is whether any of the significant effects of the proposed project would be avoided or substantially lessened by constructing the proposed project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need to be considered for inclusion in the EIR. Further, CEQA Guidelines Section 15126.6(f)(1) states that among the factors that may be taken into account when addressing the feasibility of alternative locations are whether the project proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent).

The proponent does not have control of an alternate site; if control were viable, the proponent would have to re-initiate the application process as a new project. Similar to the proposed project site, an alternate site would require environmental review once the proponent has prepared sufficient project description information. At present, the proponent does not have control of an alternate site. This alternative would be the most complex, costly, and time-consuming alternative to implement. It is unknown if the environmental impacts associated with this Alternative would be less than the proposed project because it would be speculative to evaluate an unsecured alternate site. This is primarily due to the fact that the proponent does not have control of an alternate site. Therefore, an alternative site was eliminated from further consideration in this EIR.

7.4 Alternative 1: No Project/No Development Alternative

The CEQA Guidelines require analysis of the No Project Alternative (PRC Section 15126). According to Section 15126.6(e)(1), "the specific alternative of 'no project' shall also be evaluated along with its impact." Also, pursuant to Section 15126.6(e)(2); "The 'no project' analysis shall discuss the existing conditions at the time the notice of preparation is published, … at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services."

The No Project/No Development Alternative assumes that the projects, as proposed, would not be implemented and the project sites would not be further developed with solar energy facilities. The No Project/No Development Alternative would not meet the project objectives.

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7.4.1 Environmental Impact of Alternative 1: No Project/No Development Alternative

Aesthetics

Under the No Project/No Development Alternative, the project sites would not be developed and would continue to be undeveloped and fallow agricultural land. The No Project/No Development Alternative would not modify the existing project sites or add construction to the project sites; therefore, there would be no change to the existing condition of the sites. Under this alternative, there would be no potential to create a new source of light or glare associated with the PV arrays. As discussed in greater detail in Section 3.2, Aesthetics, the proposed projects would result in a less than significant impact associated with introduction of new sources of light and glare. Under the No Project Alternative, no new sources of light, glare, or other aesthetic impacts would occur. Under this alternative, light, glare, and aesthetic impacts would be less compared to the projects as the existing visual conditions would not change.

Agricultural Resources

As discussed in Section 3.3, Agricultural Resources, the majority of the project sites are designated as Other Land (DOC 2021). A portion of the VEGA SES 5 project site (APN 025-260-022) is designated as Farmland of Local Importance. Compared to the proposed projects, implementation of this alternative would avoid the conversion of land designated as Other Land and Farmland of Local Importance per the FMMP. However, as previously indicated, these designations are not considered an “agricultural land” per CEQA Statute Section 21060.1(a). Therefore, this alternative would not contribute to the conversion of agricultural lands or otherwise adversely affect agricultural operations. Compared to the proposed projects, this alternative would avoid the need for future restoration of the project sites to pre-project conditions.

Air Quality

Under the No Project/No Development Alternative, there would be no air emissions associated with project construction or operation, and no project- or cumulative-level air quality impact would occur. Therefore, no significant impacts to air quality or violation of air quality standards would occur under this alternative. Moreover, this alternative would be consistent with existing air quality attainment plans and would not result in the creation of objectionable odors.

As discussed in Section 3.4, Air Quality, the proposed projects would not exceed the ICAPCD’s significance thresholds for emissions of ROG, CO, SO_2, and $PM_{2.5}$ during both the construction and operational phases of the project. However, the VEGA SES 2 and 3 projects would exceed the ICAPCD threshold for PM_{10}, prior to implementation of mitigation. Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII – Fugitive Dust Control Measures. The projects must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust (Mitigation Measure AQ-1). With the implementation of the ICAPCD Regulation VIII requirements (Mitigation Measure AQ-1), the projects would not exceed the ICAPCD’s thresholds of significance for PM_{10} emissions. This alternative would result in less air quality emissions compared to the proposed projects, the majority of which would occur during construction. The No Project/No Development Alternative would not reduce the long-term need for renewable electricity generation. As a consequence, while the No Project/No Development Alternative would not result in new impacts to air quality as a result of construction, it would likely not realize the overall benefits to regional air quality when compared to the operation of the proposed projects.

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Biological Resources

Under the No Project/No Development Alternative, existing biological resource conditions within the project sites would largely remain unchanged and no impact would be identified. Unlike the proposed projects which requires mitigation for biological resources including rare plants, burrowing owl and other migratory birds, nesting birds, sensitive natural communities, and aquatic resources, this alternative would not result in construction of a solar facility that could otherwise result in significant impacts to these biological resources. Compared to the proposed projects, this alternative would avoid impacts to biological resources.

Cultural Resources

The proposed projects would involve ground-disturbing activities that have the potential to disturb previously undocumented cultural resources that could qualify as historical resources or unique archaeological resources pursuant to CEQA. Under the No Project/No Development Alternative, the project sites would not be developed and no construction-related ground disturbance would occur. Therefore, compared to the proposed projects, this alternative would avoid impacts to cultural resources.

Geology and Soils

Because there would be no development at the project sites under the No Project/No Development Alternative, no grading or construction of new facilities would occur. Therefore, there would be no impact to project-related facilities as a result of local seismic hazards (strong ground shaking), soil erosion, and paleontological resources. In contrast, the proposed projects would require the incorporation of mitigation measures related to potential seismic hazards, soil erosion, and paleontological resources to minimize impacts to a less than significant level. Compared to the proposed projects, this alternative would avoid significant impacts related to local geology and soil conditions and paleontological resources.

Greenhouse Gas Emissions

Under the No Project/No Development Alternative, there would be no GHG emissions resulting from project construction or operation or corresponding impact to global climate change. The No Project/No Development Alternative would not help California meet its statutory and regulatory goal of increasing renewable power generation, including GHG reduction goals of SB 32. While this alternative would not further implement policies (e.g., SB X1-2) for GHG reductions, this alternative would also not directly conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. This alternative would not create any new GHG emissions during construction but would not lead to a long-term beneficial impact to global climate change by providing renewable clean energy. For the proposed projects, a less than significant impact was identified for construction-related GHG emissions, and in the long-term, the projects would result in an overall beneficial impact to global climate change as the result of creation of clean renewable energy, that does not generate GHG emissions. Compared to the proposed projects, while the No Project/No Development Alternative would not result in new GHG emissions during construction, it would be less beneficial to global climate change as compared to the proposed projects. Further, the construction emissions associated with the projects would be off-set by the beneficial renewable energy provided by the projects, negating any potential that the No Project/No Development alternative would reduce construction-related GHG emissions.

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Hazards and Hazardous Materials

The No Project/No Development Alternative would not include any new construction. Therefore, no potential exposure to hazardous materials would occur. Therefore, no impact is identified for this alternative for hazards and hazardous materials. As with the proposed projects, this alternative would not result in safety hazards associated with airport operations. Compared to the proposed projects, this alternative would have less of an impact related to hazards and hazardous materials.

Hydrology/Water Quality

The No Project/No Development Alternative would not result in modifications to the existing drainage patterns or volume of storm water runoff as attributable to the proposed projects, as the existing site conditions and on-site pervious surfaces would remain unchanged. In addition, no changes with regard to water quality would occur under this alternative. Compared to the proposed projects, from a drainage perspective, this alternative would avoid changes to existing hydrology. Unlike the proposed projects, this alternative would not result in the placement of structures within flood zone A. This alternative would have less of an impact associated with hydrology/water quality as compared to the proposed projects.

Land Use/Planning

As discussed in Section 3.11, Land Use/Planning, the proposed projects would not physically divide an established community or conflict with applicable plans, policies, or regulations.

Under the No Project/No Development Alternative, the project sites would not be developed and continue to be undeveloped and fallow agricultural land. Current land uses would remain the same. No CUPs would be required under this alternative. No existing community would be divided, and no inconsistencies with planning policies would occur. Because no significant Land Use and Planning impact has been identified associated with the proposed projects, this alternative would not avoid or reduce a significant impact related to this issue and therefore, it is considered similar to the proposed projects.

Noise

This alternative would not require construction or operation of the project facilities; therefore, this alternative would not increase ambient noise levels within the vicinity of the project sites. For this reason, no significant noise impacts would occur. As discussed in Section 3.12, Noise and Vibration, the proposed projects would not result in significant noise impacts to sensitive receptors during construction and operation. Compared to the proposed projects, this alternative would not generate noise and would have less of an impact associated with noise.

Transportation

There would be no new development under the No Project/No Development Alternative. Therefore, this alternative would not generate vehicular trips during construction or operation. For these reasons, no impact would occur and this alternative would not impact any applicable plan, ordinance, or policy addressing the performance of the circulation system, substantially increase hazards because of a design feature, result in inadequate emergency access, or conflict with public transit, bicycle, or pedestrian facilities. Although the proposed projects would result in less than significant transportation impacts, this alternative would avoid an increase in vehicle trips on local roadways, and any safety

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related hazards that could occur in conjunction with the increase vehicle trips and truck traffic, primarily associated with the construction phase of the projects.

Tribal Cultural Resources

As discussed in Section 3.14, Tribal Cultural Resources, no tribes have responded that indicate the potential for traditional cultural properties or sacred sites on the project sites. Therefore, the projects are not anticipated to cause a substantial adverse change in the significance of a tribal cultural resource. Impacts to tribal cultural resources under the No Project/No Development Alternative are similar to the proposed projects.

Utilities and Service Systems

The No Project/No Development Alternative would not require the expansion or extension of existing utilities, since there would be no new project facilities that would require utility service. No solid waste would be generated under this alternative. The proposed projects would not result in any significant impacts to existing utilities or solid waste facilities. Compared to the proposed projects, this alternative would have less of an impact related to utilities and solid waste facilities.

Conclusion

Implementation of the No Project/No Development Alternative would generally result in reduced impacts for a majority of the environmental issues areas considered in Chapter 3, Environmental Analysis when compared to the proposed projects. A majority of these reductions are realized in terms of significant impacts that are identified as a result of project construction. However, this alternative would not realize the benefits of reduced GHG emissions associated with energy use, which are desirable benefits that are directly attributable to the proposed projects.

Comparison of the No Project/No Development Alternative to Project Objectives

The No Project/No Development Alternative would not meet the objectives of the projects. Additionally, the No Project/No Development Alternative would not help California meet its statutory and regulatory goal of increasing renewable power generation, including GHG reduction goals of SB 32.

7.5 Alternative 2: Reduced Project Site

The purpose of this alternative is to reduce the size of the project sites to minimize impacts on sensitive vegetation communities and riparian habitat. Iodine bush scrub, bush seepweed scrub, tamarisk thickets, and blue palo verde-ironwood woodland occur within the project sites and are considered sensitive natural communities by CDFW.

In addition, riparian habitat associated with the drainage systems throughout the VEGA SES 2 and 3 project sites consists of blue palo verde-ironwood woodland and tamarisk thickets. Riparian habitat associated with the drainage systems throughout the VEGA SES 5 project site consists of tamarisk thickets.

This alternative would remove the portion of VEGA SES 2 that is located on APN 025-010-006 and remove APN 025-260-019 and a portion of APN 025-260-011 from VEGA SES 5. Therefore, the project site would be reduced by 660 acres from a total of 1,963 acres to 1,303 acres. Figure 7-1 depicts this alternative.

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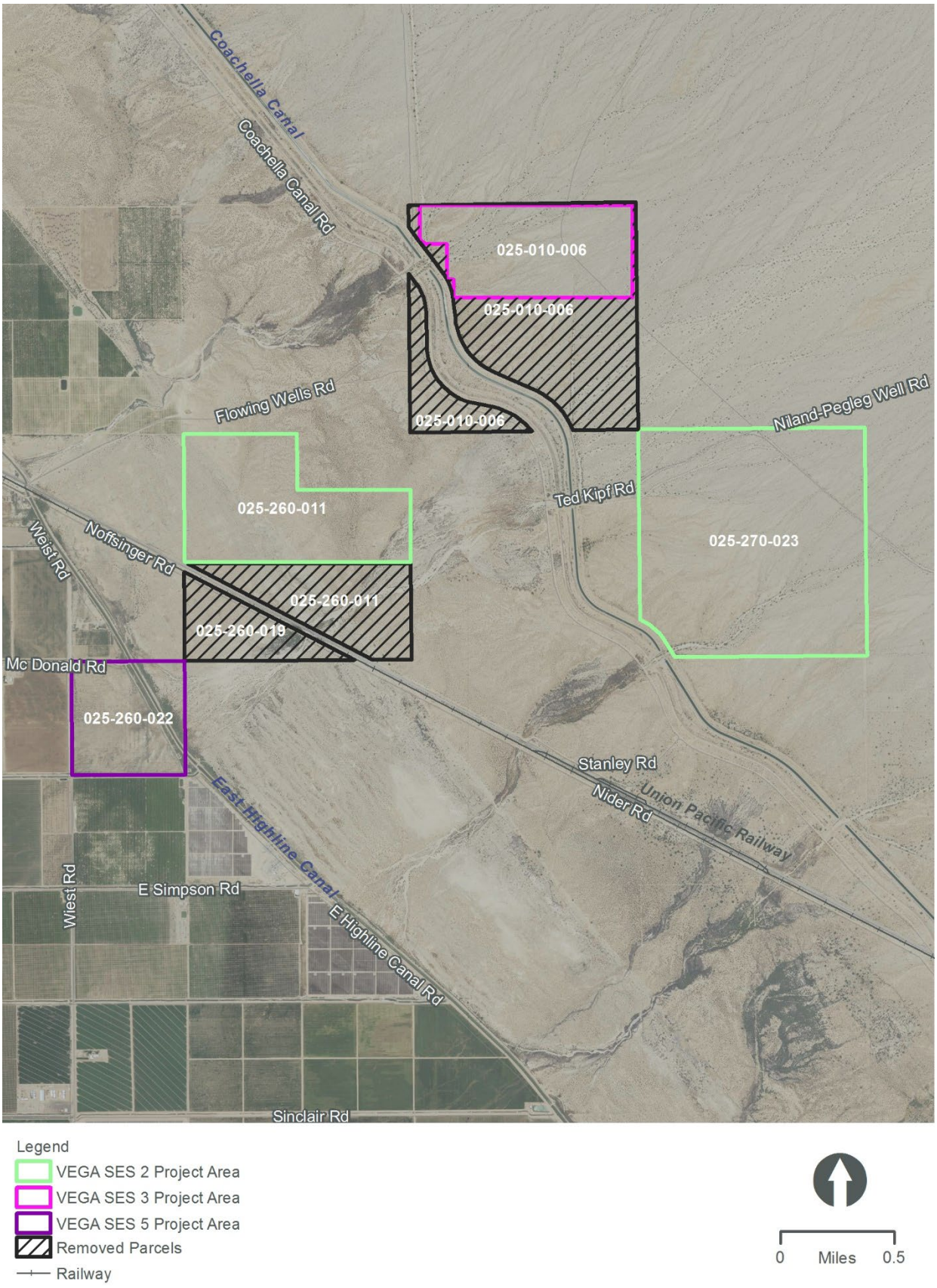
Figure 7-1. Alternative 2: Reduced Project Site



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7.5.1 Environmental Impact of Alternative 2: Reduced Project Site

Aesthetics

Under Alternative 2, the overall size of the solar energy facility would be reduced. No significant visual aesthetic impact has been identified as the proposed projects' facilities would not impact scenic resources, result in the substantial degradation of the existing visual character of the project sites, or add a substantial amount of light and glare. As such, this alternative would not avoid or reduce any significant impacts identified for the projects and the aesthetic impact would be similar to the proposed projects.

Agricultural Resources

Under Alternative 2, the overall size of the solar energy facility would be reduced. As discussed in Section 3.3, Agricultural Resources, the proposed projects would not result in the conversion of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland and Williamson Act contracts. However, a portion of the VEGA SES 5 project site (APN 025-260-022) is designated as Farmland of Local Importance, and it was noted that project implementation may change the physical and chemical makeup of soil materials within the upper soil horizon on site and impact future agricultural productivity. Under this alternative, the project applicant would still be required to adhere to the terms of the comprehensive reclamation plan that would restore the VEGA SES 5 project site to preexisting (pre-project) conditions following decommissioning of the project (after its use for solar generation activities). In addition, the VEGA SES 5 project would still be required to implement a weed and pest management control plan per Mitigation Measure AG-1. Compared to the proposed projects, this alternative would have similar impacts as the proposed projects.

Air Quality

Under Alternative 2, air emissions during construction would be less than the proposed projects because of the reduced site development. A less than significant impact with mitigation incorporated has been identified for the proposed projects during construction. Similar to the proposed projects, this alternative would be required to comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. Similar to the proposed projects, this alternative would be consistent with existing AQMPs and would not result in the creation of objectionable odors. This alternative would provide less MW generation compared to the proposed projects, thereby reducing its ability to provide a long-term source of renewable energy. Compared to the proposed projects, while this alternative would result in less air quality impacts, it would likely provide fewer desirable benefits to overall regional air quality as attributable to the proposed project.

Biological Resources

Under Alternative 2, the overall size of the solar energy facility would be reduced by 660 acres. Under Alternative 2, impacts on biological resources would be reduced by reducing the size of the project sites to minimize impacts on sensitive vegetation communities and riparian habitat. Although the overall size of the solar energy facilities would be reduced, there is still potential for impacts on special-status species, sensitive vegetation communities, and riparian habitat. Compared to the proposed projects, this alternative would result in a reduction in impacts on biological resources, but would still require mitigation.

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Cultural Resources

Although the overall size of the solar energy facilities would be reduced by 660 acres, this alternative would still require ground-disturbing activities, which has the potential to disturb undocumented cultural resources that could qualify as historical resources or unique archaeological resources pursuant to CEQA, and human remains. This alternative would not avoid any direct impacts to any significant cultural resources sites, as none have been identified. Compared to the proposed projects, this alternative would result in a reduction in impacts on cultural resources because of the reduced site development, but would still require mitigation related to monitoring for inadvertent discovery.

Geology and Soils

Under Alternative 2, while the overall project footprint would be reduced, grading and construction of new facilities, such as the solar facility, battery energy storage, and gen-tie, would still occur. Similar to the proposed projects, this alternative would also be subject to potential impacts related to strong ground shaking, liquefaction, soil erosion, collapsible soils, expansive soils, and paleontological resources, and incorporation of mitigation measures would be required to minimize these impacts to a less than significant level. This alternative would result in similar geology and soil and paleontological resources impacts as the proposed projects.

Greenhouse Gas Emissions

Under Alternative 2, the overall project footprint would be reduced by approximately 660 acres, thereby contributing to reductions in GHG emissions during project construction. However, as a consequence of the reduced size of the projects, this alternative would result in a reduced power production capacity as compared to the proposed projects; hence, the overall benefits of the projects to global climate change through the creation of renewable energy would also be reduced. This alternative would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Similar to the proposed projects, this alternative would not exceed MDAQMD's threshold of 100,000 $MTCO_2e$.This alternative would contribute to similar and desirable reductions in GHG emissions and associated contribution to global climate change through the production of renewable energy, although to a lesser degree. Because no significant GHG impact has been identified associated with the proposed projects, this alternative would not avoid or reduce a significant impact related to this issue and, therefore, it is considered similar to the proposed projects.

Hazards and Hazardous Materials

Similar to the proposed projects, construction of this alternative would involve the limited use of hazardous materials, such as fuels and greases to fuel and service construction equipment. Also, as with the proposed projects, because the Phase I ESAs prepared for the proposed projects did not identify and on-site RECs, ASTs, or USTs, this alternative would not avoid or reduce impacts associated with hazardous materials. Further, no impact associated with potential safety hazards to the public residing or working within proximity to a public airport would occur. Implementation of this alternative would result in a similar hazards and hazardous materials impact as the proposed projects. This alternative would not avoid or lessen the impact to hazards and hazardous materials as no significant impact associated with the proposed projects has been identified.

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Hydrology/Water Quality

Alternative 2 would result in modifications to the existing drainage patterns and the volume of storm water runoff, as this alternative would introduce impervious area on-site, although to a lesser degree than the proposed projects. Because the overall project footprint would be reduced, this alternative would realize a minor reduction in the corresponding impacts on hydrology and on-site drainage; however, the same mitigation measures would be applicable to this alternative. Compared to the proposed projects, this alternative would result in less of an impact on hydrology/water quality.

Land Use Planning

Implementation of this alternative would not avoid or reduce a land use and planning impact, as no significant impact associated with the projects has been identified. As with the proposed projects, this alternative would be consistent with the County Land Use Ordinance, Division 17, RE Overlay Zone, which authorizes the development and operation of RE projects with an approved CUP. Implementation of this alternative would be similar to the proposed projects with respect to land use and planning.

Noise

As with the proposed projects, Alternative 2 would not result in significant noise impacts associated with construction activities. As with the proposed projects, operational impacts associated with this alternative would not expose persons or generate noise levels in excess of applicable noise standards, exposure persons to, or generate excessive groundborne vibration, or expose persons to excessive aircraft noise. Because no significant noise impact has been identified associated with the proposed projects, this alternative would not avoid or reduce a significant impact related to this issue and therefore, it is considered similar to the proposed projects.

Transportation

This alternative would result in a similar level of construction and operation-related vehicle and truck trips as compared to the proposed projects. However, the increase in vehicular traffic was identified as a less than significant impact for the proposed projects. In this context, Alternative 2 would not reduce or avoid an impact related to transportation and would result in less than significant impacts similar to the proposed projects. As with the proposed projects, Alternative 2 would not impact any applicable plan, ordinance, or policy addressing the performance of the circulation system, substantially increase hazards because of a design feature, result in inadequate emergency access, or conflict with public transit, bicycle, or pedestrian facilities. This alternative would result in a similar impact related to transportation as the proposed projects.

Tribal Cultural Resources

Implementation of this alternative would not avoid or reduce a tribal cultural resources impact, as no significant impact associated with the projects has been identified. Impacts to tribal cultural resources under this alternative are similar to the proposed projects.

Utilities and Service Systems

Implementation of this alternative would result in an overall less demand for utilities, including water. However, this alternative would not avoid or reduce a significant impact associated with the projects as a less than significant impact to utilities has been identified associated with the projects.

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Implementation of this alternative would not achieve to the same degree the beneficial impacts of providing renewable energy. As compared to the proposed projects, the overall demand for utilities would be less under this alternative.

Conclusion

As shown on Table 7-1, this alternative would reduce impacts to air quality, biological resources, cultural resources, hydrology/water quality, and utilities/service systems.

Comparison of Alternative 2: Reduced Project Site

Alternative 2 would meet most of the basic objectives of the proposed projects and should remain under consideration. However, this alternative would make it more difficult to achieve the overall objective of providing a total of 350 MW of renewable solar energy, as there would be less area available for the placement of PV structures.

7.6 Environmentally Superior Alternative

Table 7-1 provides a qualitative comparison of the impacts for each alternative compared to the proposed projects. As noted on Table 7-1, the No Project/No Development Alternative would be considered the environmentally superior alternative, since it would eliminate all of the significant impacts identified for the projects. However, CEQA Guidelines Section 15126.6(e)(2) states that “if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.” As shown on Table 7-1, Alternative 2 would be the environmental superior alternative because it would reduce impacts for the following environmental issue areas as compared to the proposed projects: air quality, biological resources, cultural resources, hydrology/water quality, and utilities/service systems.

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Table 7-1. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Aesthetics	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* *Less than Significant* *Comparison to Proposed Project:* Similar Impact
Agricultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact
Air Quality	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Biological Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Cultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* *Less than Significant with Mitigation* *Comparison to Proposed Project:* Less Impact

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Table 7-1. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Geology and Soils	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact
GHG Emissions	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Hazards and Hazardous Materials	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Hydrology/ Water Quality	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Land Use/Planning	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact

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Table 7-1. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Noise	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Transportation	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Tribal Cultural Resources	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* *Less than Significant* *Comparison to Proposed Project:* Similar Impact
Utilities/Service Systems	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Less Impact

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9 EIR Preparers and Persons and Organizations Contacted

9.1 EIR Preparers

This EIR was prepared for the County of Imperial by HDR at 591 Camino de la Reina, Suite 300, San Diego, CA 92108. The following professionals participated in its preparation:

County of Imperial

Jim Minnick, Planning & Development Services Director

Michael Abraham, AICP, Assistant Planning & Development Services Director

Diana Robinson, Planning Division Manager

David Black, Planner IV

HDR

Tim Gnibus, Principal

Sharyn Del Rosario, Project Manager

Regan Del Rosario, Environmental Planner

Shelly Austin, Biological Resources Project Manager

Ronell Santos, Biologist 2

Manuel Guzman, Civil Engineer Geotechnical Section

Sharon Jacob, Geographic Information Systems Analyst

Katherine Turner, Document Production Administrator

HDR was assisted by the following consultants:

ECORP Consulting, Inc.

Visual Impact Assessment; Air Quality and Greenhouse Gas Assessment; Biological Technical Report; Aquatic Resources Delineation; Cultural Resources Inventory; Archeological and Built Resources Inventory Report; Noise Impact Assessment; Energy Impact Assessment; Water Supply Assessment

GS Lyon Consultants, Inc.

Phase I Environmental Site Assessment

KOA

Traffic Impact Study

9.2 Persons and Organizations Contacted

The following persons and organizations were contacted in preparation of this document:

- Imperial Irrigation District
- Bureau of Land Management
- Bureau of Reclamation
- Coachella Valley Water District

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Appendix A

Initial Study and Notice of Preparation and Comment Letters

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Notice of Preparation

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To: Office of Planning & Research
(Agency)

P.O. Box 3044, 1400 Tenth Street, Room 212
(Address)

Sacramento, CA 95812-3044

Subject: Notice of Preparation of a Draft Environmental Impact Report

Lead Agency:		**Consulting Firm** (If applicable):	
Agency Name	Imperial County, Planning & Dev Svcs.	Firm Name	HDR
Street Address	801 Main Street	Street Address	591 Camino de la Reina, Suite 300
City/State/Zip	El Centro, CA 92243	City/State/Zip	San Diego, CA 92108
Contact	Patricia Valenzuela	Contact	Tim Gnibus

The County of Imperial will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the project identified below. We need to know the views of your agency as to the scope and content of the Environmental Information, which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study is attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but ***not later than 35 days*** after receipt of this notice.

Please send your response to Imperial County Planning & Development Services, Attn: Patricia Valenzuela at the address shown above. We will need the name for a contact person in your agency.

Project Title: VEGA SES 2, 3,and 5 Solar Energy Project

Project Location: The project area is located on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA. The project area is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The project area is transected by the Coachella and East Highline Canals and the Union Pacific Railway. As shown on Figure 1, the project area is located entirely within the County's Renewable Energy Overlay Zone.

Project Description (brief)**:** The project applicant, Apex Energy Solutions, LLC, proposes to construct and operate an expansive photovoltaic (PV) solar energy facility and associated infrastructure on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA.

Three separate Conditional Use Permits (CUPs) have been filed with the County, which together define the project sites. The three CUP applications or individual site locations consist of the following:

- CUP 20-0021: VEGA SES 2 (APNs 025-010-006, 025-260-011, and 025-270-023)
- CUP 20-0022: VEGA SES 3 (APN 025-010-006)
- CUP 20-0023: VEGA SES 5 (APNs 025-260-019 and 025-260-022)

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Collectively, the proposed projects involve the construction of up to 350 megawatt (MW) alternative current (AC) photovoltaic (PV) solar energy facility with an integrated 350 MW battery storage system (not to exceed 700 MW). The projects propose to utilize either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The projects would include electronic/electrical equipment, on-site substations, interconnection facilities, access roads and fencing. The electrical energy produced by the projects would be conducted through the projects' interconnection facilities to the following:

- VEGA SES 2 - IID KN/KS Line
- VEGA SES 3 - IID 161 kV "F" Transmission Line
- VEGA SES 5 - IID 92 kV Midway Substation

Project Applicant: Apex Energy Solutions, LLC

Date _____ Signature _____

Title _____

Telephone _____

Reference: California Administrative Code, Title 14, (CEQA Guidelines) Section 15082(a), 15103, 15375.

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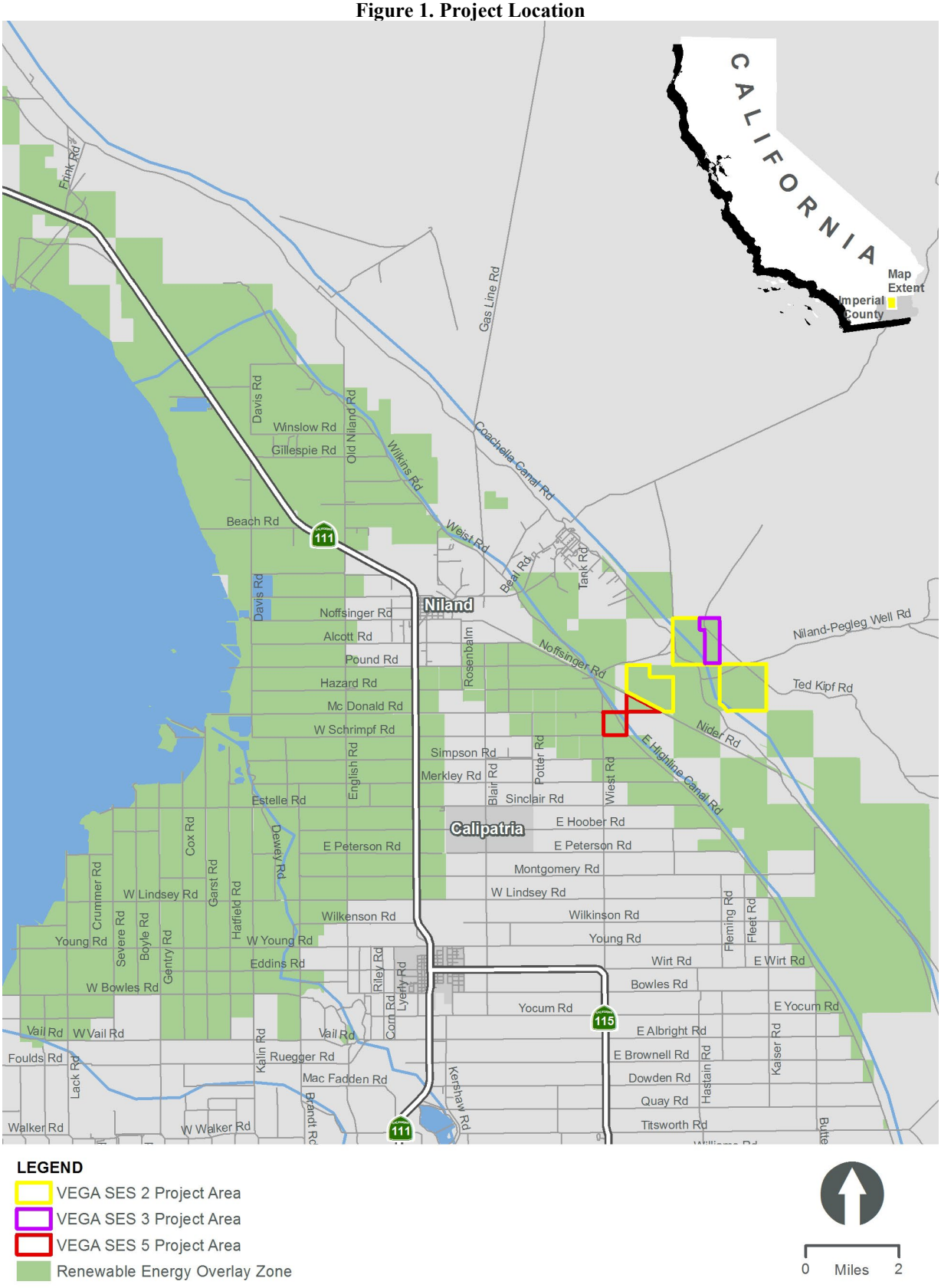
Figure 1. Project Location



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Imperial County
Planning & Development Services Department

NOTICE OF PREPARATION OF DRAFT EIR FOR VEGA SES 2,3 & 5 SOLAR ENERGY PROJECT AND NOTICE OF PUBLIC EIR SCOPING MEETING

The Imperial County Planning & Development Services Department intends to prepare an Environmental Impact Report (EIR) for the proposed VEGA SES 2, 3 & 5 Solar Energy Project as described below. A public scoping meeting for the proposed EIR will be held by the Imperial County Planning & Development Services Department on **May 13 at 6:00 P.M**. The scoping meeting will be held at the Board of Supervisors Chambers, 2nd Floor, County Administration Center located at 940 Main Street, El Centro, CA 92243. Comments regarding the scope of the EIR will be accepted at this meeting.

SUBJECT: VEGA SES 2, 3 & 5 Solar Energy Project EIR

BOARD OF SUPERVISORS CONSIDERATION: To Be Determined.

PROJECT LOCATION: The project area is located on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA. The project area is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The project area is transected by the Coachella and East Highline Canals and the Union Pacific Railway. The project area is located entirely within the County's Renewable Energy Overlay Zone.

PROJECT DESCRIPTION: The project applicant, Apex Energy Solutions, LLC, proposes to construct and operate an expansive photovoltaic (PV) solar energy facility and associated infrastructure on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA.

Three separate Conditional Use Permits (CUPs) have been filed with the County, which together define the project sites. The three CUP applications or individual site locations consist of the following:

- CUP 20-0021: VEGA SES 2 (APNs 025-010-006, 025-260-011, and 025-270-023)
- CUP 20-0022: VEGA SES 3 (APN 025-010-006)
- CUP 20-0023: VEGA SES 5 (APNs 025-260-019 and 025-260-022)

Collectively, the proposed projects involve the construction of up to 350 megawatt (MW) alternating current (AC) photovoltaic (PV) solar energy facility with an integrated 350 MW battery storage system (not to exceed 700 MW). The projects propose to utilize either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The projects would include electronic/electrical equipment, on-site substations, interconnection facilities, access roads and fencing. The electrical energy produced by the projects would be conducted through the projects' interconnection facilities to the following:

- VEGA SES 2 - IID KN/KS Line
- VEGA SES 3 - IID 161 kV "F" Transmission Line
- VEGA SES 5 - IID 92 kV Midway Substation

Project Applicant: Apex Energy Solutions, LLC

URBAN AREA PLAN: None, located in unincorporated area of County of Imperial

BOARD OF SUPERVISORS DISTRICT: District 4, Supervisor Ryan E. Kelley

ANTICIPATED SIGNIFICANT EFFECTS: The EIR will analyze potential impacts associated with the following: Aesthetics; Agricultural Resources; Air Quality; Biological Resources; Cultural Resources; Geology/Soils; Greenhouse Gas Emissions/Climate Change; Hazards and Hazardous Materials; Hydrology/Water Quality; Land Use/Planning; Noise; Public Services; Transportation; Tribal Cultural Resources; Utilities and Service Systems including water supply; Cumulative Impacts; and, Growth-Inducing Impacts.

COMMENTS REQUESTED: The Imperial County Planning & Development Services Department would like to know your ideas about the potential effects this project might have on the environment and your suggestions as to mitigation or ways the project may be revised to reduce or avoid any potentially significant environmental impacts. Your comments will guide the scope and content of potential environmental issues to be examined in the EIR. Your comments may be submitted in writing to Patricia Valenzuela, Imperial County Planning & Development Services Department, 801 Main Street, El Centro, CA 92243. Available project information may be reviewed at this location.

NOTICE OF PREPARATION REVIEW PERIOD: May 4, 2021 through June 7, 2021

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Initial Study

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Initial Study and NOP

VEGA SES 2, 3, & 5 Solar Energy Project

Imperial County, CA

December 2022

Reviewed by:

County of Imperial

Planning & Development Services Department

801 Main Street

El Centro, CA 92243

Prepared by:

HDR Engineering, Inc.

591 Camino de la Reina, Suite 300

San Diego, CA 92108

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Introduction

A. Purpose

This document is a ☐ policy-level; ☒ project-level Initial Study for evaluation of potential environmental impacts resulting with the proposed VEGA SES 2, 3, & 5 Solar Energy Project.

B. CEQA Requirements and the Imperial County's Rules and Regulations for Implementing CEQA

As defined by Section 15063 of the State California Environmental Quality Act (CEQA) Guidelines and Section 7 of the County's Rules and Regulations for Implementing CEQA, an **Initial Study** is prepared primarily to provide the Lead Agency with information to use as the basis for determining whether an Environmental Impact Report (EIR), Negative Declaration, or Mitigated Negative Declaration would be appropriate for providing the necessary environmental documentation and clearance for any proposed project.

☐ According to Section 15065, an **EIR** is deemed appropriate for a particular proposal if the following conditions occur:

- The proposal has the potential to substantially degrade quality of the environment.
- The proposal has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.
- The proposal has possible environmental effects that are individually limited but cumulatively considerable.
- The proposal could cause direct or indirect adverse effects on human beings.

☐ According to Section 15070(a), a **Negative Declaration** is deemed appropriate if the proposal would not result in any significant effect on the environment.

☐ According to Section 15070(b), a **Mitigated Negative Declaration** is deemed appropriate if it is determined that though a proposal could result in a significant effect, mitigation measures are available to reduce these significant effects to insignificant levels.

This Initial Study has determined that the proposed applications will result in potentially significant environmental impacts and therefore, an Environmental Impact Report is deemed as the appropriate document to provide necessary environmental evaluations and clearance for the proposed project.

This Initial Study and Notice of Preparation are prepared in conformance with the California Environmental Quality Act of 1970, as amended (Public Resources Code, Section 21000 et. seq.); the State CEQA Guidelines & County of Imperial's CEQA Regulations, Guidelines for the Implementation of CEQA; applicable requirements of the County of Imperial; and the regulations, requirements, and procedures of any other responsible public agency or an agency with jurisdiction by law.

Pursuant to the County of Imperial's CEQA Regulations, Guidelines for the Implementation of CEQA, depending on the project scope, the County of Imperial Board of Supervisors, Planning

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Commission and/or Planning Director is designated the Lead Agency, in accordance with Section 15050 of the CEQA Guidelines. The Lead Agency is the public agency which has the principal responsibility for approving the necessary environmental clearances and analyses for any project in the County.

C. Intended Uses of Initial Study and Notice of Preparation

This Initial Study and Notice of Preparation are informational documents which are intended to inform County of Imperial decision makers, other responsible or interested agencies, and the general public of potential environmental effects of the proposed applications. The environmental review process has been established to enable public agencies to evaluate environmental consequences and to examine and implement methods of eliminating or reducing any potentially adverse impacts. While CEQA requires that consideration be given to avoiding environmental damage, the Lead Agency and other responsible public agencies must balance adverse environmental effects against other public objectives, including economic and social goals.

The Initial Study and Notice of Preparation, prepared for the project will be circulated for a period of no less than 35 days for public and agency review and comments.

D. Contents of Initial Study and Notice of Preparation

This Initial Study is organized to facilitate a basic understanding of the existing setting and environmental implications of the proposed applications.

SECTION 1

I. INTRODUCTION presents an introduction to the entire report. This section discusses the environmental process, scope of environmental review, and incorporation by reference documents.

SECTION 2

II. ENVIRONMENTAL CHECKLIST FORM contains the County's Environmental Checklist Form. The checklist form presents results of the environmental evaluation for the proposed applications and those issue areas that would have either a significant impact, potentially significant impact, or no impact.

PROJECT SUMMARY, LOCATION AND ENVIRONMENTAL SETTINGS describes the proposed project entitlements and required applications. A description of discretionary approvals and permits required for project implementation is also included. It also identifies the location of the project and a general description of the surrounding environmental settings.

ENVIRONMENTAL ANALYSIS evaluates each response provided in the environmental checklist form. Each response checked in the checklist form is discussed and supported with sufficient data and analysis as necessary. As appropriate, each response discussion describes and identifies specific impacts anticipated with project implementation.

SECTION 3

III. MANDATORY FINDINGS presents Mandatory Findings of Significance in accordance with Section 15065 of the CEQA Guidelines.

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E. Scope of Environmental Analysis

For evaluation of environmental impacts, each question from the Environmental Checklist Form is summarized and responses are provided according to the analysis undertaken as part of the Initial Study. Impacts and effects will be evaluated and quantified, when appropriate. To each question, there are four possible responses, including:

1. No Impact: A “No Impact” response is adequately supported if the impact simply does not apply to the proposed applications.
2. Less Than Significant Impact: The proposed applications will have the potential to impact the environment. These impacts, however, will be less than significant; no additional analysis is required.
3. Less Than Significant With Mitigation Incorporated: This applies where incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact."
4. Potentially Significant Impact: The proposed applications could have impacts that are considered significant. Additional analyses and possibly an EIR could be required to identify mitigation measures that could reduce these impacts to less than significant levels.

F. Policy-Level or Project-Level Environmental Analysis

This Initial Study will be conducted under a ☐ policy-level, ☒project-level analysis.

Regarding mitigation measures, it is not the intent of this document to “overlap” or restate conditions of approval that are commonly established for future known projects or the proposed applications. Additionally, those other standard requirements and regulations that any development must comply with, that are outside the County’s jurisdiction, are also not considered mitigation measures, and therefore, will not be identified in this document.

G. Tiered Documents and Incorporation by Reference

Information, findings, and conclusions contained in this document are based on incorporation by reference of tiered documentation, which are discussed in the following section.

1. Tiered Documents

As permitted in Section 15152(a) of the CEQA Guidelines, information and discussions from other documents can be included into this document. Tiering is defined as follows:

“Tiering refers to using the analysis of general matters contained in a broader EIR (such as the one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project.”

Tiering also allows this document to comply with Section 15152(b) of the CEQA Guidelines, which discourages redundant analyses, as follows:

“Agencies are encouraged to tier the environmental analyses which they prepare for separate but related projects including the general plans, zoning changes, and development

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projects. This approach can eliminate repetitive discussion of the same issues and focus the later EIR or negative declaration on the actual issues ripe for decision at each level of environmental review. Tiering is appropriate when the sequence of analysis is from an EIR prepared for a general plan, policy or program to an EIR or negative declaration for another plan, policy, or program of lesser scope, or to a site-specific EIR or negative declaration."

Further, Section 15152(d) of the CEQA Guidelines states:

"Where an EIR has been prepared and certified for a program, plan, policy, or ordinance consistent with the requirements of this section, any lead agency for a later project pursuant to or consistent with the program, plan, policy, or ordinance should limit the EIR or negative declaration on the later project to effects which:

(1) Were not examined as significant effects on the environment in the prior EIR; or

(2) Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means."

2. **Incorporation by Reference**

Incorporation by reference is a procedure for reducing the size of EIRs/MND and is most appropriate for including long, descriptive, or technical materials that provide general background information, but do not contribute directly to the specific analysis of the project itself. This procedure is particularly useful when an EIR or Negative Declaration relies on a broadly-drafted EIR for its evaluation of cumulative impacts of related projects (*Las Virgenes Homeowners Federation v. County of Los Angeles* [1986, 177 Ca.3d 300]). If an EIR or Negative Declaration relies on information from a supporting study that is available to the public, the EIR or Negative Declaration cannot be deemed unsupported by evidence or analysis (*San Francisco Ecology Center v. City and County of San Francisco* [1975, 48 Ca.3d 584, 595]).

When an EIR or Negative Declaration incorporates a document by reference, the incorporation must comply with Section 15150 of the CEQA Guidelines as follows:

- The incorporated document must be available to the public or be a matter of public record (CEQA Guidelines Section 15150[a]). The General Plan EIR is available, along with this document, at the County of Imperial Planning & Development Services Department, 801 Main Street, El Centro, CA 92243 Ph. (442) 265-1736.
- This document must be available for inspection by the public at an office of the lead agency (CEQA Guidelines Section 15150[b]). These documents are available at the County of Imperial Planning & Development Services Department, 801 Main Street, El Centro, CA 92243, Ph. (442) 265-1736.
- These documents must summarize the portion of the document being incorporated by reference or briefly describe information that cannot be summarized. Furthermore, these documents must describe the relationship between the incorporated information and the analysis in the tiered documents (CEQA Guidelines Section 15150[c]). As discussed above, the tiered EIRs address the entire project site and provide background and inventory information and data which apply to the project site. Incorporated information and/or data will be cited in the appropriate sections.

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- These documents must include the State identification number of the incorporated documents (CEQA Guidelines Section 15150[d]). The State Clearinghouse Number for the 'County of Imperial General Plan EIR is SCH #93011023.

The material to be incorporated in this document will include general background information (CEQA Guidelines Section 15150[f])

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Environmental Checklist Form

1. **Project Title:** VEGA SES 2,3, and 5 Solar Energy Project
2. **Lead Agency name and address:** Imperial County Planning & Development Services Department, 801 Main Street, El Centro, CA 92243
3. **Contact person and phone number:** Patricia Valenzuela, Planner IV, 442-265-1749
4. **Project location:** The project site is located on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA. The project area is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The project area is transected by the Coachella and East Highline Canals and the Union Pacific Railway.
5. **Project sponsor's name and address:** Apex Energy Solutions, LLC, 604 Sutter Street, Suite 250, Folsom, CA 95630
6. **General Plan Designation:** Recreation/Open Space, Agriculture
7. **Zoning:** A-2-RE (General Agriculture with a Renewable Energy Zone Overlay), A-3-RE (Heavy Agriculture with a Renewable Energy Zone Overlay), and S-2-RE (Open Space/Preservation with a Renewable Energy Zone Overlay)
8. **Description of project:** The project applicant, Apex Energy Solutions, LLC, proposes to construct and operate an expansive photovoltaic (PV) solar energy facility and associated infrastructure on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA.

   Three separate Conditional Use Permits (CUPs) have been filed with the County, which together define the project sites. The three CUP applications or individual site locations consist of the following:

   - CUP 20-0021: VEGA SES 2 (APNs 025-010-006, 025-260-011, and 025-270-023)
   - CUP 20-0022: VEGA SES 3 (APN 025-010-006)
   - CUP 20-0023: VEGA SES 5 (APNs 025-260-019 and 025-260-022)

   Collectively, the proposed projects involve the construction of up to 350 megawatt (MW) alternating current (AC) photovoltaic (PV) solar energy facility with an integrated 350 MW battery storage system (not to exceed 700 MW). The projects propose to utilize either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The projects would include electronic/electrical equipment, on-site substations, interconnection facilities, access roads and fencing. The electrical energy produced by the projects would be conducted through the projects' interconnection facilities to the following:

   - VEGA SES 2 - IID KN/KS Line
   - VEGA SES 3 - IID 161 kV "F" Transmission Line
   - VEGA SES 5- IID 92 kV Midway Substation

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9. **Surrounding land uses and setting: Briefly describe the project's surroundings:**

   The project area is characterized by flat agricultural and vacant land. The project area is generally surrounded by agricultural lands to the west, vacant land to the north, east and south.

10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.):**

    - Department of Public Works – Ministerial permits (building, grading, encroachment)
    - Imperial County Air Pollution Control District – Fugitive dust control plan, Authority to construct
    - California Regional Water Quality Control Board – Notice of Intent for General Construction Permit
    - Imperial Irrigation District – Water supply agreement/permit for water use lease agreement
    - Bureau of Land Management – Right-of-way/easement

11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

    Yes, the Torrez Martinez Desert Cahuilla Indians and Quechan Indian Tribe. These tribes were sent an AB 52 consultation request letter on April 7, 2021. On April 8, 2021, the Quechan Indian Tribe requested consultation with the County on the project.

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Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☒	Aesthetics	☒	Agriculture and Forestry Resources	☒	Air Quality
☒	Biological Resources	☒	Cultural Resources	☐	Energy
☒	Geology/Soils	☒	Greenhouse Gas Emissions	☐	Hazards & Hazardous Materials
☒	Hydrology / Water Quality	☐	Land Use/Planning	☐	Mineral Resources
☐	Noise	☐	Population/Housing	☒	Public Services
☐	Recreation	☒	Transportation	☒	Tribal Cultural Resources
☒	Utilities/Service Systems	☐	Wildfire	☒	Mandatory Findings of Significance

Environmental Evaluation Committee Determination

After Review of the Initial Study, the Environmental Evaluation Committee (EEC) has:

- ☐ Found that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ Found that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ Found that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ Found that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ Found that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

CALIFORNIA DEPARTMENT OF FISH AND GAME DE MINIMIS IMPACT FINDING:

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☐Yes ☐No

EEC VOTES	YES	NO	ABSENT
PUBLIC WORKS	☐	☐	☐
ENVIRONMENTAL HEALTH	☐	☐	☐
OFFICE EMERGENCY SERVICES	☐	☐	☐
APCD	☐	☐	☐
AG	☐	☐	☐
SHERIFF DEPARTMENT	☐	☐	☐
ICPDS	☐	☐	☐

Jim Minnick, Director of Planning/EEC Chairman

Signature

Date:

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Project Summary

Project Location

The project site is located on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA. The project area is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The project area is transected by the Coachella and East Highline Canals and the Union Pacific Railway.

Project Summary

The project applicant, Apex Energy Solutions, LLC, proposes to construct and operate an expansive photovoltaic (PV) solar energy facility and associated infrastructure on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA.

Three separate Conditional Use Permits (CUPs) have been filed with the County, which together define the project sites. The three CUP applications or individual site locations consist of the following:

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- CUP 20-0023: VEGA SES 5 (APNs 025-260-019 and 025-260-022)

Collectively, the proposed projects involve the construction of up to 350 megawatt (MW) alternative current (AC) photovoltaic (PV) solar energy facility with an integrated 350 MW battery storage system (not to exceed 700 MW). The projects propose to utilize either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The projects would include electronic/electrical equipment, on-site substations, interconnection facilities, access roads and fencing. The electrical energy produced by the projects would be conducted through the projects' interconnection facilities to the following:

- VEGA SES 2- IID KN/KS Line
- VEGA SES 3 - IID 161 kV "F" Transmission Line
- VEGA SES 5 - IID 92 kV Midway Substation

Environmental Setting

The project area is characterized by flat agricultural and vacant land. The project area is generally surrounded by agricultural lands to the west, vacant land to the north, east and south.

General Plan Consistency

The proposed projects are located within an unincorporated area of the County. The existing General Plan land use designations are Recreation/Open Space and Agriculture. The project sites are currently zone A-2-RE (General Agriculture with a Renewable Energy Zone Overlay), A-3-RE (Heavy Agriculture with a Renewable Energy Zone Overlay), and S-2-RE (Open Space/Preservation

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with a Renewable Energy Zone Overlay) . Construction of a solar facility would be allowed within the existing zoning under a Conditional Use Permit.

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Figure 1. Regional Location

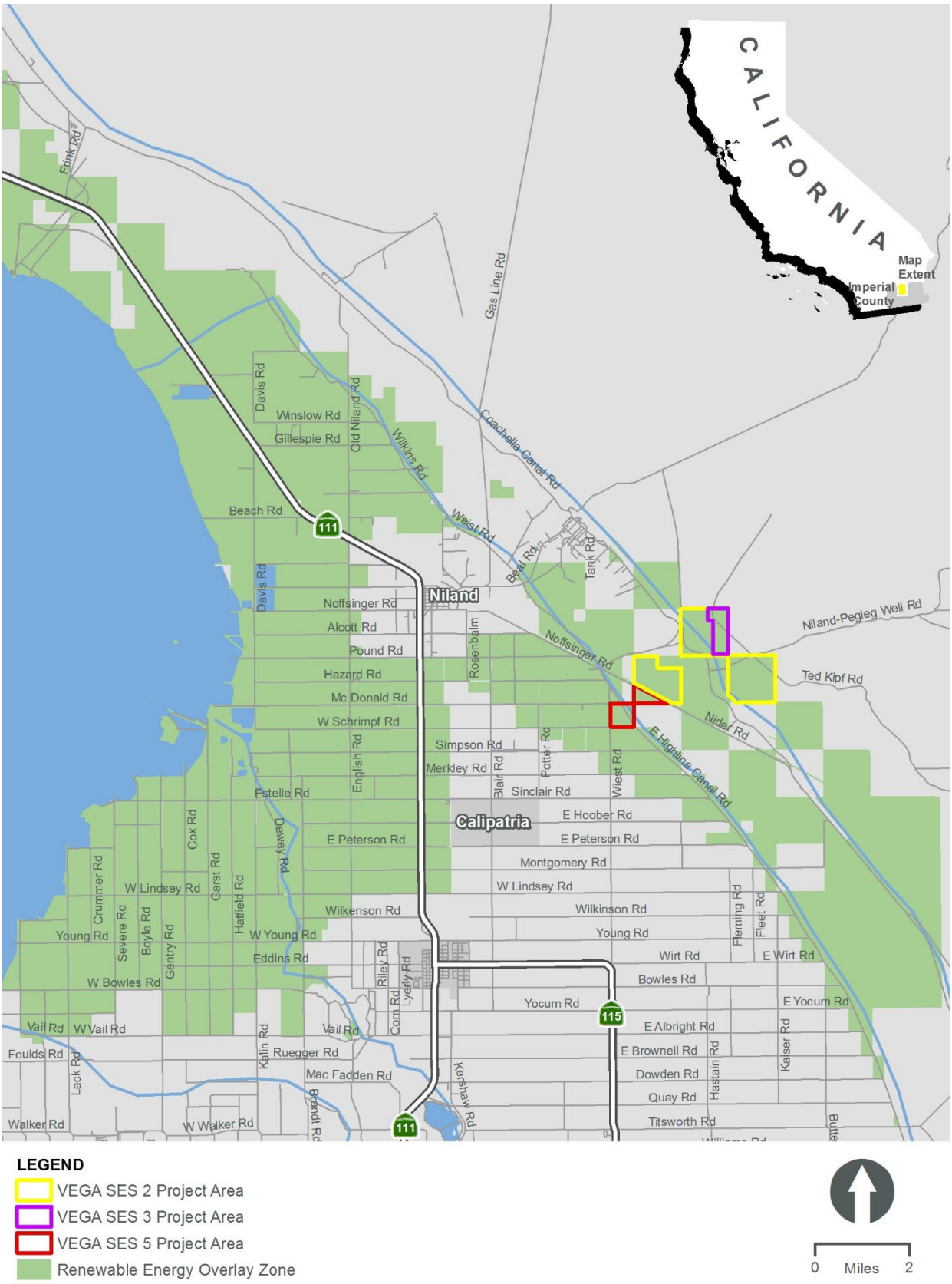

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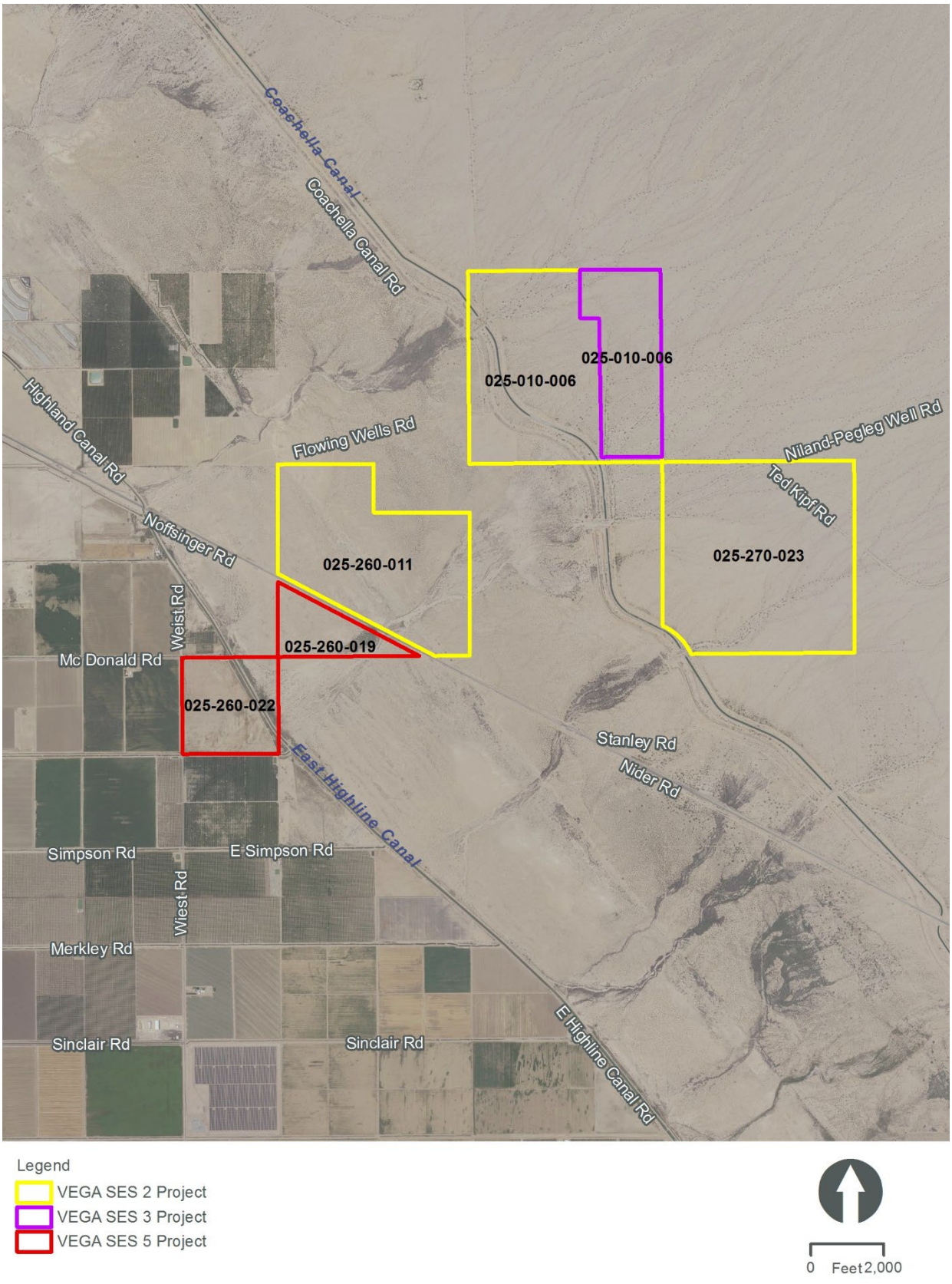
Figure 2. Project Sites



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Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a. Earlier Analysis Used. Identify and state where they are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

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6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
    a. The significance criteria or threshold, if any, used to evaluate each question; and
    b. The mitigation measure identified, if any, to reduce the impact to less than significance.

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I. Aesthetics

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☒	☐	☐	☐

Impact Analysis

a) **No Impact.** The project sites are not located within an area that has been formally identified as a federal, state, or county scenic vista. No scenic vistas or areas with high visual quality would be disrupted. Thus, no impact is identified for this issue area and no further analysis is warranted.

b) **No Impact.** According to the California Department of Transportation (Caltrans) California Scenic Highway Mapping System (Caltrans 2018), the project sites are not located within a state scenic highway corridor, nor are there any state scenic highways located in proximity to the project sites. The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway. Therefore, no impact is identified for this issue area and no further analysis is warranted.

c) **Potentially Significant Impact.** Although the project sites are not located near a scenic highway or designated scenic vista, the proposed projects may result in a change to the look and rural character of the area. Therefore, a potentially significant impact is identified for this issue area. A visual assessment will be prepared for the projects and this issue will be addressed in the EIR.

d) **Potentially Significant Impact.** Minimal lighting is required for project operation and is limited to safety and security functions. All lighting will be directed away from any public right-of-way; however, there is no heavily traveled public roadway in immediate proximity to the project sites. The solar panels will be constructed of low reflective materials; therefore, it is not anticipated that they would result in creating glare. The proposed project is located in a rural undeveloped area of Imperial County. There are no established residential neighborhoods immediately adjacent to the project sites. Although the proposed projects are not expected to create a new source of substantial light or glare affecting day or nighttime views, this issue will be analyzed further in the EIR. Therefore, a potentially significant impact is identified for this issue area.

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II. Agriculture and Forestry Resources

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☒	☐	☐	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Impact Analysis

a) **No Impact.** According to the farmland maps prepared by the California Department of Conservation (2016), the majority of the project sites are designated as Other Land. A portion of the VEGA 5 project site (APN 025-260-022) is designated as Farmland of Local Importance. Farmland of Local Importance is not considered an "agricultural land" per CEQA Statute Section 21060.1(a). Furthermore, the project sites do not contain Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Therefore, no impact would result from the conversion of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland to non-agricultural use.

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b) **Potentially Significant Impact.** The project parcels are currently zoned as A-2-RE, A-3-RE, and S-2-RE.Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County: solar energy electrical generator, battery storage facility, and facilities for the transmission of electrical energy. Pursuant to Title 9, Division 5, Chapter 9, the following uses are permitted in the A-3 zone subject to approval of a CUP from Imperial County: solar energy plants and battery storage facility. Transmission lines, including supporting towers, poles, microwave towers, and utility substations are permitted uses in the A-3 zone. Because the project site is located on lands designated for agricultural uses, this issue will be analyzed in further detail in the EIR.

According to the 2016/2017 Imperial County Williamson Act Map produced by the California Department of Conservation's Division of Land Resource Protection, the project sites are not located on Williamson Act contracted land. Therefore, the proposed projects would not conflict with a Williamson Act contract and no impact would occur.

c) **No Impact.** There are no existing forest lands, timberlands, or timberland zoned "Timberland Production" within or immediately adjacent to the project sites that would conflict with existing zoning or cause rezoning. Therefore, no impact is identified for this issue area.

d) **No Impact.** There are no existing forest lands within or immediately adjacent to the project sites. The proposed projects would not result in the loss of forest land or conversion of forest land to non-forest use. Therefore, no impact is identified for this issue area.

e) **No Impact.** Refer to response II. a) above.

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III. Air Quality

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☒	☐	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	☐	☐	☐	☒

Impact Analysis

a) **Potentially Significant Impact.** The project sites are located within the jurisdiction of Imperial County Air Pollution Control District (ICAPCD) in the Imperial County portion of the Salton Sea Air Basin. Construction of the proposed project would create temporary emissions of dust, fumes, equipment exhaust, and other air contaminants that may conflict with the ICAPCD's rules and regulations. No stationary source emissions are proposed from the proposed project; however, temporary construction emissions have the potential to result in a significant air quality impact.

b) **Potentially Significant Impact.** Currently, the Salton Sea Air Basin is either in attainment or unclassified for all federal and state air pollutant standards, with the exception of the federal ozone (O_3), particulate matter less than 10 microns in diameter (PM_{10}) and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) standards, and state standards for O_3 and PM_{10}. Air pollutants transported into the Salton Sea Air Basin from the adjacent South Coast Air Basin (Los Angeles County, San Bernardino County, Orange County, and Riverside County) and Mexicali (Mexico) substantially contribute to the non-attainment conditions in the Salton Sea Air Basin. A potentially significant impact is identified for this issue area. An air quality and greenhouse gas study will be prepared to analyze the proposed project's potential air quality impacts and will be included in the EIR analysis.

c) **Potentially Significant Impact.** The project sites are located in a rural agricultural area of Imperial County. The nearest sensitive receptor is a single-family residence located approximately 523 feet from the southwestern corner of APN 025-260-022. This issue is potentially significant and will be addressed in the air quality and greenhouse gas study and EIR analysis.

d) **No Impact**. Land uses commonly considered to be potential sources of odorous emissions include wastewater treatment plants, sanitary landfills, food processing facilities, chemical manufacturing plants, rendering plants, paint/coating operations, and concentrated agricultural feeding operations and dairies. The construction and operation of a solar facility is not an odor producer and the project sites are not located near an odor producer. Therefore, no impact is identified for this issue area.

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IV. Biological Resources

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	☒	☐	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☒	☐	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Impact Analysis

a) **Potentially Significant Impact.** According to the Conservation and Open Space Element of the General Plan (County of Imperial 2016), numerous special-status species occur in the County of Imperial, and of particular concern are the western burrowing owl and flat-tailed horned lizard which may have the potential to occur within the project sites. A The project sites have the potential to support native habitats and/or sensitive species. Burrowing owls and burrows are commonly found along canals and drains. The VEGA SES 5 project site (APN 025-260-022) is bisected by the East Highline Canal and E. Highline Canal Road, and the VEGA SES 3 project site (APN 025-010-006) is bisected by the Coachella Canal and Coachella

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Canal Road. Therefore, the project sites have the potential to be used as burrowing owl foraging habitat, as burrowing owls and burrows are commonly found along canals and drains. Thus, a potentially significant impact is identified for this issue area. A biological resources technical report that will address the proposed project's potential impacts on biological resources will be prepared and this issue will be addressed in the EIR.

b) **Potentially Significant Impact.** Refer to response IV. a) above.

c) **Potentially Significant Impact.** According to the National Wetland Inventory, there is one freshwater pond and several Riverine features mapped within the project areas. An aquatic resources delineation that will address the proposed project's potential impacts on state or federally protected wetlands will be prepared and included in the EIR analysis.

d) **Potentially Significant Impact.** Refer to response IV. a) above.

e) **Potentially Significant Impact.** Refer to response IV. a) above.

f) **No Impact.** The project sites are not located in a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No impact is identified for this issue area.

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V. Cultural Resources

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☒	☐	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☒	☐	☐	☐

Impact Analysis

a) **Potentially Significant Impact.** The project sites have been disturbed by past farming and/or off-road vehicles. Thus, the presence of significant or undamaged cultural resources on the sites are unlikely. Although the proposed projects are not expected to cause a substantial adverse change in the significance of a historical resource or archaeological resource, this issue will be analyzed further in the EIR. Therefore, a potentially significant impact is identified for this issue area. A cultural resources report that will address the proposed project's potential impacts on historic and prehistoric resources will be prepared and this issue will be addressed in the EIR.

b) **Potentially Significant Impact.** Refer to response V. a) above.

c) **Potentially Significant Impact.** Although unlikely, there is a potential for unknown human remains to be unearthed during earthwork activities. This issue is potentially significant and will be addressed in the cultural resources report and EIR analysis.

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VI. Energy

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Impact Analysis

a) **Less than Significant Impact.** The use of energy associated with the proposed projects include both construction and operational activities. Construction activities consume energy through the use of heavy construction equipment and truck and worker traffic. The proposed projects will use energy-conserving construction equipment, including standards for construction combustion equipment recommended in the ICAPCD CEQA Air Quality Handbook. The use of better engine technology, in conjunction with the ICAPCD's standards will reduce the amount of energy used for the proposed projects. Additionally, implementation and operation of the proposed projects would promote the use of renewable energy and contribute incrementally to the reduction in demand for fossil fuel use for electricity-generating purposes. Therefore, the proposed projects would generate renewable energy resources and is considered a beneficial effect.

Based on these considerations, the proposed projects would not result in significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation. A less than significant impact has been identified for this issue area.

b) **No Impact.** The proposed projects would help California meet its Renewable Portfolio Standard of 60 percent of retail electricity sales from renewable sources by the end of 2030 and 100 percent by 2045. The electricity generation process associated with the projects would utilize solar technology to convert sunlight directly into electricity. Solar PV technology is consistent with the definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code (CPUC) and the definition of "in-state renewable electricity generation facility" in Section 25741 of the CPUC. Therefore, the proposed projects would not conflict with or obstruct a state or local plan for renewable energy of energy efficiency. No Impact is identified for this issue area and no further analysis is warranted.

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VII. Geology and Soils

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii. Strong seismic ground shaking?	☒	☐	☐	☐
iii. Seismic-related ground failure, including liquefaction?	☒	☐	☐	☐
iv. Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☒	☐	☐	☐
d) Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property?	☒	☐	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐

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Impact Analysis

ai) **No Impact.** The project sites are not located within a State of California, Alquist-Priolo Earthquake Fault Zone. Therefore, no impact is identified for this issue area.

aii) **Potentially Significant Impact.** The project sites are located in the seismically-active Imperial Valley in Southern California and considered likely to be subjected to moderate to strong ground motion from earthquakes in the region. The project sites could be affected by the occurrence of seismic activity to some degree but no more than the surrounding properties. A potentially significant impact has been identified for this issue area. A geotechnical report that will address the proposed project's potential impacts on geology and soils will be prepared and this issue will be addressed in the EIR.

aiii) **Potentially Significant Impact.** Liquefaction occurs when granular soil below the water table is subjected to vibratory motions, such as vibratory motion produced by earthquakes. With strong ground shaking, an increase in pore water pressure develops as the soil tends to reduce in volume. If the increase in pore water pressure is sufficient to reduce the vertical effective stress (suspending the soil particles in water), the soil strength decreases, and the soil behaves as a liquid (similar to quicksand). Liquefaction can produce excessive settlement, ground rupture, lateral spreading, or failure of shallow bearing foundations.

Four conditions are generally required for liquefaction to occur:

1) The soil must be saturated (relatively shallow groundwater).
2) The soil must be loosely packed (low to medium relative density).
3) The soil must be relatively cohesionless (not clayey).
4) Groundshaking of sufficient intensity must occur to function as a trigger mechanism.

All these conditions may exist to some degree at the project sites. Therefore, there is a potentially significant impact associated with liquefaction. A geotechnical report that will address the proposed projects' potential impacts on geology and soils will be prepared and this issue will be addressed in the EIR.

aiv) **No Impact.** According to Figure 2: Landslide Activity in the Seismic and Public Safety Element of the General Plan (County of Imperial 1997), the project sites are not located in an area that is prone to landslide hazards. Furthermore, the project sites and surrounding area are relatively flat. Therefore, no impact is identified for this issue area.

b) **Less than Significant Impact.** According to Figure 3: Erosion Activity in the Soil the Seismic and Public Safety Element of the General Plan (County of Imperial 1997), the project sites are within a generally flat area with low levels of natural erosion. However, soil erosion can result during construction as grading and construction can loosen surface soils and make soils susceptible to wind and water movement across the surface. Impacts are not considered significant because erosion would be controlled on-site in accordance with Imperial County standards including preparation, review, and approval of a grading plan by the Imperial County engineer. Implementation of Imperial County standards would reduce the potential impacts to a less than significant level.

c) **Potentially Significant Impact.** Near surface soils within the project sites will need to be identified to determine if the soils are unstable. Therefore, this issue is potentially significant and will be analyzed in the EIR.

d) **Potentially Significant Impact.** Near surface soils within the project sites will need to be identified to determine if they consist of soils having expansion potential. Therefore, this issue is potentially significant and will be analyzed in the EIR.

e) **No Impact.** The proposed projects would not include the installation of septic tanks or alternative wastewater disposal systems. The proposed solar facilities would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. Therefore, no impact is identified for this issue area.

f) **Potentially Significant Impact.** Many paleontological fossil sites are recorded in Imperial County and have been discovered during construction activities. Paleontological resources are typically impacted when earthwork activities, such as mass excavation cut into geological deposits (formations) with buried fossils. It is not known if any paleontological resources are located on the project sites. The proposed projects' potential to impact paleontological resources will be addressed in the EIR.

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VIII. Greenhouse Gas Emissions

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐

Impact Analysis

a) **Potentially Significant Impact.** In the long-term, the proposed projects are expected to provide a benefit with respect to reduction of greenhouse gas emissions. However, the proposed projects have the potential to generate greenhouse gas emissions during construction, in addition to construction worker trips to and from the project sites. Thus, a potentially significant impact is identified for this issue area. A greenhouse gas emissions/climate change technical report will be prepared for the proposed project, and this issue will be addressed in the EIR.

b) **Potentially Significant Impact.** Refer to response VIII. a) above.

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IX. Hazards and Hazardous Materials

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☒	☐

Impact Analysis

a) **Less than Significant Impact.** Construction of the proposed projects will involve the limited use of hazardous materials, such as fuels and greases to fuel and service construction equipment. No extremely hazardous substances are anticipated to be produced, used, stored, transported, or disposed of as a result of project construction. Operation of the projects will be conducted remotely. Therefore, no habitable structures (e.g. housing or operation and maintenance [O&M] building) are proposed on the project sites. Regular and routine maintenance of the proposed projects may result in the potential to handle hazardous materials. However, the hazardous materials handled on-site would be limited to small amounts of everyday use cleaners and common chemicals used for maintenance. The applicant will be required to comply with

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State laws and County Ordinance restrictions, which regulate and control hazardous materials handled on-site. Such hazardous wastes would be transported off-site for disposal according to applicable State and County restrictions and laws governing the disposal of hazardous waste during construction and operation of the project. Therefore, this is considered a less than significant impact.

b) **Less than Significant Impact.** Refer to response IX. a) above.

c) **No Impact.** The project sites are not located within 0.25 mile of an existing or proposed school. No impact is identified for this issue area.

d) **No Impact.** Based on a review of the Cortese List conducted in March 2021, the project sites are not listed as a hazardous materials site. No impact is identified for this issue area.

e) **No Impact.** The project sites are not located within 2 miles of a public airport. The nearest airport to the proposed projects is the Cliff Hatfield Memorial Airport, located approximately 6 miles southwest of the VEGA SES 5 project site. Therefore, implementation of the proposed projects would not result in a safety hazard or excessive noise for people residing or working in the project area. No impact is identified for this issue area.

f) **Less than Significant Impact.** The proposed projects are not expected to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The project applicant will be required, through the conditions of approval, to prepare a street improvement plan for the projects that will include emergency access points and safe vehicular travel. In addition, local building codes would be followed to minimize flood, seismic, and fire hazard. Therefore, the proposed projects would result in a less than significant impact associated with the possible impediment to emergency plans.

g) **Less than Significant Impact.** The project sites are located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan (County of Imperial 1997), the potential for a major fire in the unincorporated areas of the County is generally low. 10,000-gallon aboveground water storage tanks will be installed to serve all three project sites as required by the Imperial County Fire Department. The water tank(s) would be sized to meet the requirements of the County of Imperial to supply sufficient fire suppression water during operations. Furthermore, proposed project facilities would be designed, constructed, and operated in accordance with applicable fire protection and other environmental, health, and safety requirements. Based on these considerations, a less than significant impact is identified for this issue area.

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X. Hydrology and Water Quality

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☒	☐	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. impede or redirect flood flows?	☒	☐	☐	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☒	☐	☐	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

Impact Analysis

a) **Potentially Significant Impact.** The proposed projects have the potential to create urban non-point source discharge (e.g., synthetic/organic chemicals). Potentially significant water quality impacts have been identified and will be addressed in the EIR.

b) **Less than Significant Impact.** During construction, potable water would be brought to the project sites for drinking and domestic needs, while construction water would be brought to the project sites for soil

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conditioning and dust suppression. During operations, potable water would be trucked onto the project sites. Because the solar panels will be pole-mounted above ground, they are not considered “hardscape”, such as roads, building foundations, or parking areas, as they do not require a substantial amount of impervious material. The panels and their mounting foundation would not impede groundwater recharge. Therefore, impacts would be less than significant.

ci) **Less than Significant Impact.** The proposed projects would not substantially alter the existing drainage pattern of the site and would not impact the E. Highline Canal and Coachella Canal. The project applicant would be required to implement on-site erosion control measures in accordance with Imperial County standards including preparation, review, and approval or a grading plan by the Imperial County Engineer. The proposed projects are not anticipated to generate a significant increase in the amount of runoff water from water use involving solar panel washing. Water will continue to percolate through the ground, as the majority of the surfaces on the project sites will remain pervious. Therefore, the proposed projects would not substantially increase the rate of runoff, in a manner which would exceed the capacity of existing or planned stormwater drainage systems and result in flooding on- or off-site. A less than significant impact is identified for this issue area.

cii) **Less than Significant Impact.** Refer to response X. ci) above.

ciii) **Less than Significant Impact.** Refer to response X. ci) above.

civ) **Potentially Significant Impact.** According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (Panel 06025C0750C) (FEMA 2008), the majority of the project sites are within Zone X, which is an area determined to be outside of the 0.2 percent annual chance of a flood. However, there are dry wash beds that transect the project sites and designated as Zone A or Special Flood Hazard Areas. Therefore, the proposed projects have the potential to impede or redirect flood flows and this is considered a potentially significant impact.

d) **Potentially Significant Impact.** The project sites are not located near any large bodies of water. The project sites are located at least 10 miles west of the Salton Sea and over 100 miles inland from the Pacific Ocean. In addition, the project sites are relatively flat. Therefore, the proposed projects would not risk release of pollutants due to project inundation by tsunami or seiche.

As described above in response X. civ) above, there are dry wash beds that transect the project sites and designated as Zone A or Special Flood Hazard Areas. Therefore, the proposed projects have the potential to risk release of pollutants due to project inundation by flood. This is considered a potentially significant impact and will be analyzed in the EIR.

e) **No Impact.** The proposed projects will not involve the use of groundwater nor require dewatering activities. Water to be used during project-related construction activities will be brought to the sites and limited to the amount necessary for soil conditioning and to conduct dust control activities. Water is anticipated to be provided by adjacent IID irrigation canals or laterals in conformance with IID construction water acquisition requirements. Therefore, the proposed projects will not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. No impact is identified for this issue area.

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XI. Land Use and Planning

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Impact Analysis

a) **No Impact.** The proposed projects are located in a sparsely populated, agriculturally zoned portion of Imperial County. There are no established residential communities located within or in the vicinity of the project sites. Therefore, implementation of the proposed projects would not divide an established community. No impact is identified for this issue area.

b) **Less than Significant Impact**. The project parcels are currently zoned as A-2-RE, A-3-RE, and S-2-RE.

Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County: solar energy electrical generator, battery storage facility, and facilities for the transmission of electrical energy.

Pursuant to Title 9, Division 5, Chapter 9, the following uses are permitted in the A-3 zone subject to approval of a CUP from Imperial County: solar energy plants and battery storage facility. Transmission lines, including supporting towers, poles microwave towers, and utility substations are permitted uses in the A-3 zone.

Pursuant to Title 9, Division 5, Chapter 19, the following uses are permitted in the S-2 zone subject to approval of a CUP from Imperial County: Major facilities relating to the generation and transmission of electrical energy providing such facilities are not under State or Federal law, to [be] approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters. Such uses shall include but be limited to the following:

- Electrical generation plants
- Facilities for the transmission of electrical energy (100-200 kV)
- Electrical substations in an electrical transmission system (500 kv/230 kv/161 kV)
- Communication towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.

The County Land Use Ordinance, Division 17, includes the Renewable Energy Overlay Zone, which authorizes the development and operation of renewable energy projects, with an approved CUP. As shown on Figure 1, the project sites are located entirely within the County's Renewable Energy Overlay Zone. With approval of the CUPs, the proposed solar facilities would be consistent with the Imperial County Land Use Ordinance.

Based on these considerations, the proposed project would not conflict with any applicable land use plan, policy, or regulation. Thus, a less than significant impact is identified for this issue area.

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XII. Mineral Resources

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Impact Analysis

a) **No Impact.** The project sites are not used for mineral resource production. According to Figure 8: Imperial County Existing Mineral Resources of the Conservation and Open Space Element of the General Plan (County of Imperial 2016), no known mineral resources occur within the project sites nor do the project sites contain mapped mineral resources. Therefore, the proposed projects would not result in the loss of availability of any known mineral resources that would be of value to the region and the residents of California nor would the proposed projects result in the loss of availability of a locally important mineral resource. Thus, no impact is identified for this issue area and no further analysis is warranted.

b) **No Impact.** Refer to response XII. a) above.

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XIII. Noise

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Impact Analysis

a) **Less than Significant Impact.** The Imperial County Title 9 Land Use Ordinance, Division 7, Chapter 2, Section 90702.00 - Sound level limits, establishes one-hour average sound level limits for the County's land use zones. Agricultural/industrial operations are required to comply with the noise levels prescribed under the general industrial zones. Therefore, the proposed projects will be required to maintain noise levels below 75 decibels (dB) (averaged over one hour) during any time of day.

The proposed projects will also be expected to comply with the Noise Element of the General Plan which states that construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB, when averaged over an eight hour period, and measured at the nearest sensitive receptor. Construction equipment operation is also limited to the hours of 7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m. on Saturday. Nevertheless, the proposed projects will result in the increase in ambient noise levels during construction A noise report that will address the proposed projects' potential noise impacts will be prepared and this issue will be addressed in the EIR.

b) **Less than Significant Impact.** Groundborne vibration and noise could originate from earth movement during the construction phase of the proposed projects. However, significant vibration is typically associated with activities such as blasting or the use of pile drivers, neither of which would be required during project construction. The proposed projects would be expected to comply with all applicable requirements for long-term operation, as well as with measures to reduce excessive groundborne vibration and noise to ensure that the proposed projects would not expose persons or structures to excessive groundborne vibration. Therefore, a less than significant impact has been identified for this issue area.

c) **No Impact.** The project sites are not located within 2 miles of a public airport or private airstrip. The nearest airport to the proposed site is the Cliff Hatfield Memorial Airport, located approximately 6 miles southwest of the VEGA SES 5 project site. Therefore, the proposed projects would not expose people residing or working in the project area to excess noise levels and no impact is identified for this issue area.

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XIV. Population and Housing

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Impact Analysis

a) **No Impact.** Development of housing is not proposed as part of the proposed projects. No full-time employees are required to operate the proposed projects since the project facilities will be monitored remotely. However, it is anticipated that maintenance of the facilities will require minimal site presence to perform periodic visual inspections and minor repairs. On intermittent occasions, the presence of additional workers may be required for repairs or replacement of equipment and panel cleaning; however, due to the nature of the facility, such actions will likely occur infrequently. Therefore, the proposed projects would not result in a substantial growth in the area, as the number of employees required to operate and maintain the facility is minimal. No impact is identified for this issue area.

b) **No Impact.** No housing exists within the project sites. Therefore, the proposed projects would not displace any existing people or housing, which would require the construction of replacement housing elsewhere. No impact is identified for this issue area.

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XV. Public Services

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i. Fire Protection?	☐	☐	☒	☐
ii. Police Protection?	☒	☐	☐	☐
iii. Schools?	☐	☐	☐	☒
iv. Parks?	☐	☐	☐	☒
v. Other public facilities?	☐	☐	☐	☒

Impact Analysis

ai) **Less than Significant Impact.** Fire protection and emergency medical services in the project area are provided by the Imperial County Fire Department. The proposed projects are located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan (County of Imperial 1997), the potential for a major fire in the unincorporated areas of the County is generally low.

However, 10,000-gallon aboveground water storage tanks would be installed to serve all three project sites as required by the Imperial County Fire Department. The water tank(s) would be sized to meet the requirements of the County of Imperial to supply sufficient fire suppression water during operations. Both the access and service roads (along the perimeter of the project facility) would have turnaround areas to allow clearance for fire trucks per fire department standards (70 feet by 70 feet, and minimum 20-foot-wide access road). The project applicant will be required to consult with the fire department to address any fire safety and service concerns so that adequate service is maintained. Based on these considerations, the projects would not result in a need for fire facility expansion and a less than significant impact is identified for this issue area.

aii) **Potentially Significant Impact.** Police protection services in the project area is provided by the Imperial County Sheriff's Department. Although the potential is low, the proposed projects may attract vandals or other security risks and the increase in construction related traffic could increase demand on law enforcement services. Therefore, on-site security systems would be provided and access would be limited to the areas surrounding the project sites during construction and operation, thereby minimizing the need for police surveillance. The proposed projects' potentially significant impacts on sheriff services will be addressed in the EIR.

aiii) **No Impact.** The proposed projects do not include the development of residential land uses that would result in an increase in population or student generation. Additionally, construction of the proposed projects would not result in an increase in student population within the Imperial County's School District since it is anticipated that construction workers would commute in during construction operations. Therefore, no impact is identified for this issue area.

aiv) **No Impact.** Although maintenance of the project facilities will require minimal site presence to perform periodic visual inspections and minor repairs, no full-time employees are required to operate the proposed projects because the project facilities will be monitored remotely. Therefore, substantial permanent

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increases in population that would adversely affect local parks is not expected. No impact is identified for this issue area.

av) **No Impact.** Although maintenance of the project facilities will require minimal site presence to perform periodic visual inspections and minor repairs, no full-time employees are required to operate the proposed projects because the project facilities will be monitored remotely. Therefore, substantial permanent increases in population that would adversely affect libraries and other public facilities (such as post offices) is not expected. The proposed projects are not expected to have an impact on other public facilities such as post offices, and libraries. No impact is identified for this issue area.

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XVI. Recreation

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Impact Analysis

a) **No Impact.** The proposed projects would not generate new employment on a long-term basis. As such, the proposed projects would not significantly increase the use or accelerate the deterioration of regional parks or other recreational facilities. The temporary increase of population during construction that might be caused by an influx of workers would be minimal and not cause a detectable increase in the use of parks. Additionally, the proposed projects would not include or require the expansion of recreational facilities. No impact is identified for this issue area.

b) **No Impact.** Refer to response XVI. a) above.

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XVII. Transportation

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☒	☐	☐	☐
b) Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☒	☐	☐	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐

Impact Analysis

a) **Potentially Significant Impact.** Construction of the proposed projects would result in a small increase of traffic to the area, which may result in a potentially significant impact. Therefore, a traffic impact study that will address the proposed project's potential impacts on traffic will be prepared, and this issue will be addressed in the EIR.

b) **Potentially Significant Impact.** Section 15064.3(b) of the CEQA Guidelines provides guidance on determining the significance of transportation impacts and focuses on the use of vehicle miles traveled (VMT), which is defined as the amount and distance of automobile travel associated with a project. Given the nature of the projects, after construction, there would be a nominal amount of vehicle trips generated by the projects. Once the proposed projects are implemented, the proposed projects would require intermittent maintenance requiring a negligible amount of traffic trips on an annual basis. However minimal, the proposed projects would increase the number of vehicular trips related to construction and the need for intermittent maintenance on an annual basis. Therefore, this issue is potentially significant and will be addressed in the traffic impact study and EIR analysis.

c) **No Impact.** To accommodate emergency access, PV panels would be spaced to maintain proper clearance. Access roads, up to 30-feet wide, would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles. Internal access roads would be graded and compacted (native soils) as required for construction, operations, maintenance, and emergency vehicle access. These access roads would not increase hazards because of design features or incompatible uses. Therefore, no impact will occur.

d) **Less than Significant Impact.** To accommodate emergency access, PV panels would be spaced to maintain proper clearance. 30-foot wide internal access roads would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles. The internal access roads would be graded and compacted (native soils) as required for construction, operations, maintenance, and emergency vehicle access. The access and service roads would also have turnaround areas at any dead-end to allow clearance for fire trucks per fire department standards. Based on this context, impacts are considered less than significant.

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XVIII. Tribal Cultural Resources

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	☒	☐	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	☒	☐	☐	☐

Impact Analysis

a-b) **Potentially Significant Impact.** Assembly Bill 52 was passed in 2014 and took effect July 1, 2015. It established a new category of environmental resources that must be considered under CEQA called tribal cultural resources (Public Resources Code 21074) and established a process for consulting with Native American tribes and groups regarding those resources. Assembly Bill 52 requires a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed projects.

In accordance with AB 52, Imperial County, as the CEQA lead agency, sent an AB 52 consultation request letter to appropriate tribes with the potential for interest in the region on March 26, 2021. On April 8, 2021, the Quechan Indian Tribe requested consultation with the County on the project. The County is in the process of consulting with the Quechan Indian Tribe on the project. This issue will be further analyzed in the EIR.

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XIX. Utilities and Service Systems

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☒	☐	☐	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☒	☐	☐	☐
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Impact Analysis

a) **Potentially Significant Impact.** No IID drains or canals (e.g. East Highline Canal and Coachella Canal) will be impacted by the proposed projects. The proposed projects do not require expanded or new storm drainage facilities because the proposed solar facilities would not generate a significant increase in the amount of impervious surfaces that would increase runoff during storm events and exceed the capacity of existing or planned stormwater drainage systems. Water from solar panel washing would continue to percolate through the ground, as a majority of the surfaces within the project sites would remain pervious.

The wastewater generated during construction would be contained within portable toilet facilities and disposed of at an approved site. The minimal volume of wastewater generated during construction would not require the relocation expansion, or construction of wastewater treatment facilities. Further, no habitable structures (e.g. housing or O&M buildings) are proposed on the project sites. Therefore, the proposed projects would not require or result in the relocation or construction of new or expanded electric power, natural gas, or telecommunications facilities.

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Although water for solar panel washing and fire protection (on-site storage) during project operation is not anticipated to result in a significant increase in water demand/use, IID would provide the water required for operations and maintenance and potable water will be trucked onto the site. Thus, a potentially significant impact is identified for the availability of sufficient water supplies to serve the proposed projects for the reasonably foreseeable future. A water supply assessment that will address the proposed projects' potential impacts on water supplies will be prepared and included in the EIR analysis.

b) **Potentially Significant Impact.** Refer to response XIX. a) above.

c) **Less than Significant Impact.** The proposed projects would generate a minimal volume of wastewater during construction. During construction activities, wastewater would be contained within portable toilet facilities and disposed of at an approved site. Further, no habitable structures (e.g. housing or O&M buildings) are proposed on the project sites; therefore, there would be no wastewater generation from the proposed projects during operation. The proposed projects would not exceed wastewater treatment requirements of the RWQCB. Therefore, a less than significant impact is identified for this issue area.

d) **Less than Significant Impact.** Solid waste generation would be minor for the construction and operation of the proposed project. Solid waste will be disposed of using a locally-licensed waste hauling service, most likely Allied Waste. Trash would likely be hauled to the Niland Solid Waste Site (13-AA-0009) located approximately 4.7 miles northwest of the project site in Niland. The Niland Solid Waste Site has approximately 211,439 cubic yards of remaining capacity and is estimated to remain in operation through 2046 (CalRecycle n.d.). Therefore, there is ample landfill capacity in the County to receive the minor amount of solid waste generated by construction and operation of the proposed projects.

Additionally, because the proposed projects would generate solid waste during construction and operation, they will be required to comply with state and local requirements for waste reduction and recycling; including the 1989 California Integrated Waste Management Act and the 1991 California Solid Waste Reuse and Recycling Access Act of 1991. Also, conditions of the conditional use permits will contain provisions for recycling and diversion of Imperial County construction waste policies. Therefore, a less than significant impact is identified for this issue area.

e) **Less than Significant Impact.** Refer to response XIX. d) above.

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XX. Wildfire

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Impact Analysis

a) **No Impact.** According to the Fire Hazard Severity Zone Viewer provided by the California Department of Forestry and Fire Protection, the proposed project area is not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2020). Therefore, the proposed projects would not substantially impair an adopted emergency response plan or emergency evacuation plan. No impact is identified for this issue area

b) **No Impact.** The proposed projects are not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2020). Therefore, the proposed projects would not exacerbate wildfire risks. No impact is identified for this issue area

c) **Less than Significant Impact.** Fire protection and emergency medical services in the area are provided by the Imperial County Fire Department. The proposed projects are not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2020). Further, the proposed projects are located in an unincorporated area of Imperial County, which has a generally low potential for a major fire (County of Imperial 2016).

The project involves the installation of solar PV panels on fixed frames or single-axis horizontal trackers, an on-site substation and inverters, transformers, underground or aboveground electrical cables, and 10,000-gallon aboveground water storage tanks as required by the Imperial County Fire Department. The water tank(s) would be sized to meet the requirements of the County of Imperial to supply sufficient fire suppression water during operations. Further, each project site would be accessible from a primary and secondary (if required) access driveway that would have turnaround areas to allow clearance for fire trucks per fire department standards and 30-foot double swing gates with keyed entry. In addition, operation and maintenance would not affect the ability of fire personnel to respond to fires. Therefore, the proposed

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projects would not exacerbate fire risk and would continue to be adequately supported by the existing fire protection services. A less than significant impact is identified for this issue area.

d) **No Impact.** The proposed project is not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2020). Additionally, the proposed project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. No impact is identified for this issue area.

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XXI. Mandatory Findings of Significance

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☒	☐	☐	☐
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Impact Analysis

a) **Potentially Significant Impact.** The proposed projects have the potential to result in significant environmental effects on biological resources and cultural resources, which could directly or indirectly cause adverse effects on the environment. These issues will be further evaluated in the EIR.

b) **Potentially Significant Impact.** Implementation of the proposed projects have the potential to result in impacts related to: aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology/soils, greenhouse gas emissions, hydrology and water quality, public services, transportation, tribal cultural resources, and utilities/service systems.. The proposed projects have the potential to result in cumulative impacts with regards to the identified issue areas. Cumulative impacts will be discussed and further analyzed in the EIR.

c) **Potentially Significant Impact.** Implementation of the proposed project has the potential to result in impacts related to: air quality and geology/soils. These potential environmental effects could cause substantial adverse effects on human beings. These issues will be further evaluated in the EIR.

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Comment Letters Received on Notice of Preparation

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May 3, 2021

Patricia Valenzuela
Imperial County
801 Main Street
El Centro, CA 92243

Re: 2021050013, VEGA SES 2, 3, and 5 Solar Energy Project, Imperial County

Dear Ms. Valenzuela:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

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AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

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7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

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SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

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3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

cc: State Clearinghouse

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California Department of Transportation

DISTRICT 11
4050 TAYLOR STREET, MS-240
SAN DIEGO, CA 92110
(619) 709-5152 | FAX (619) 688-4299 TTY 711
www.dot.ca.gov

July 22, 2021

11-IMP-111
PM 39.2
VEGA SES 2, 3, and 5 Solar Energy Project
May 2021 SCH 2021050013

Patricia Valenzuela
Imperial County
801 Main Street
El Centro, CA 92243

Dear Ms. Valenzuela:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Vega SES 2, 3, & 5 Solar Energy project located in Imperial County. The mission of Caltrans is to provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability. The Local Development-Intergovernmental Review (LD-IGR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities.

Caltrans has the following comments:

Traffic/Hauling

Caltrans has discretionary authority with respect to facilities under its jurisdiction and may, upon application and if good cause appears, issue a special permit to operate or move a vehicle or combination of vehicles or special mobile equipment of a size or weight of vehicle or load exceeding the maximum limitations specified in the California Vehicle Code. The Caltrans Transportation Permits Issuance Branch is responsible for the issuance of these special transportation permits for oversize/overweight vehicles on the State Highway network. Additional information is provided online at:
http://www.dot.ca.gov/trafficops/permits/index.html

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Right-of-Way
Any work performed within Caltrans' Right-of-Way (R/W) will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans' R/W prior to construction.

If you have any questions, please contact Roger Sanchez at (619) 987-1043 or by email at roger.sanchez-rangel@dot.ca.gov.

Sincerely,

Maurice A. Eaton

MAURICE EATON
Branch Chief
Local Development and Intergovernmental Review

PC ORIGINAL PKG

From: Diana Robinson
To: vandvfarmsllc@gmail.com
Cc: Michael Abraham; Gnibus, Tim; Del Rosario, Sharyn
Subject: RE: Conditional Use Permit #20-0020
Date: Thursday, May 27, 2021 12:11:54 PM

CAUTION: [EXTERNAL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon,

The project consists on a proposed solar farm with battery storage. The environmental consultant is preparing the Environmental Impact Report (EIR) which will be released in draft form after the commenting period of the Notice of Preparation ends on June 7th. If you have specific questions or concerns, please let us know. Once the draft EIR is ready for review, we can provide so you are aware of the foreseeable impacts.

Thank you,
Diana

From: vandvfarmsllc@gmail.com <vandvfarmsllc@gmail.com>
Sent: May 26, 2021 9:26 AM
To: Diana Robinson <DianaRobinson@co.imperial.ca.us>
Subject: Conditional Use Permit #20-0020

CAUTION: This email originated outside our organization; please use caution.

Hi,

We were just wanting to know how this project is going to affect our parcel, that is the little red triangle along the canal on the north side on the map that you sent out.

Thank you,

Wildia Maness
Office Manager
V & V Farms, LLC
PO Box 445
Holtville, CA 92250-0445
760-356-7080 Office
760-356-7081 Fax

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November 28, 2022

Ramon Gonzalez
ZGlobal, Inc.
750 W. Main Street
El Centro, CA 92243

RE: Visual Impact Assessment Letter Report– Vega SES 2, LLC and Vega SES 3, LLC Projects

Dear Mr. Gonzalez:

The purpose of this Visual Impact Assessment (VIA) letter report is to evaluate the potential visual impacts associated with the construction and implementation of the Vega SES 2 and Vega SES 3 Solar Energy Storage Projects located in Imperial County, California. This VIA includes an analysis and description of the existing visual setting and potential visual impacts. If the Projects result in any adverse visual impacts, the purpose of the VIA is also to propose measures to minimize those impacts.

1.0 PROJECT DESCRIPTION, LOCATION, AND SETTING

The Projects are located in Imperial County between the unincorporated communities of Iris and Slab City, running parallel to the Coachella Canal. Figures 1 and 2 depict the Project location and vicinity (Attachment A).

Vega SES 2 is located on Imperial County Assessor's Parcel Numbers (APNs) 025-260-011 (approximately 288 acres), APN 025-270-023 (approximately 625 acres) and APN 025-010-006 (approximately 410 of the 640 acres). Vega SES 3 is located on the remainder of APN 025-010-006 (approximately 230 of the 640 acres). All Project parcels, for both Vega SES 2 and Vega SES 3, are designated as "Recreation/Open Space" in the Imperial County General Plan and are zoned S-2-RE (Open Space/Preservation with a Renewable Energy overlay).

Project Characteristics

Solar panels would use either thin film or crystalline solar photovoltaic (PV) technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The fixed-frame racks would be secured at a fixed tilt of 20 degrees to 30 degrees from horizontal facing a southerly direction. Current Project designs would have individual PV modules, mounted two high on a fixed frame, providing a two-foot ground clearance and resulting in the tops of the panels at approximately 7.5 feet above the ground. The fixed PV modules would be arranged in arrays spaced approximately 15 to 25 feet apart (pile-to-pile) to maximize performance and to allow access for panel cleaning (if necessary). These arrays would be separated from each other and the perimeter security fence by up to 30-foot wide interior roads. If HSAT technology is used, the PV modules would rotate around the north-south HSAT axis so that the PV modules would continue to face the sun as the sun moves across the sky throughout the day. The PV

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modules would reach their maximum height (up to nine (9) feet above the ground, depending on the final design) at both sunrise and sunset, when the HSAT is rotated to point the modules at the rising or setting sun. At noon, or when stowed during high winds, when the HSAT system is rotated so that the PV modules are horizontal, the nominal height would be about six feet above the ground, depending on the final design. The individual PV systems would be arranged in large arrays by placing them in columns spaced approximately ten feet apart to maximize operational performance and to allow access for panel cleaning and maintenance. Current Project designs would have individual HSAT PV modules, each approximately two feet wide by four feet long (depending on the specific PV technology selected), mounted on a frame which is attached to an HSAT system. These HSAT arrays would be separated from each other and the perimeter security fence by up to 30-foot wide roads, consistent with County emergency access requirements.

VEGA SES 2

Two new substations would be constructed on the Vega SES 2 Project Site. The first substation would be constructed in the northwestern corner of APN 025-260-011 on approximately two acres. The substation would take the delivery of up to 60 kV electricity and increase the voltage of the electricity to 230 kV, where it would feed into the interconnection switching station for metering and delivery to the IID KN/KS Line. The substation would include two transformers, circuit breakers, disconnect switches, microwave or other communication facilities, and an electrical control building.

The second substation would be located in the northwestern corner of APN 025-270-023 on approximately two acres. This substation would be comprised of an underground combiner box used to connect all of the low voltage AC outputs of the inverters, a medium voltage transformer to increase the voltage up to 60 kV, a protective relay system and associated circuit breakers and disconnect switches. This substation would take delivery of the energy generated on APN 025-270-023 and transmit it through the proposed 34.5 kV or 60 kV lines to the primary Project substation on APN 025-260-011. The substation would include a transformer, circuit breaker, meters, disconnect switches, and microwave or other communication facilities.

One new interconnection switching station would be constructed on APN 025-260-011, immediately adjacent to the substation. The interconnection switching station and substation would be connected via a single overhead 230 kV line. The switching station would include circuit breakers, switches, overhead bus work, protective relay equipment and an electrical control building. The switching station would operate at 230 kV and be configured in a Breaker-And-A-Half arrangement. This would allow for looping in of one or two of the IID 230 kV lines as well as connection of the total Project output at 230 kV. The switching station would be enclosed within its own fence.

To connect the Project's interconnection facilities, the medium voltage power produced by the Project would be conveyed underground, or above ground where necessary, to cross over any sensitive site features. The design of the Project's interconnection facilities would meet all necessary utility standards and requirements. As required, surge arrestors would be used to protect facilities and auxiliary equipment from lightning strikes or other disturbances. Distribution from the site would be via an overhead connection.

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The Vega SES 2 Project's distribution and interconnection consists of the medium voltage power being conveyed underground or aboveground via 34.5 kV or 60 kV distribution circuits from the substation located in the northwest corner of APN 025-270-023 to the substation located in the northwest corner of APN 025-260-011. The height of the proposed gen-tie transmission structures would be 40 feet. The electrical energy produced by the Vega SES 2 Project would be delivered to the IID through the Project's interconnection switching station to the IID's 230 kV KN/KS Line.

VEGA SES 3

A new substation would be constructed on the northwestern corner of the Vega SES 3 Project Site. The substation site will comprise approximately two acres. Medium voltage power electricity generated from the site would be conveyed underground, or above ground where necessary, to cross over any sensitive site features, to connect to the substation.

A new interconnection switching station would be constructed immediately adjacent to the substation. The interconnection switching station and substation would be connected via a single overhead 161 kV line. The switching station would include circuit breakers, switches, overhead bus work, protective relay equipment and an electrical control building. The switching station would operate at 161 kV and be configured in a Breaker-And-A-Half or three breaker ring bus arrangement. This would allow for looping in of the IID 161 kV "F" transmission line as well as connection of the Project gen-tie line. The switching station would be enclosed within its own fence. As shown in Figure 2-3, the electrical energy produced by the Vega SES 3 Project would be connected to the existing utility approved point of interconnection at the northeast corner of the site to the IID's 161 kV "F" Line.

Construction activities would primarily involve demolition and grubbing; grading of each Project site to establish access roads and pads for electrical equipment (inverters and step–up transformers); trenching for underground electrical collection lines; and the installation of solar equipment and security fencing. Stormwater management facilities would be constructed internally within the site and would consist of basins and infiltration areas. Dust generated during construction would be controlled by watering and, as necessary, the use of other dust suppression methods and materials accepted by the Imperial County Air Pollution Control District (ICAPCD) or the California Air Resources Board (CARB). A temporary, portable construction supply container would be located at the Project Sites at the beginning of construction and removed at the end of construction. Onsite parking would be provided for all construction workers.

Once construction is completed the Project would be remotely controlled. No employees would be based at the Project Sites. Primary security–related monitoring would be done remotely. Security personnel may conduct unscheduled security rounds and would be dispatched to the site in response to a fence breach or other alarm. Site maintenance workers may access the Project Site periodically to clean the panels and maintain the equipment and Project Area. The public would not have access to the facility. Access to the Project sites would be infrequent and limited to authorized personnel.

Conceptual plans for the Vega SES 2 and Vega SES 3 Projects are provided in Attachment B.

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2.0 VISUAL IMPACT ASSESSMENT METHODOLOGY

The following steps were taken in analyzing the visual impacts of the proposed Vega SES 2 and Vega SES 3 Solar and Battery Storage Projects.

1. Describe the existing visual setting, including any sensitive viewer groups (i.e., baseline conditions);
2. Identify key viewpoints for visual assessment;
3. Describe or depict the visual appearance of the Projects at the key viewpoints. Key viewpoints are selected to represent the typical views from the public right-of-way;
4. Assess the visual changes that would be introduced by the Project and the viewer response based on defined attributes which are neither good nor bad. Change in visual character cannot be described as having good or bad attributes until compared with viewer responses to the change;
5. Determine the degree of visual impact;
6. Proposed methods to minimize adverse impacts

Evaluation of potential visual impacts resulting from implementation of the Proposed Project is based on the following criteria:

Change in Visual Quality. The difference in visual quality between the existing environmental setting and post-Project condition is considered visual quality change. Those changes are identified by studying site plans, which provide information on the various elements that will be removed from and incorporated into the current viewshed and the degree of change in the existing setting. The plans help to understand the potential changes in visual quality of the site after implementation of the Project. Physical changes are analyzed in relation to vividness, intactness, and unity of the Proposed Project conditions. Sensitivity of various viewer groups is evaluated to measure response to the visual quality changes.

Impacts to Visual Resources. Visual resources from both the natural and built environments can enhance the visual character and aesthetic quality of an area. The Project limits and vicinity were studies for visual resources. Visual resources can be associated with local events and history that represent and enhance the visual character of the local area. A project that substantially alters important visual resources can result in significant visual impacts. Mitigation is typically implemented to remove or minimize significant visual impacts.

Light, Glare, Shade, and Shadow. The existing light environment serves as a baseline to conduct light analysis and compare potential impacts caused by the introduction of the Proposed Project. Impacts relating to light, glare, shade, and shadow were examined during field observations and by the photographs to help establish light conditions during various times of the day and night and estimate the potential changes in the environment from Project implementation. New light sources and reduction or elimination of light could be considered impacts that could change the natural environmental setting of a Project Site. Impacts are evaluated based on how much existing conditions change, the degree of those changes, and the sensitivity of the affected environment.

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Compatibility with Visual Policies. General Plans, Specific Plans, and other regulations or policies relating to visual resources and setting at the Project Site have been identified, reviewed, and used in the preparation of this analysis. Proposed visual changes that conflict with the adopted County guidelines could be considered a significant impact.

For the portion of the proposed alignment within BLM-managed lands, the Project Area was evaluated through the Visual Resource Inventory (VRI) process.

3.0 LOCAL VISUAL RESOURCE POLICIES

County of Imperial General Plan

Circulation and Scenic Highways Element

The Imperial County General Plan Circulation and Scenic Highways Element provides information about the transportation needs of the County and the various modes to meet these needs and provides for the movement of goods and people, including pedestrian, bicycles, transit, train, air and automobile. This Element is also intended to provide a plan to accommodate a pattern of concentrated and coordinated growth and to provide a means of protecting and enhancing scenic resources within both rural and urban scenic highway corridors.

The potential designation of Scenic Highway has been placed on specific roadways in the County and may be added to others in the future. This designation is intended to protect and enhance the County's scenic aesthetic resources which are visible from major County and State routes. As identified in the Circulation and Scenic Highways Element, four State routes within the County have the potential for designation as Scenic Highways:

- **Interstate 8 (I-8):** The initial segment for future Scenic Highway Designation status lies between the San Diego County line and its junction with State Route 98 (SR-98). This segment known as Mountain Springs Grade has a long, rapid elevation change, remarkable rock and boulder scenery, and plant life variations.
- **State Route 78 (SR-78):** The portion of SR-78 from the junction with State Route 86 (SR-86) to the San Diego County line is eligible for future Scenic Highway Designation. The area is considered scenic because of its desert characteristics and view of Salton Sea.
- **State Route 111 (SR-111):** SR-111 travels along the northeast shore of the Salton Sea and is eligible for future Scenic Highway Designation from Bombay Beach to the County line. The drive along this body of water is a study in primitive beauty and an interesting and startling anomaly. The contract between the flat, wide Salton Sea with its sandy beach and the rugged rise of the Chocolate Mountains has many variations. The panoramic view of the opposite (southwest) shore and its backdrop of mountains is also a sight of pre-historic beauty.
- **Borrego-Salton Seaway:** County Highway S-22 is also known as the Borrego-Salton Seaway. It begins in Salton City and ends at the community of Borrego Springs in San Diego County. Along its route, is Clay Point, located a mile and half west of SR-86, which is a formation ring above a flat

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desert shore which shows the bed of pre-Columbian Lake Cahuilla. Three and a half miles farther west, the Anza Verde Wash parallels the Borrego-Salton Seaway with uniquely scenic desert landforms and vegetation.

The Circulation and Scenic Highways Elements contains the following objectives for the preservation of environmental and scenic amenities of the area along potential Scenic Highways.

Objective 4.1 Establish various systems of scenic recreational travel utilizing multiple transportation modes.
Objective 4.2 Preserve, enhance, and protect Imperial County's scenic resources by the removal of illicit billboards from scenic areas and restrictions on new off-site sign construction visible from designated scenic highways.
Objective 4.3 Protect areas of outstanding scenic beauty along any scenic highways and protect the aesthetics of those areas.
Objective 4.4 Acquire scenic easements from private owners when required.
Objective 4.5 Develop standards for aesthetically valuable sites. Design review may be required so that structures, facilities, and activities are properly merged with the surrounding environment.

Conservation and Open Space Element

The Imperial County General Plan Conservation and Open Space Element is a conservation guide for the protection of regional aesthetics. This Element identifies goals and policies to ensure the managed use of environmental resources to prevent limiting the range of resources available to future generations. The Conservation and Open Space Element identifies scenic visual resources within the County which include the deserts, sand dunes, mountains, and the Salton Sea.

Desert areas include the Yuha Desert, West Mesa, lower Borrego Valley, East Mesa, and Pilot Knob Mesa. Within the desert areas, there are unique geologic features which add scenic value to the natural landscape and desert vegetation which results in springtime blooms of desert flowers in the springtime. The Algodones Dunes are the largest sand dunes in California covering approximately 160 square miles and are a well-known landmark to County residents and highway travelers. These dunes are a significant visual resource due to their unique scenic qualities, historic features, and prominent visibility to a large number of viewers.

As described in this Element, scenic mountains within the County include the eastern foothills of the Peninsular Range along the County's southwest side consisting of the In-Ko-Pah or Jacumba Mountains, Coyote Mountains, and Fish Creek Mountains. East of this area is Mount Signal located along the international border on the eastern edge of the Yuha Desert, west of Calexico. The southeast foothills of the San Rosa-San Jacinto Mountain are a prominent feature from SR-86. The Superstition Mountains and Superstition Hills, located in West Mesa southeast of the lower Borrego Valley and west of Westmorland and Brawley, are visible from I-8 west of El Centro and from SR-86 between El Centro and the Salton Sea. In the northeastern part of the County, the Chocolate Mountains stretch northwest by southeast between Riverside County and the Colorado River. Portions of these mountain areas are designated by the Bureau

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of Land Management (BLM) as Wilderness Areas, part of the National Wilderness Preservation System. The intention of this designation is to secure natural areas for the public purposes of recreation, scenic, scientific, educational, conservation, and historical use.

The Salton Sea is located in the northwestern portion of the County and encompasses approximately 376 square miles. This body of water has been sustained by agricultural drainage from the Imperial, Coachella, and Mexicali valleys, rainfall, storm runoff from surrounding mountains, and groundwater inflow. The Salton Sea provides migrating and winter habitat for waterfowl and other birds and is a unique visual resource because of its size, location in a desert environmental, and its value for wildlife.

Anza-Borrego Desert State Park, located on the eastern side of San Diego County with portions extending into Imperial Count, features washes, wildflowers, palm groves, cacti, sweeping vistas, and hiking trails.

The Conservation and Open Space Element also identifies scenic vista points which include the Osborne Overlook and Juan Bautista de Anza Overlook. The Osborne Overlook offers scenic views of the Imperial Sand Dunes Recreational Area, North Algodones Dunes Wilderness, and surrounding area while the Juan Bautista de Anza Overlook provides a view of the Yuha Basin and surrounding landscape.

The Conservation and Open Space Element contains the following objectives for the preservation of environmental and scenic amenities of the area along potential Scenic Highways (County of Imperial 2016).

Objective 5.1 Encourage the conservation and enhancement of the natural beauty of the desert and mountain landscape.

Objective 5.2 Utilize the Code Enforcement process to eliminate visually dilapidated buildings that impact the visual character of rural communities.

4.0 BASELINE VISUAL CONDITIONS

A view is defined by the topography, development, activity, and vegetation. The Project Areas were observed and mapped to identify existing visual resources in the area, key views, and viewer groups. Key locations along the Project perimeters were photodocumented during a visual field survey in January 2021 to record existing visual conditions in the Project Vicinity and surrounding area. Land uses and topography were assessed to characterize the physical environment and establish the existing visual setting as described below.

Topography

Topography consists of gentle slopes with a gradual increase in elevation from west to east and elevations range between -2 meters (-7 feet) and 55 meters (182 feet) above mean sea level. Adjacent land uses include active agriculture and the Coachella Canal. Bureau of Land Management (BLM) open space areas exist to the north, east, and south.

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Land Use

Surrounding lands are designated as "Recreation/Open Space" by the Imperial County General Plan and are zoned S-2-RE (Open Space/Preservation with a Renewable Energy overlay). Pursuant to Section 91703.02 (CONDITIONAL USE PERMITS), Renewable Energy Projects must be located within the Renewable Energy Overlay Zone and may be permitted only through the issuance of a Conditional Use Permit (CUP) as approved by the Approving Authority unless otherwise allowed by applicable law.

Vegetation

The majority of the Project Sites consists of creosote bush scrub and palo verde/ironwood woodland. Other vegetation types present include bush seepweed scrub, disturbed creosote bush scrub, four-wing saltbush scrub, and tamarisk thickets. A small portion of the area adjacent to the proposed gen-tie alignment along Flowing Wells Road is active agriculture. The remainder of the Project Area consists of the canal and existing unpaved roadways (ECORP 2020).

Historic Resources

A records search for historic resources was conducted in November 2020 at the South Coastal Information Center (SCIC) at San Diego State University. The records search included a review of all recorded historic and prehistoric archaeological sites within a one-mile radius of the Project Area, as well as a review of known cultural resource surveys and excavation report. One previously recorded resource and 156 newly identified resources are located within the Project Area; however, none of the resources within the Project Area have been evaluated for significance pursuant to CEQA (ECORP 2021).

5.0 KEY VIEWS

Because it is not feasible to study every available view of the Project Sites, four key views that represent typical views with distinct visual characteristics in the Project study area were selected. The key views reflect views of the Project Site and were taken from locations within the public right-of-way. A description of the four key views is provided below and key view locations are depicted in Figure 3 (Attachment A).

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Key View 1: Coachella Canal Road, North of Flowing Wells Road – Vega SES 2 and 3

Key View 1 is a view from Coachella Canal Road, north of Flowing Wells Road facing east. The dominant feature within this key view is the vegetation visible throughout the view. Also visible within this view is the Coachella Canal berm in the middleground and the distant Chocolate Mountains in the background. This view does not exhibit any striking or distinctive visual patterns; however, the presence of the scenic mountains in the background provide and aesthetic resource, although somewhat obstructed, to the view.

While the Coachella Canal is present and the berm along the edge of the canal is visible within this key view, it is free from encroaching man-made elements.

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Key View 2: Niland-Pegleg Well Road, East of Coachella Canal – Vega SES 2 and 3

Key View 2 is a view from Niland-Pegleg Well Road, east of Coachella Canal facing east. Similar to Key View 1, the dominant features within this key view are the vegetation visible throughout the view and the Chocolate Mountains in the background. Also visible within this view is the Coachella Canal berm in the foreground. This does not exhibit any striking or distinctive visual patterns; however, the presence of the scenic mountains in the background provide aesthetic resources that are prominent and mostly unobstructed in the view.

While a service road and the Coachella Canal berm along the edge of the canal is visible within this key view, it is mostly free from encroaching man-made elements.

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Key View 3: Coachella Canal Road, North of Niland-Pegleg Well Road – Vega SES 2 3

Key View 3 is a view from Coachella Canal Road, north of Niland-Pegleg Road facing north. The dominant features within this key view is Coachella Canal Road, the vegetation visible on either side of the road, and the Chocolate Mountains in the distant background. Also visible within this view are apiary boxes on the east side of Coachella Canal Road. This view does not exhibit any striking or distinctive visual patterns. The presence of the scenic mountains in the distant background are visible but are affected by atmospheric conditions (e.g., haze). However, the mountains do provide aesthetic resources that are somewhat obstructed in the view.

Due to the presence of the roadway and apiary boxes within this key view, the view contains highly visible encroaching man-made elements.

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Key View 4: Noffsinger Road– Vega SES 2

Key View 4 is a view from Noffsinger Road facing north. The dominant features within this key view are the existing Union Pacific Yuma subdivision railroad track, sparse vegetation in the foreground with denser vegetation beyond the railroad track, and the Chocolate Mountains in the background. Also visible within this view are marker posts associated with an underground utility line. This view does not exhibit any striking or distinctive visual patterns; however, the presence of the scenic mountains in the background, although affected by atmospheric conditions (e.g., haze), provide aesthetic resources that are mostly unobstructed in the view.

Due to the presence of the railroad track and marker posts visible within this key view, the view contains highly visible encroaching man-made elements.

6.0 VISUAL CHANGE AND VISUAL IMPACT EVALUATION

Evaluation of potential visual impacts resulting from implementation of the proposed Vega SES 2 and Vega SES 3 Project is based on the following criteria:

- **Change in Visual Quality.** The difference in visual quality between the existing environmental setting and post-Project condition is considered visual quality change. Those changes are identified by

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studying engineering plans, which provide information on the various elements that will be replaced and/or reconstruction into the current viewshed and the degree of change in the existing setting.

- **Impacts to Visual Resources.** Visual resources from both the natural and built environments can enhance the visual character and aesthetic quality of an area. The Project limits and vicinity were studied for visual resources. Visual resources can be associated with local events and history that represent and enhance the visual character of the local area. A project that substantially alters important visual resources can result in adverse visual impacts. Mitigation is typically implemented to remove or minimize adverse visual impacts.
- **Light, Glare, Shade, and Shadow.** The existing light environment serves as a baseline to conduct light analysis and compare potential impacts caused by introduction of one of the alternatives. Impacts relating to light, glare, shade, and shadow were examined during field observations and by the photographs to help establish light conditions during various times of the day and night and estimate the potential changes in the environment from Project implementation. New light sources and reduction or elimination of light could be considered impacts that could change the natural environmental setting of a Project Site. Impacts are evaluated based on how much the existing conditions change, the degree of those changes, and the sensitivity of the affected environment.
- **Compatibility with Visual Policies.** General Plans, Specific Plans, and other regulations or policies relating to visual resources and setting at the Project Site have been identified, reviewed, and used in preparation of this assessment. Proposed visual changes that conflict with the adopted agency guidelines could be considered an adverse impact.

Impacts at Key View 1

From Key View 1, the overall character and experience for the viewer would change substantially with implementation of the Project. The main physical change that would occur within this view is the complete removal of vegetation and grading of the Project Site to accommodate the construction of solar apparatus and security fencing. Other facilities proposed such as roads, pads, underground utilities, and stormwater facilities would not be visible from the public right-of-way. The County has identified the Chocolate Mountains as a scenic resource; however, no scenic vista points are identified in the County General Plan and none of the roadways in the Project vicinity are designated scenic highways or roadways. Additional visual changes within this key view would be the installation of poles and electrical lines associated with the gen-tie line if the alignment option along Flowing Wells Road is constructed.

The proposed PV module frames when installed on pads would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. Currently, the existing vegetation on the Project Site ranges from short shrubs to large bushes and views of the Chocolate Mountains in the background are already partially obstructed by the existing Coachella Canal berm and large bushes. The installation of the new PV module frames would also result in the obstruction of the Chocolate Mountains as they are similar in height to existing large bushes on the site. PV module frames would be arranged in arrays spaced approximately 15 to 25 feet apart to maximize performance and allow access for maintenance and cleaning. As a result of the spacing of the arrays, view corridors of the Chocolate

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Mountains would be maintained throughout the site as a viewer travels along Coachella Canal Road. The construction of gen-tie poles and electrical lines would introduce manmade elements into the view; however, the profile of these structures and lines are slim and would not substantially obstruct existing views of the mountains.

Implementation of the Proposed Project would change the natural conditions of the site to a solar energy generation and battery storage facility. Onsite vegetation would be completely removed, and the site would be graded to accommodate the installation of the PV module frames in arrays. The Imperial County General Plan has designated the Project Sites as "Recreation/Open Space" and are zoned S-2-RE (Open Space/Preservation with a Renewable Energy Overlay). Renewable energy projects must be located within the Renewable Energy Overlay Zone and may be permitted only through the issuance of a Conditional Use Permit (CUP). With a CUP, the Project would be consistent with the intended use of the land. Although Project implementation would result in the conversion of a naturally vegetated area with energy-related facilities, open space vegetated areas are not considered to be scenic resources by the County of Imperial.

Impacts at Key View 2

Similar to Key View 1, the overall character and experience for the viewer would change substantially at Key View 2 with implementation of the Project. The main physical change that would occur within this view is the complete removal of vegetation and grading of the Project Site to accommodate the construction of solar equipment and security fencing. Additional visual changes within this key view would be the installation of poles and electrical lines associated with the gen-tie line if the alignment option along Niland-Pegleg Well is constructed.

As previously identified, proposed onsite apparatus would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. The installation of the new PV module frames would also result in the obstruction of the Chocolate Mountains as they are similar in height to existing large bushes on the site; however, from this key view vantage point, the Chocolate Mountains in the background are relatively unobstructed. PV module frames would be arranged in arrays spaced approximately 15 to 25 feet apart and as a result of the spacing of the arrays, view corridors of the Chocolate Mountains would be maintained throughout the site as a viewer travels along Coachella Canal Road. The construction of gen-tie poles and electrical lines would introduce manmade elements into the view; however, the profile of these structures and lines are slim and would not substantially obstruct existing views of the mountains.

Onsite vegetation would be completely removed, and the site would be graded to accommodate the installation of the PV module frames in arrays. Although Project implementation would result in the conversion of a naturally vegetated area with energy-related facilities, open space vegetated areas are not considered to be scenic resources by the County of Imperial.

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Impacts at Key View 3

From Key View 3, the overall character and experience for the viewer would change moderately with implementation of the Project. The main physical change that would occur within this view is the complete removal of vegetation and grading of the Project Site on the east side (right side) of Coachella Canal Road to accommodate the construction of solar apparatus and security fencing. There would be no change on the west side of the roadway (left side). Additional visual changes within this key view would be the installation of poles and electrical lines associated with the gen-tie line if the alignment option along the Coachella Canal is constructed.

As previously identified, proposed onsite apparatus would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. The installation of the new PV module frames would also result in the obstruction of the Chocolate Mountains as they are similar in height to existing large bushes on the site. However, views of the Chocolate Mountains from Coachella Canal Road and the viewshed to the west of the road would be maintained as no Project-related facilities would be constructed that would obstruct views in those areas. The construction of gen-tie poles and electrical lines would introduce manmade elements into the view; however, the profile of these structures and lines are slim and would not substantially obstruct existing views of the mountains.

Onsite vegetation would be completely removed, and the site would be graded to accommodate the installation of the PV module frames in arrays. Although Project implementation would result in the conversion of a naturally vegetated area with energy-related facilities, open space vegetated areas are not considered to be scenic resources by the County of Imperial.

Impacts at Key View 4

From Key View 4, the overall character and experience for the viewer would change slightly with implementation of the Project. The main physical change that would occur within this view is the complete removal of vegetation and grading of the Project Site which is beyond the railroad tracks to accommodate the construction of solar apparatus and security fencing.

The installation of the new PV module frames would not result in the obstruction of the Chocolate Mountains and would align with the existing horizon due to the distance away from the Key View 4 vantage point. Therefore, the views of the Chocolate Mountains would be maintained throughout the site as a viewer travels along Noffsinger Road.

Implementation of the Proposed Project would change the natural conditions of the site to a solar energy generation and battery storage facility. Onsite vegetation would be completely removed, and the site would be graded to accommodate the installation of the PV module frames in arrays. The area in the foreground in front of the railroad tracks would not change from the existing condition. Although Project implementation would result in the conversion of a naturally vegetated area with energy-related facilities, open space vegetated areas are not considered to be scenic resources by the County of Imperial.

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Construction Impacts

Construction of the proposed Project would result in temporary visual changes due to construction activities. Potential short-term construction impacts would result from the Proposed Project through the presence of construction equipment and materials. Upon completion of construction, equipment and construction materials would no longer be present.

Light, Glare, Shade, and Shadow

Minimal lighting would be required for operations and would be limited to safety and security functions. All lighting will be directed downward and shielded to focus illumination on the desired areas only and to minimize light trespass in accordance with applicable County requirements. If additional lighting should be required for nighttime maintenance, portable lighting equipment would be used. The Project is not anticipated to create a new source of substantial light which would adversely affect nighttime views in the Project Area.

The Projects would involve the installation of PV solar arrays which have low reflectivity. Solar PV modules are specifically designed to reduce reflection as any reflected light cannot be converted into energy. Research has shown that reflectivity from PV panels are similar to reflections from water (National Renewable Energy Laboratory 2020). Therefore, the PV panels would not create a significant source of glare during sunlight hours. The Project would not use other reflective materials such as fiberglass, aluminum or vinyl/plastic siding, galvanized products, and brightly painted steel roofs that have the potential to create on- and off-site glare.

Shade and shadow effects would be introduced within the Project Sites due to the placement of PV modules in arrays. However, due to the height of the proposed apparatus at 7.5 feet and the perimeter fencing at 6 feet, the effects of shade and shadow would not encroach into areas offsite for extended periods of time that would result in significant shade and/or shadow impacts.

Scenic Highways

There are no designated Caltrans scenic highways in the vicinity of the Proposed Project. None of the scenic highways identified in the County's General Plan Circulation and Scenic Highways Element are located in the Project vicinity. There would be no impact to scenic resources within a State or locally designated scenic highway.

Historic Resources

As previously identified, the one previously recorded resource and 156 newly identified resources located within the Project Area have not been evaluated for significance. If these resources are determined to be eligible per the eligibility criteria for inclusion in the California Register of Historical Resources and avoidance is not feasible, mitigation would be required that could consist of either avoidance by preserving them in dedicated open space, by requiring archaeological monitoring, or by carrying out data recovery efforts prior to Project approval, implementation, or construction. As none of the cultural

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resources identified within the Project Site are visible from public vantage points, there would be no visual impact to historic resources.

Visual Resource Policies

Scenic features, vistas, or landforms identified by the County of Imperial would not be significantly affected by construction and implementation of the Project. While portions of the Chocolate Mountains in the background would be partially obstructed by the PV arrays, current views of the mountains are already partially obstructed by existing tall vegetation in the existing condition. Further, the arrangement of the PV modules in arrays spaced between 15 and 25 feet apart would result in the establishment of view corridors of the mountains from the public right-of-way. The proposed Project would not conflict with specific policies identified in the Circulation and Scenic Highways Element or Open Space and Conservation Element of the County's General Plan. No impacts associated with incompatibility with visual resource policies would occur under the proposed Project.

Summary of Impacts

During the construction phase, the presence of construction equipment and materials would not have a permanent, long-term impact on the visual environment. Upon completion of the Project, areas that were cleared for construction staging would be converted to a new energy generating and storage facilities or returned to their existing condition.

No substantial obstruction of existing scenic resources would occur with Project implementation. Existing views of the Chocolate Mountains are already partially obstructed by large bushes. Solar PV arrays would be spaced approximately 15 to 25 feet apart allowing for views of the Chocolate Mountains within those spaces. The construction of gen-tie poles and electrical lines would introduce manmade elements into views at KV 1, 2, and 3; however, the profile of these structures and lines are slim and would not substantially obstruct existing views of the mountains.

Minimal lighting would be required for operations and would be limited to safety and security functions and would adhere to County lighting requirements. The Project is not anticipated to create a new source of substantial light which would adversely affect nighttime views in the Project Area. Shade and shadow effects would not be a significant impact to adjacent properties due to the height of the proposed apparatus and security fencing.

Potential impacts to California Register of Historical Resources-eligible historic resources would need to be avoided by preserving them in dedicated open space, by requiring archaeological monitoring, or by carrying out data recovery efforts prior to Project approval, implementation, or construction.

The Project would be consistent with the County General Plan. No impacts associated with incompatibility with visual resource policies would occur under the Proposed Projects.

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Sincerely,

Senior Environmental Planner
ECORP Consulting, Inc.

Attachments

Attachment A: Figures
Attachment B: Conceptual Plans

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REFERENCES

County of Imperial. 2008. *County of Imperial General Plan Circulation and Scenic Highways Element*. January

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LIST OF ATTACHMENTS

Attachment A – Figures

Attachment B – Conceptual Plans

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Figures

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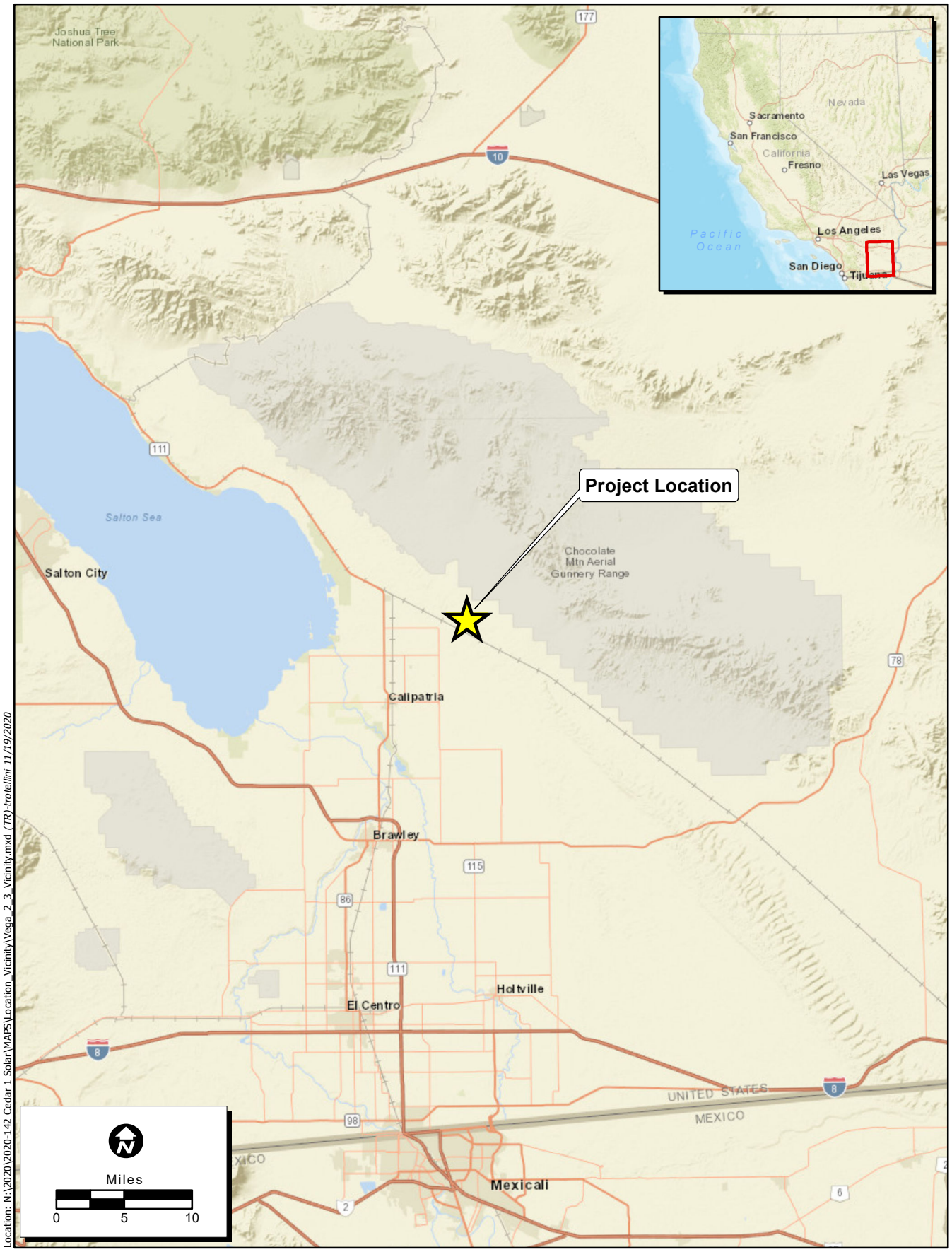

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Map Date: 11/18/2020

Sources:

Figure 1. Project Vicinity

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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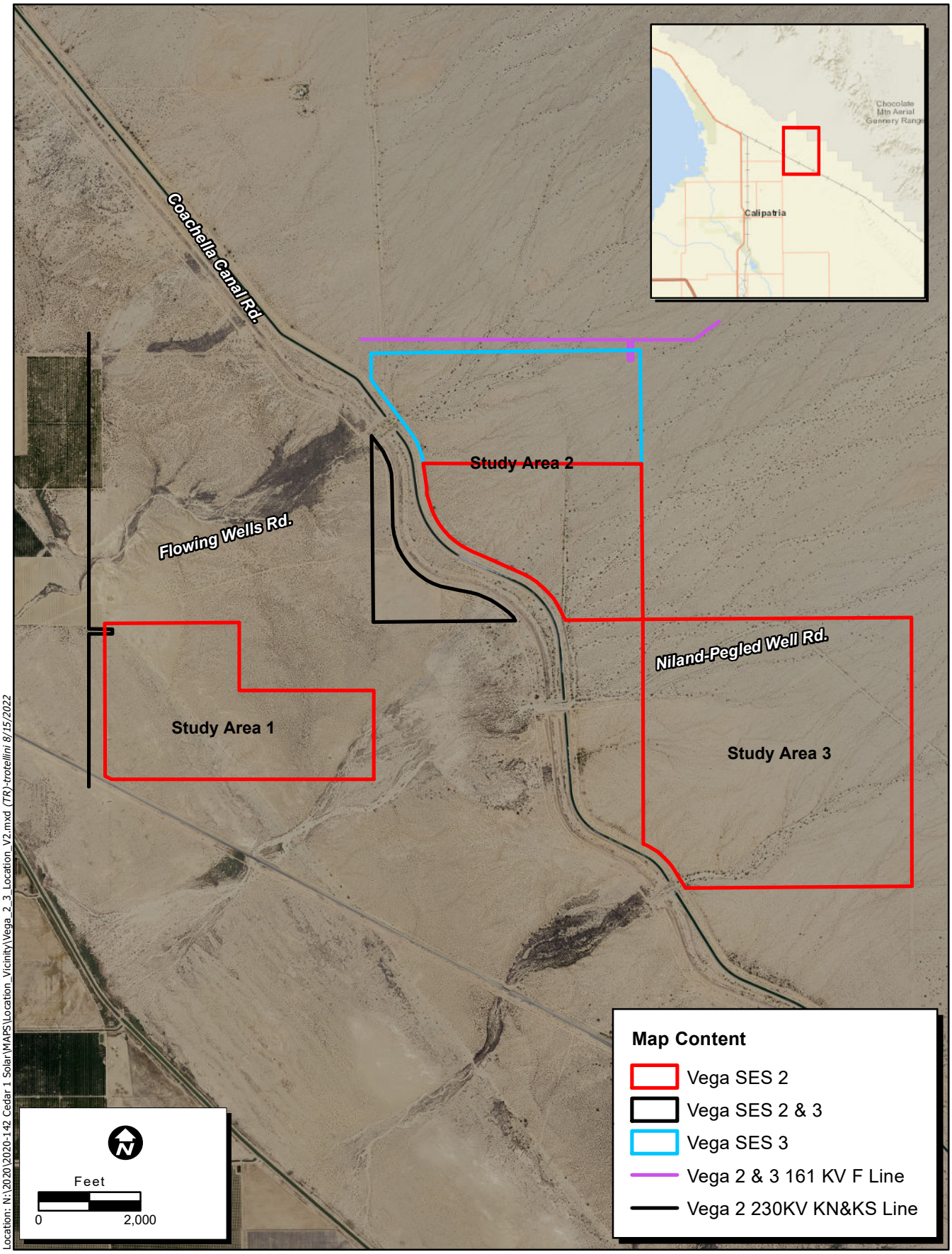

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Map Date: 8/15/2022

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Figure 2. Project Location

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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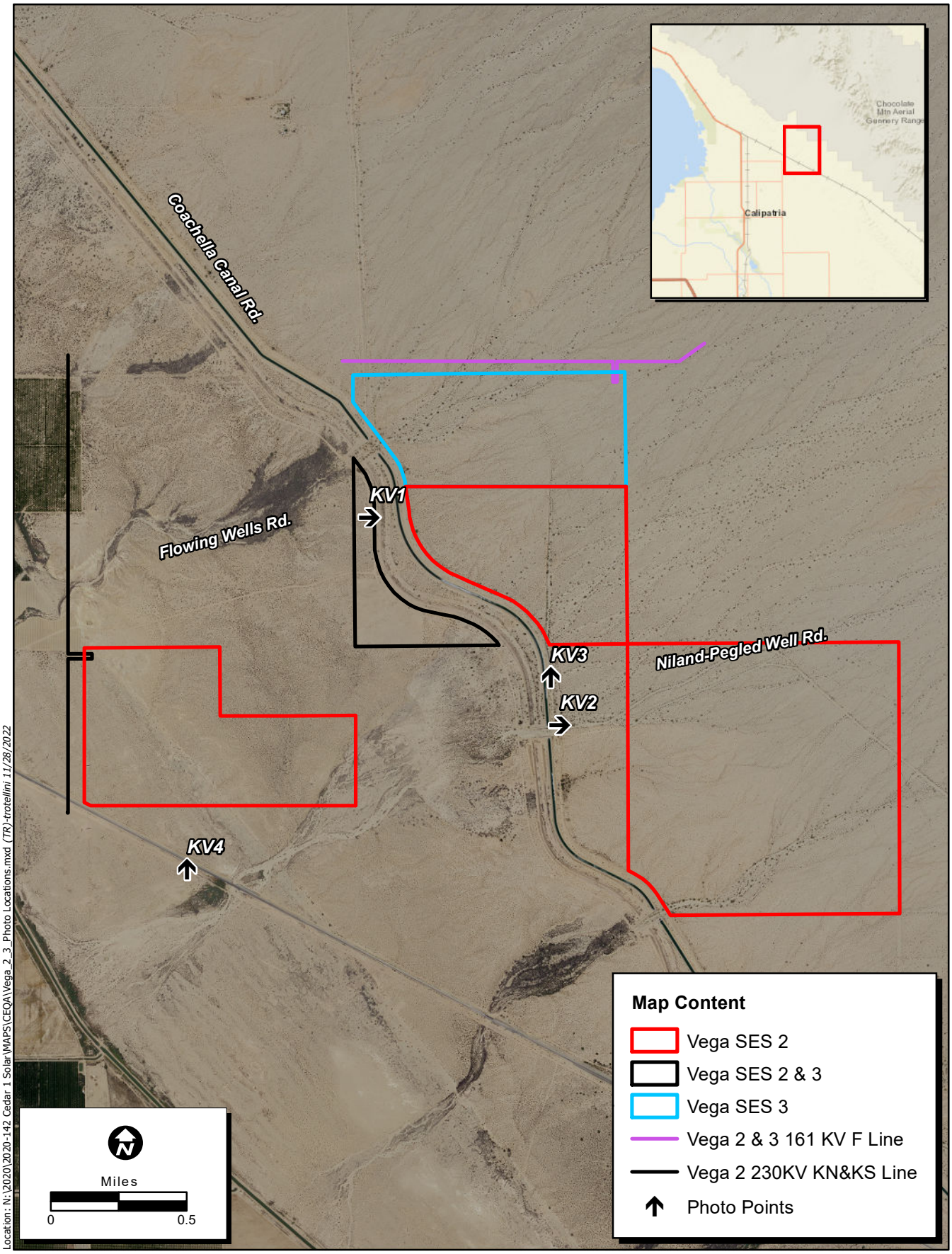

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Map Date: 11/28/2022

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Figure 3. Photo Locations

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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OVERALL PROJECT AREA DESCRIPTION

Canal

Canal Crossing

Access road

Siphon Six

Surrounding APN

230 kV KN&KS Line
POI for VEGA 2

~0.59 acres required for
30ft wide Access road

~3.28 acres (24 x
5941 FT) Right Of
way Req, Typ

30FT Right
Of way Req

VEGA SES 2
APN :025-260-011
288 ACRES

VEGA 5
APN :025-260-011
160 ACRES

Wash

Easement Can be removed

140FT Right
Of way Req

~0.65 Acres easement required
for H-FRAME Structure
Per Sheets Z-TH-1 & Profile-1

161 kV F Line POI for
VEGA 3

PROPOSED
WATER WELL

VEGA SES 3
APN:025-010-006
230 ACRES

Easement Can be removed

PROPOSED
WATER WELL

Surrounding APN

VEGA SES 2
APN :025-010-006
410 ACRES

Easement Can be removed

~(0.156 ACRES) AERIAL EASEMENT FOR 34.5 LINE CROSSING TO BE OBTAINED FROM BLM

~(0.156 ACRES) AERIAL
EASEMENT FOR 34.5 LINE
CROSSING TO BE OBTAINED
FROM BLM

Redirected road

Existing Road
(redirected)

Battery container area for
Vega 2 and 3

Vega SES 2
Powerline

~1.83 Acres easement required
for Single Pole Structure per
Sheets Z-T-1 and Profile-2

VEGA SES 2
APN :025-270-023
624 ACRES

Canal Crossing

Road

Wash

24 ft RIGHT of Way Required (Typ)

30 ft RIGHT of Way Required (Typ)

60 ft RIGHT of Way Required (Typ)

140 ft RIGHT of Way Required (Typ)

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VEGA SES 2-3

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1	RO	PRE-SUBMITTAL	09/13/21	HP
2	RO	PRE-SUBMITTAL	02/08/22	HP
3	HP	PRE-SUBMITTAL	10/25/22	HP

DRAFT

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Fax: 916.985.9467

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SITE PLAN 2

DRAWN BY:	RO	DRAWING No.	C-000
CHECKED:	HP		
SCALE:	N.T.S		
JOB NO:			
DATE:	1	REV No.	1

November 28, 2022

Ramon Gonzalez
ZGlobal, Inc.
750 W. Main Street
El Centro, CA 92243

RE: Visual Impact Assessment Letter Report– Vega SES 5 Project

Dear Mr. Gonzalez:

The purpose of this Visual Impact Assessment (VIA) letter report is to evaluate the potential visual impacts associated with the construction and implementation of the Vega SES 5 Solar Energy Storage Project located in Imperial County, California. This VIA includes an analysis and description of the existing visual setting and potential visual impacts. If the Project results in any adverse visual impacts, the purpose of the VIA is also to propose measures to minimize those impacts.

1.0 PROJECT DESCRIPTION, LOCATION, AND SETTING

The Project is located in Imperial County between the unincorporated communities of Iris and Slab City, and south of the Union Pacific Yuma subdivision railroad track. Figures 1 and 2 depict the Project location and vicinity (Attachment A).

Vega SES 5 is located on Imperial County Assessor's Parcel Numbers (APNs) 025-260-011 (approximately 160 acres), 025-260-019 (approximately 90 acres) and 025-260-022 (approximately 160.0 acres). The Project parcels are designated as "Recreation/Open Space" in the Imperial County General Plan and APNs 025-260-011 and 025-260-019 are zoned S-2-RE (Open Space/Preservation with a Renewable Energy overlay) and APN 025-260-022 is zoned A-2-RE, (areas that are suitable and intended primarily for agricultural uses [limited] and agricultural related compatible uses with a Renewable Energy Overlay), A-3-RE (areas that are suitable for agricultural land uses; to prevent the encroachment of incompatible uses onto and within agricultural lands; and to prohibit the premature conversion of such lands to non-agricultural uses with a Renewable Energy Overlay) and S-2-RE.

Project Characteristics

Solar panels would use either thin film or crystalline solar photovoltaic (PV) technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The fixed-frame racks would be secured at a fixed tilt of 20 degrees to 30 degrees from horizontal facing a southerly direction. Current Project designs would have individual PV modules, mounted two high on a fixed frame, providing a two-foot ground clearance and resulting in the tops of the panels at approximately 7.5 feet above the ground. The fixed PV modules would be arranged in arrays spaced approximately 15 to 25 feet apart (pile-to-pile) to maximize performance and to allow access for panel cleaning (if necessary). These arrays would be

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separated from each other and the perimeter security fence by up to 30-foot wide interior roads. If HSAT technology is used, the PV modules would rotate around the north-south HSAT axis so that the PV modules would continue to face the sun as the sun moves across the sky throughout the day. The PV modules would reach their maximum height (up to nine (9) feet above the ground, depending on the final design) at both sunrise and sunset, when the HSAT is rotated to point the modules at the rising or setting sun. At noon, or when stowed during high winds, when the HSAT system is rotated so that the PV modules are horizontal, the nominal height would be about six feet above the ground, depending on the final design. The individual PV systems would be arranged in large arrays by placing them in columns spaced approximately ten feet apart to maximize operational performance and to allow access for panel cleaning and maintenance. Current Project designs would have individual HSAT PV modules, each approximately two feet wide by four feet long (depending on the specific PV technology selected), mounted on a frame which is attached to an HSAT system. These HSAT arrays would be separated from each other and the perimeter security fence by up to 30-foot wide roads, consistent with County emergency access requirements.

A new substation would be constructed on the southwestern boundary of APN 025-260-022. The substation would include a transformer, circuit breakers, meters, disconnect switches, and microwave or other communication facilities. Underground or overhead 12.5 kilovolt (kV) to 34.5-kV collection lines would transmit the electricity to the new Project substation. Distribution from the site would be via either an underground or an overhead connection to the proposed 92kV generator intertie ("gen-tie") line and delivered to the existing Imperial Irrigation District (IID) approved point of interconnection (POI) at the IID 92kV "Midway" Substation.

A battery energy storage system (BESS) is proposed on the VEGA SES 5 Project Site located in the southeastern corner of APN 025-260-022. The proposed BESS would consist of either lithium ion or flow batteries. The batteries will either be housed in storage containers or buildings fitted with heating, ventilation and air conditioning (HVAC) and fire suppression systems as necessary, depending on the final selection of battery technology. Inside the housing the batteries will be placed on racks, the orientation of which depends on the type of housing. Underground trenches with conduits will be used to connect the batteries to the control and monitoring systems, and inverters to convert the PV produced direct current (DC) power to alternative current (AC) power.

Construction activities would primarily involve demolition and grubbing; grading of the Project Site to establish access roads and pads for electrical equipment (inverters and step–up transformers); trenching for underground electrical collection lines; and the installation of solar equipment and security fencing. Stormwater management facilities would be constructed internally within the site and would consist of basins and infiltration areas. Dust generated during construction would be controlled by watering and, as necessary, the use of other dust suppression methods and materials accepted by the Imperial County Air Pollution Control District (ICAPCD) or the California Air Resources Board (CARB). A temporary, portable construction supply container would be located at the Project Site at the beginning of construction and removed at the end of construction. Onsite parking would be provided for all construction workers.

The VEGA SES 5 site would include two primary driveways and a secondary driveway (if required). The primary driveway on APN 025-260-019 would be located in the northwestern corner of the parcel off of

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Noffsinger Road, while the driveway on APN 025-260-022 would be located along Weist Road which runs parallel to the western boundary of the parcel.

Once construction is completed the Project would be remotely controlled. No employees would be based at the Project sites. Primary security–related monitoring would be done remotely. Security personnel may conduct unscheduled security rounds and would be dispatched to the site in response to a fence breach or other alarm. Site maintenance workers may access the Project Site periodically to clean the panels and maintain the equipment and Project Area. The public would not have access to the facility. Access to the Project Site would be infrequent and limited to authorized personnel.

Conceptual plans for the Vega SES 5 Project is provided in Attachment B.

2.0 VISUAL IMPACT ASSESSMENT METHODOLOGY

The following steps were taken in analyzing the visual impacts of the proposed Vega SES 5 Solar and Battery Storage Project.

1. Describe the existing visual setting, including any sensitive viewer groups (i.e., baseline conditions);
2. Identify key viewpoints for visual assessment;
3. Describe or depict the visual appearance of the Project at the key viewpoints. Key viewpoints are selected to represent the typical views from the public right-of-way;
4. Assess the visual changes that would be introduced by the Project and the viewer response based on defined attributes which are neither good nor bad. Change in visual character cannot be described as having good or bad attributes until compared with viewer responses to the change;
5. Determine the degree of visual impact;
6. Proposed methods to minimize adverse impacts

Evaluation of potential visual impacts resulting from implementation of the Proposed Project is based on the following criteria:

Change in Visual Quality. The difference in visual quality between the existing environmental setting and post-Project condition is considered visual quality change. Those changes are identified by studying site plans, which provide information on the various elements that will be removed from and incorporated into the current viewshed and the degree of change in the existing setting. The plans help to understand the potential changes in visual quality of the site after implementation of the Project. Physical changes are analyzed in relation to vividness, intactness, and unity of the Proposed Project conditions. Sensitivity of various viewer groups is evaluated to measure response to the visual quality changes.

Impacts to Visual Resources. Visual resources from both the natural and built environments can enhance the visual character and aesthetic quality of an area. The Project limits and vicinity were studies for visual resources. Visual resources can be associated with local events and history that represent and enhance the visual character of the local area. A project that substantially alters important visual resources can result in significant visual impacts. Mitigation is typically implemented to remove or minimize significant visual impacts.

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Light, Glare, Shade, and Shadow. The existing light environment serves as a baseline to conduct light analysis and compare potential impacts caused by the introduction of the Proposed Project. Impacts relating to light, glare, shade, and shadow were examined during field observations and by the photographs to help establish light conditions during various times of the day and night and estimate the potential changes in the environment from Project implementation. New light sources and reduction or elimination of light could be considered impacts that could change the natural environmental setting of a project site. Impacts are evaluated based on how much existing conditions change, the degree of those changes, and the sensitivity of the affected environment.

Compatibility with Visual Policies. General Plans, Specific Plans, and other regulations or policies relating to visual resources and setting at the Project Site have been identified, reviewed, and used in the preparation of this analysis. Proposed visual changes that conflict with the adopted County guidelines could be considered a significant impact.

3.0 LOCAL VISUAL RESOURCE POLICIES

County of Imperial General Plan

Circulation and Scenic Highways Element

The Imperial County General Plan Circulation and Scenic Highways Element provides information about the transportation needs of the County and the various modes to meet these needs and provides for the movement of goods and people, including pedestrian, bicycles, transit, train, air and automobile. This Element is also intended to provide a plan to accommodate a pattern of concentrated and coordinated growth and to provide a means of protecting and enhancing scenic resources within both rural and urban scenic highway corridors.

The potential designation of Scenic Highway has been placed on specific roadways in the County and may be added to others in the future. This designation is intended to protect and enhance the County's scenic aesthetic resources which are visible from major County and State routes. As identified in the Circulation and Scenic Highways Element, four State routes within the County have the potential for designation as Scenic Highways:

- **Interstate 8 (I-8):** The initial segment for future Scenic Highway Designation status lies between the San Diego County line and its junction with State Route 98 (SR-98). This segment known as Mountain Springs Grade has a long, rapid elevation change, remarkable rock and boulder scenery, and plant life variations.
- **State Route 78 (SR-78):** The portion of SR-78 from the junction with State Route 86 (SR-86) to the San Diego County line is eligible for future Scenic Highway Designation. The area is considered scenic because of its desert characteristics and view of Salton Sea.
- **State Route 111 (SR-111):** SR-111 travels along the northeast shore of the Salton Sea and is eligible for future Scenic Highway Designation from Bombay Beach to the County line. The drive

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along this body of water is a study in primitive beauty and an interesting and startling anomaly. The contrast between the flat, wide Salton Sea with its sandy beach and the rugged rise of the Chocolate Mountains has many variations. The panoramic view of the opposite (southwest) shore and its backdrop of mountains is also a sight of pre-historic beauty.

- **Borrego-Salton Seaway:** County Highway S-22 is also known as the Borrego-Salton Seaway. It begins in Salton City and ends at the community of Borrego Springs in San Diego County. Along its route, is Clay Point, located a mile and half west of SR-86, which is a formation ring above a flat desert shore which shows the bed of pre-Columbian Lake Cahuilla. Three and a half miles farther west, the Anza Verde Wash parallels the Borrego-Salton Seaway with uniquely scenic desert landforms and vegetation.

The Circulation and Scenic Highways Elements contains the following objectives for the preservation of environmental and scenic amenities of the area along potential Scenic Highways.

Objective 4.1 Establish various systems of scenic recreational travel utilizing multiple transportation modes.

Objective 4.2 Preserve, enhance, and protect Imperial County's scenic resources by the removal of illicit billboards from scenic areas and restrictions on new off-site sign construction visible from designated scenic highways.

Objective 4.3 Protect areas of outstanding scenic beauty along any scenic highways and protect the aesthetics of those areas.

Objective 4.4 Acquire scenic easements from private owners when required.

Objective 4.5 Develop standards for aesthetically valuable sites. Design review may be required so that structures, facilities, and activities are properly merged with the surrounding environment.

Conservation and Open Space Element

The Imperial County General Plan Conservation and Open Space Element is a conservation guide for the protection of regional aesthetics. This Element identifies goals and policies to ensure the managed use of environmental resources to prevent limiting the range of resources available to future generations. The Conservation and Open Space Element identifies scenic visual resources within the County which include the deserts, sand dunes, mountains, and the Salton Sea.

Desert areas include the Yuha Desert, West Mesa, lower Borrego Valley, East Mesa, and Pilot Knob Mesa. Within the desert areas, there are unique geologic features which add scenic value to the natural landscape and desert vegetation which results in springtime blooms of desert flowers in the springtime. The Algodones Dunes are the largest sand dunes in California covering approximately 160 square miles and are a well-known landmark to County residents and highway travelers. These dunes are a significant visual resource due to their unique scenic qualities, historic features, and prominent visibility to a large number of viewers.

As described in this Element, scenic mountains within the County include the eastern foothills of the Peninsular Range along the County's southwest side consisting of the In-Ko-Pah or Jacumba Mountains,

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Coyote Mountains, and Fish Creek Mountains. East of this area is Mount Signal located along the international border on the eastern edge of the Yuha Desert, west of Calexico. The southeast foothills of the San Rosa-San Jacinto Mountain are a prominent feature from SR-86. The Superstition Mountains and Superstition Hills, located in West Mesa southeast of the lower Borrego Valley and west of Westmorland and Brawley, are visible from I-8 west of El Centro and from SR-86 between El Centro and the Salton Sea. In the northeastern part of the County, the Chocolate Mountains stretch northwest by southeast between Riverside County and the Colorado River. Portions of these mountain areas are designated by the Bureau of Land Management (BLM) as Wilderness Areas, part of the National Wilderness Preservation System. The intention of this designation is to secure natural areas for the public purposes of recreation, scenic, scientific, educational, conservation, and historical use.

The Salton Sea is located in the northwestern portion of the County and encompasses approximately 376 square miles. This body of water has been sustained by agricultural drainage from the Imperial, Coachella, and Mexicali valleys, rainfall, storm runoff from surrounding mountains, and groundwater inflow. The Salton Sea provides migrating and winter habitat for waterfowl and other birds and is a unique visual resource because of its size, location in a desert environmental, and its value for wildlife.

Anza-Borrego Desert State Park, located on the eastern side of San Diego County with portions extending into Imperial Count, features washes, wildflowers, palm groves, cacti, sweeping vistas, and hiking trails.

The Conservation and Open Space Element also identifies scenic vista points which include the Osborne Overlook and Juan Bautista de Anza Overlook. The Osborne Overlook offers scenic views of the Imperial Sand Dunes Recreational Area, North Algodones Dunes Wilderness, and surrounding area while the Juan Bautista de Anza Overlook provides a view of the Yuha Basin and surrounding landscape.

The Conservation and Open Space Element contains the following objectives for the preservation of environmental and scenic amenities of the area along potential Scenic Highways (County of Imperial 2016).

Objective 5.1 Encourage the conservation and enhancement of the natural beauty of the desert and mountain landscape.

Objective 5.2 Utilize the Code Enforcement process to eliminate visually dilapidated buildings that impact the visual character of rural communities.

4.0 BASELINE VISUAL CONDITIONS

A view is defined by the topography, development, activity, and vegetation. The Project area was observed and mapped to identify existing visual resources in the area, key views, and viewer groups. Key locations along the Project perimeters were photodocumented during a visual field survey in January 2021 to record existing visual conditions in the Project Vicinity and surrounding area. Land uses and topography were assessed to characterize the physical environment and establish the existing visual setting as described below.

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Topography

Topography is relatively flat with elevations range between -20 meters (-65 feet) and 7 meters (22feet) above mean sea level. Adjacent land uses include active agriculture land to the west, the East Highline Canal which bisects the site from north to southeast, and a portion of Siphon Five which travels through the northeast portion of the site. Bureau of Land Management (BLM) open space areas exist to the north, east, and south.

Land Use

Surrounding lands are designated as "Recreation/Open Space" and "Agriculture" by the Imperial County General Plan and are zoned S-2-RE (Open Space/Preservation with a Renewable Energy overlay), A-2-RE (Limited Agriculture with a Renewable Energy overlay) and A-3-RE (Buffer Agriculture with a Renewable Energy overlay). Pursuant to Section 91703.02 (CONDITIONAL USE PERMITS), Renewable Energy Projects must be located within the Renewable Energy Overlay Zone and may be permitted only through the issuance of a Conditional Use Permit (CUP) as approved by the Approving Authority unless otherwise allowed by applicable law.

Vegetation

The majority of the Project Site consists of fallow agricultural land, creosote bush scrub, bush seepweed scrub, and tamarisk thickets. Other vegetation types present include iodine bush scrub. Small portions of the area adjacent to the proposed gen-tie alignment along the canal are urban/developed land. The remainder of the Project Area consists of the canal and existing unpaved roadways (ECORP 2020).

Historic Resources

A records search for historic resources was conducted in November 2020 at the South Coastal Information Center (SCIC) at San Diego State University. The records search included a review of all recorded historic and prehistoric archaeological sites within a one-mile radius of the Project Area, as well as a review of known cultural resource surveys and excavation report. Eight previously recorded resources and fifteen newly identified resources are located within the Project Area; however, none of the resources within the Project Area have been evaluated for significance pursuant to CEQA (ECORP 2021).

5.0 KEY VIEWS

Because it is not feasible to study every available view of the Project site, two key views that represent typical views with distinct visual characteristics in the Project study area were selected. The key views reflect views of the Project site and were taken from locations within the public right-of-way. A description of the two key views is provided below and key view locations are depicted in Figure 3 (Attachment A).

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Key View 1: Noffsinger Road, North of Wash Area – Vega SES 5

Key View 1 is a view from Noffsinger Road, north of the wash area facing south. The dominant feature within this key view is the vegetation visible throughout the view and Noffsinger Road in the immediate foreground. There are no distant topographic features in the background. This view does not exhibit any striking or distinctive visual patterns. The view is free from encroaching man-made elements.

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Key View 2: Wiest Road, South of McDonald Road – Vega SES 5

Key View 2 is a view from Wiest Road, south of McDonald road facing east. The dominant features within this key view are the vegetation visible only in the foreground and a fallow agricultural field in the middleground. The Chocolate Mountains are barely visible in the background because they are masked by atmospheric conditions (e.g., haze). This view does not exhibit any striking or distinctive visual patterns; however, the presence of the scenic mountains in the background, although masked by haze, provide an aesthetic resource somewhat visible within the view. While overhead power lines are visible within this key view, it is mostly free from encroaching man-made elements.

6.0 VISUAL CHANGE AND VISUAL IMPACT EVALUATION

Evaluation of potential visual impacts resulting from implementation of the proposed Vega SES 5 Solar and Battery Storage Project is based on the following criteria:

- **Change in Visual Quality.** The difference in visual quality between the existing environmental setting and post-Project condition is considered visual quality change. Those changes are identified by studying engineering plans, which provide information on the various elements that will be replaced and/or reconstruction into the current viewshed and the degree of change in the existing setting.

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- **Impacts to Visual Resources.** Visual resources from both the natural and built environments can enhance the visual character and aesthetic quality of an area. The Project limits and vicinity were studied for visual resources. Visual resources can be associated with local events and history that represent and enhance the visual character of the local area. A project that substantially alters important visual resources can result in adverse visual impacts. Mitigation is typically implemented to remove or minimize adverse visual impacts.
- **Light, Glare, Shade, and Shadow.** The existing light environment serves as a baseline to conduct light analysis and compare potential impacts caused by introduction of one of the alternatives. Impacts relating to light, glare, shade, and shadow were examined during field observations and by the photographs to help establish light conditions during various times of the day and night and estimate the potential changes in the environment from Project implementation. New light sources and reduction or elimination of light could be considered impacts that could change the natural environmental setting of a project site. Impacts are evaluated based on how much the existing conditions change, the degree of those changes, and the sensitivity of the affected environment.
- **Compatibility with Visual Policies.** General Plans, Specific Plans, and other regulations or policies relating to visual resources and setting at the Project Site have been identified, reviewed, and used in preparation of this assessment. Proposed visual changes that conflict with the adopted agency guidelines could be considered an adverse impact.

Impacts at Key View 1

From Key View 1, the overall character and experience for the viewer would change substantially with implementation of the Project. The main physical change that would occur within this view is the complete removal of vegetation and grading of the Project Site to accommodate the construction of solar apparatus and security fencing. Other facilities proposed such as roads, pads, underground utilities, and stormwater facilities would not be visible from the public right-of-way. No scenic resources are visible within this view and no scenic vista points are identified in the County General Plan. None of the roadways in the Project vicinity are designated scenic highways or roadways.

The proposed PV module frames when installed on pads would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. Currently, the existing vegetation on the Project Site ranges from short to medium shrubs and views. Implementation of the Proposed Project would change the natural conditions of the site to a solar energy generation and battery storage facility. Onsite vegetation would be completely removed, and the site would be graded to accommodate the installation of the PV module frames in arrays. The construction of gen-tie poles and electrical lines would not be visible from this key view.

The Imperial County General Plan has designated the Project site within this key view as "Recreation/Open Space" and are zoned S-2-RE (Open Space/Preservation with a Renewable Energy Overlay). Renewable energy projects must be located within the Renewable Energy Overlay Zone and may be permitted only through the issuance of a Conditional Use Permit (CUP). With a CUP, the Project would be consistent with the intended use of the land. Although Project implementation would result in

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the conversion of a naturally vegetated area with energy-related facilities, open space vegetated areas are not considered to be scenic resources by the County of Imperial.

Impacts at Key View 2

Similar to Key View 1, the overall character and experience for the viewer would change substantially at Key View 2 with implementation of the Project. The main physical change that would occur within this view is the complete removal of vegetation and the fallow agricultural field and grading of the Project site to accommodate the construction of solar equipment and security fencing.

As previously identified, proposed onsite apparatus would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. The installation of the new PV module frames would result in the obstruction of the Chocolate Mountains due to the distance away from this vantage point. However, PV module frames would be arranged in arrays spaced approximately 15 to 25 feet apart and as a result of the spacing of the arrays, view corridors of the Chocolate Mountains would be maintained throughout the site as a viewer travels along Wiest Road. The construction of gen-tie poles and electrical lines would not be visible from this key view.

Onsite vegetation would be completely removed, and the site would be graded to accommodate the installation of the PV module frames in arrays. Although Project implementation would result in the conversion of a former agricultural area with energy-related facilities, agricultural areas are not considered to be scenic resources by the County of Imperial.

Construction Impacts

Construction of the Proposed Project would result in temporary visual changes due to construction activities. Potential short-term construction impacts would result from the Proposed Project through the presence of construction equipment and materials. Upon completion of construction, equipment and construction materials would no longer be present.

Light, Glare, Shade, and Shadow

Minimal lighting would be required for operations and would be limited to safety and security functions. All lighting will be directed downward and shielded to focus illumination on the desired areas only and to minimize light trespass in accordance with applicable County requirements. If additional lighting should be required for nighttime maintenance, portable lighting equipment would be used. The Project is not anticipated to create a new source of substantial light which would adversely affect nighttime views in the Project Area.

The Project would involve the installation of PV solar arrays which have low reflectivity. Solar PV modules are specifically designed to reduce reflection as any reflected light cannot be converted into energy. Research has shown that reflectivity from PV panels are similar to reflections from water (National Renewable Energy Laboratory 2020). Therefore, the PV panels would not create a significant source of glare during sunlight hours. The Project would not use other reflective materials such a fiberglass,

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aluminum or vinyl/plastic siding, galvanized products, and brightly painted steel roofs that have the potential to create on- and off-site glare.

Shade and shadow effects would be introduced within the Project Site due to the placement of PV modules in arrays. However, due to the height of the proposed apparatus at 7.5 feet and the perimeter fencing at 6 feet, the effects of shade and shadow would not encroach into areas offsite for extended periods of time that would result in significant shade and/or shadow impacts.

Scenic Highways

There are no designated Caltrans scenic highways in the vicinity of the Proposed Project. None of the scenic highways identified in the County's General Plan Circulation and Scenic Highways Element are located in the Project vicinity. There would be no impact to scenic resources within a State or locally designated scenic highway.

Historic Resources

As previously identified, the eight previously recorded resources and fifteen newly identified resources located within the Project Area have not been evaluated for significance. If these resources are determined to be eligible per the eligibility criteria for inclusion in the California Register of Historical Resources and avoidance is not feasible, mitigation would be required that could consist of either avoidance by preserving them in dedicated open space, by requiring archaeological monitoring, or by carrying out data recovery efforts prior to Project approval, implementation, or construction. As none of the cultural resources identified within the Project Site are visible from public vantage points, there would be no visual impact to historic resources.

Visual Resource Policies

Scenic features, vistas, or landforms identified by the County of Imperial would not be significantly affected by construction and implementation of the Project. While portions of the Chocolate Mountains in the background would be obstructed by the PV arrays at Key View 2, current views of the mountains are already masked by atmospheric conditions (e.g., haze) in the existing condition. Further, the arrangement of the PV modules in arrays spaced between 15 and 25 feet apart would result in the establishment of view corridors of the mountains from the public right-of-way. The Proposed Project would not conflict with specific policies identified in the Circulation and Scenic Highways Element or Open Space and Conservation Element of the County's General Plan. No impacts associated with incompatibility with visual resource policies would occur under the Proposed Project.

Summary of Impacts

During the construction phase, the presence of construction equipment and materials would not have a permanent, long-term impact on the visual environment. Upon completion of the Project, areas that were cleared for construction staging would be converted to a new energy generating and storage facilities or returned to their existing condition.

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No substantial obstruction of existing scenic resources would occur with Project implementation. Existing views of the Chocolate Mountains are already affected by haze and distance. Solar PV arrays would be spaced approximately 15 to 25 feet apart allowing for views of the Chocolate Mountains within those spaces.

Minimal lighting would be required for operations and would be limited to safety and security functions and would adhere to County lighting requirements. The Project is not anticipated to create a new source of substantial light which would adversely affect nighttime views in the Project Area. Shade and shadow effects would not be a significant impact to adjacent properties due to the height of the proposed apparatus and security fencing.

Potential impacts to California Register of Historical Resources-eligible historic resources would need to be avoided by preserving them in dedicated open space, by requiring archaeological monitoring, or by carrying out data recovery efforts prior to Project approval, implementation, or construction.

The Project would be consistent with the County General Plan. No impacts associated with incompatibility with visual resource policies would occur under the Proposed Project.

Sincerely,

Senior Environmental Planner
ECORP Consulting, Inc.

Attachments

Attachment A: Figures
Attachment B: Conceptual Plans

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REFERENCES

County of Imperial. 2008. *County of Imperial General Plan Circulation and Scenic Highways Element*. January

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National Renewable Energy Laboratory. 2020. *Research and Analysis Demonstrate the Lack of Impacts of Glare from Photovoltaic Modules*. Website: https://www.nrel.gov/state-local-tribal/blog/posts/research-and-analysis-demonstrate-the-lack-of-impacts-of-glare-from-photovoltaic-modules.html, Accessed March 25, 2021.

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LIST OF ATTACHMENTS

Attachment A – Figures

Attachment B – Conceptual Plans

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Figures

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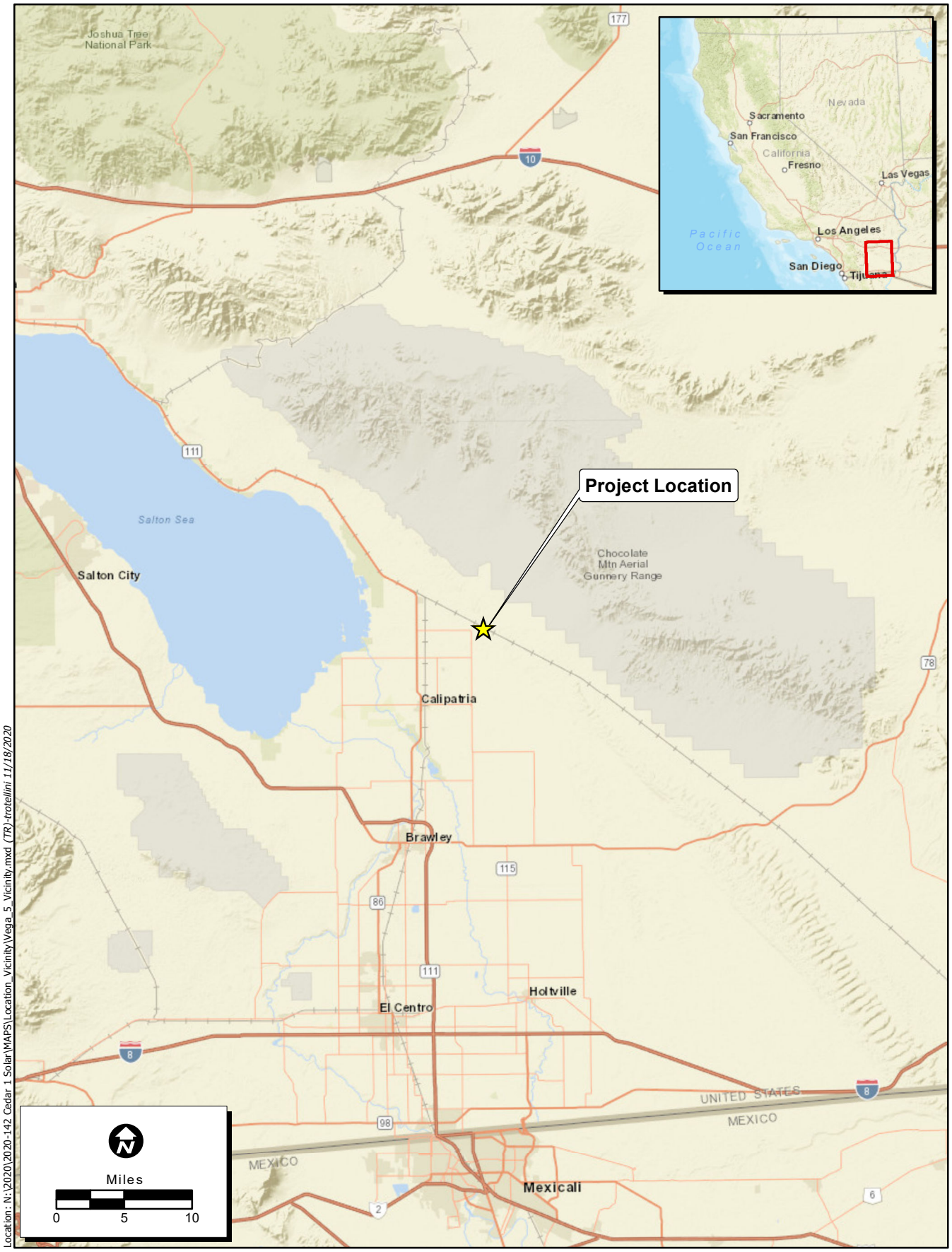

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Map Date: 11/18/2020

Sources:

Figure 1. Project Vicinity

2020-144 Vega SES 5

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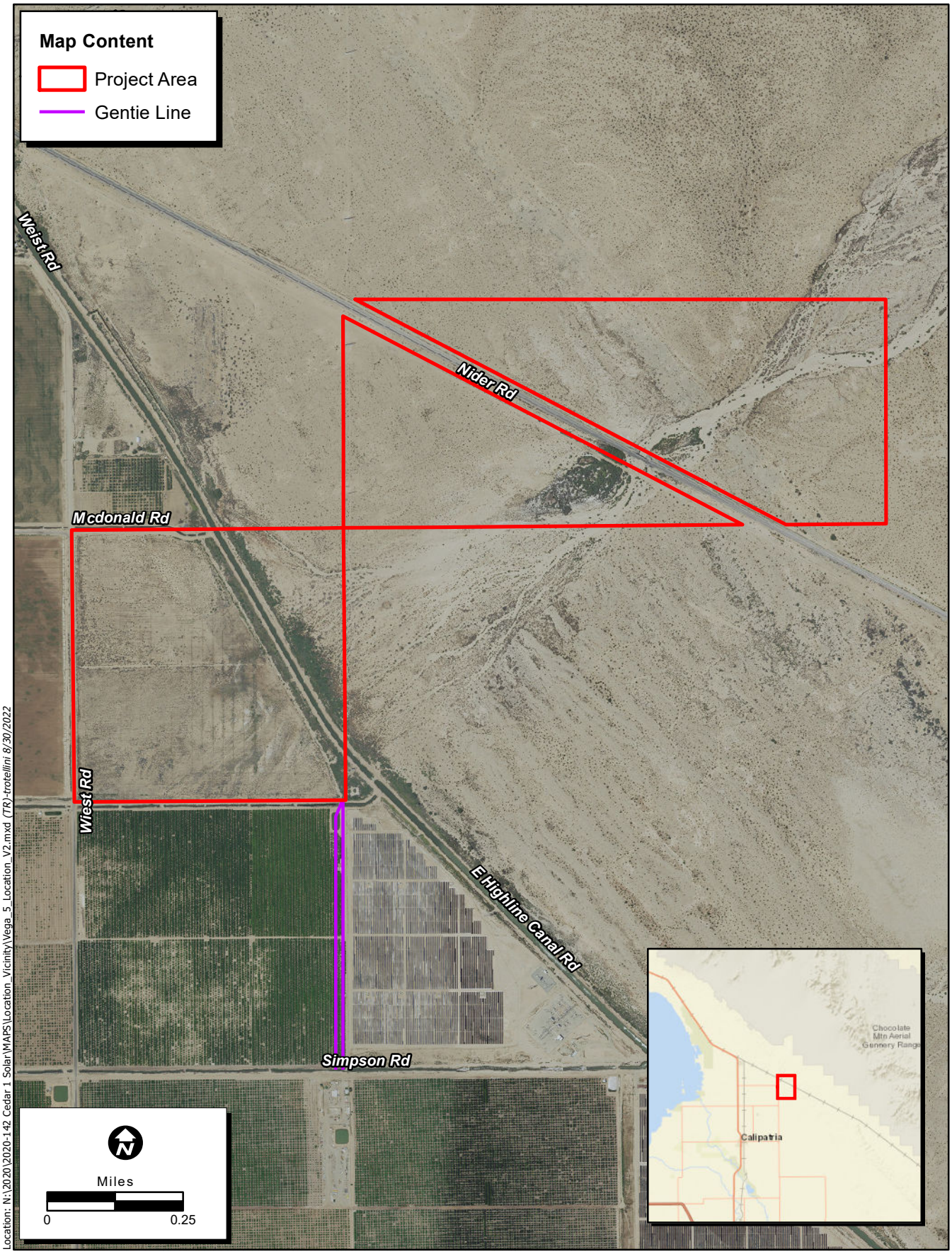

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Map Date: 8/30/2022

*Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community*Photo Source: NAIP

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Figure 2. Project Location

2020-144 Cedar 2 SES, LLC

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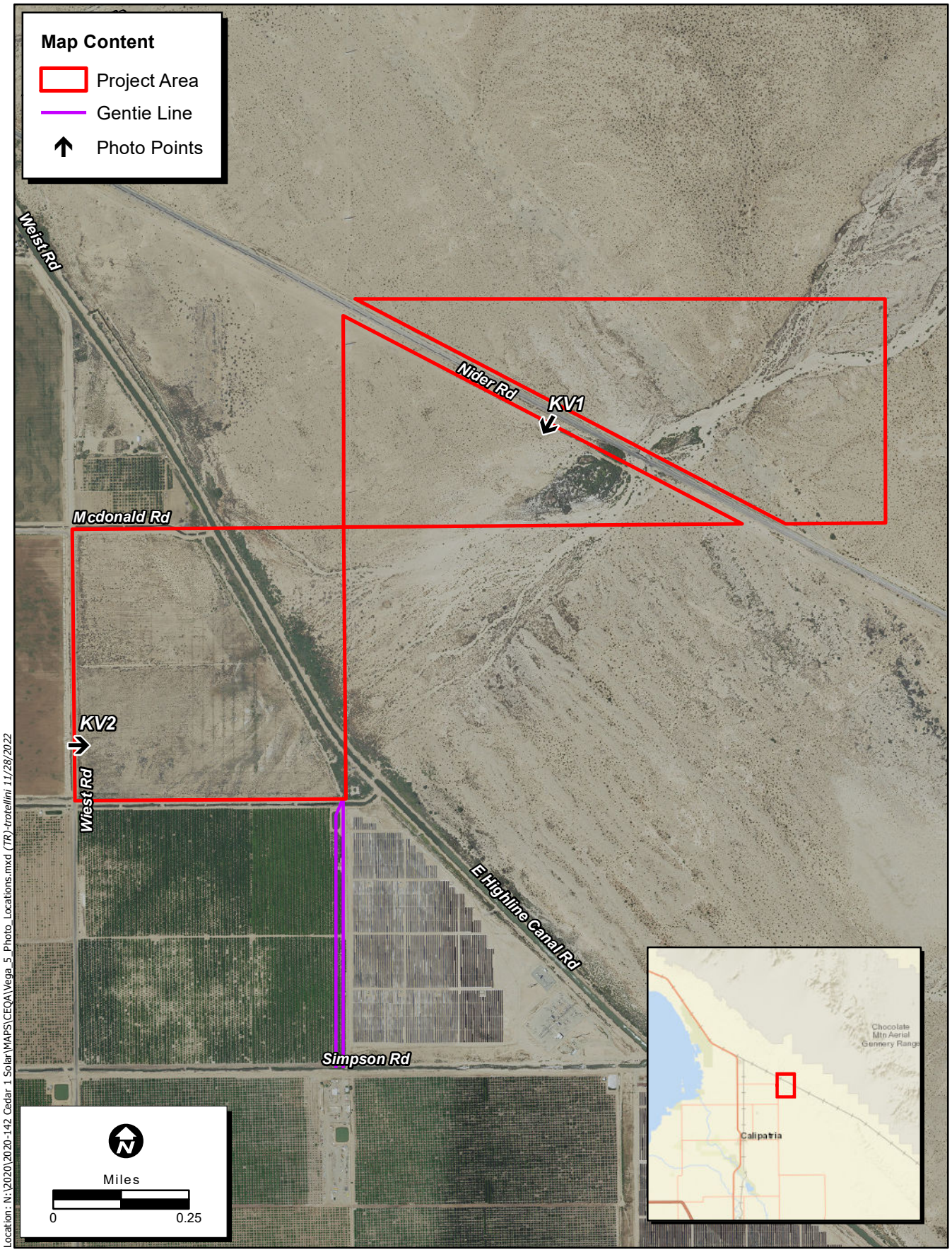

Map Date: 11/28/2022

*Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community*Photo Source: NAIP

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Figure 3. Photo Locations

2020-144 Vega SES 5

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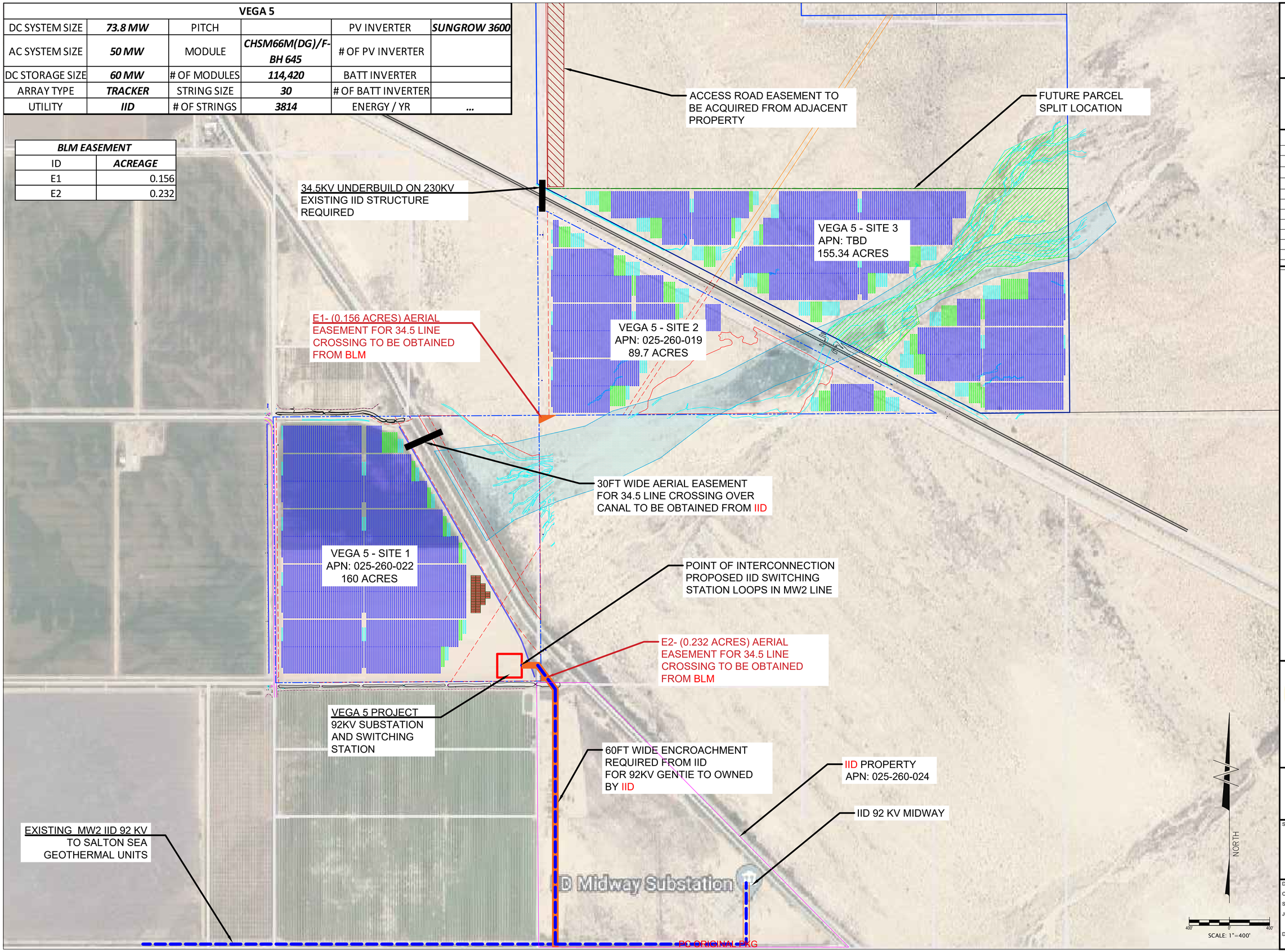
VEGA 5					
DC SYSTEM SIZE	***73.8 MW***	PITCH		PV INVERTER	***SUNGROW 3600***
AC SYSTEM SIZE	***50 MW***	MODULE	***CHSM66M(DG)/F-BH 645***	# OF PV INVERTER	
DC STORAGE SIZE	***60 MW***	# OF MODULES	***114,420***	BATT INVERTER	
ARRAY TYPE	***TRACKER***	STRING SIZE	***30***	# OF BATT INVERTER	
UTILITY	***IID***	# OF STRINGS	***3814***	ENERGY / YR	...

BLM EASEMENT	
ID	***ACREAGE***
E1	0.156
E2	0.232



VEGA SES 5

CONFIDENTIAL DOCUMENTS

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REV.	BY	DESCRIPTION	DATE	APPR'D BY
0	RO	PRELIMINARY	2/12/21	HP
1	HP	ADJUSTED FOR CEDAR 2	09/1/21	HP
2	HP	REVISED CONSTRAINTS	02/08/22	HP
3	HP	EASEMENT PLAN	10/12/22	HP

1 inch

Scale to Confirm 24"x36" Plot

PLOT: 10/26/2022 9:37 AM

ZGLOBAL
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SHEET TITLE:

SITE PLAN

DRAWN BY:	RO	DRAWING No.
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Air Quality and Greenhouse Gas Assessment

Vega SES Complex Solar Energy Storage Project

County of Imperial, California

Prepared For:

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Attachment A – CalEEMod Output Files Criteria Air Pollutants & Greenhouse Gas Emissions

Attachment B – Renewable Energy Emission Displacement

LIST OF ACRONYMS AND ABBREVIATIONS

°F	Degrees Fahrenheit
µg/m3	Micrograms per cubic meter; ppm = parts per million
1992 CO Plan	1992 Federal Attainment Plan for Carbon Monoxide
AB	Assembly Bill
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CH_4	Methane
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
County	Imperial County
CUP	Conditional Use Permit
DPM	Diesel particulate matter
EO	Executive Order

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LIST OF ACRONYMS AND ABBREVIATIONS

GHG	Greenhouse gas
GWP	Global warming potential
HSAT	Horizontal Single-Axis Tracker
ICAPCD	Imperial County Air Pollution Control District
IPCC	Intergovernmental Panel on Climate Change
MDAQMD	Mojave Desert Air Quality Management District
MWs	Megawatts
MWAC	Megawatt Alternating Current
N_2O	Nitrous oxide
NAAQS	National Ambient Air Quality Standards
NO_2	Nitrogen dioxide
NO_x	Nitric oxides
O_3	Ozone
PM	Particulate matter
PM_{10}	Coarse particulate matter
$PM_{2.5}$	Fine particulate matter
ppb	Parts per billion
Project	Vega SES Complex Solar Energy Storage Project
PV	Photovoltaic
ROGs	Reactive organic gases
SB	Senate Bill
SCAQMD	South Coast Air Quality Management
SIP	State Implementation Plan
SO_2	Sulfur dioxide
SO_x	Sulfur oxides
SR	State Route
SRA	Source receptor area
SSAB	Salton Sea Air Basin
TACs	Toxic air contaminants
USEPA	U.S. Environmental Protection Agency

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1.0 INTRODUCTION

This report documents the results of an assessment of both air quality and greenhouse gas (GHG) emissions completed for the Vega SES Complex Solar Energy Storage Project (Project), which includes the construction and operation of an expansive photovoltaic (PV) solar energy facility and associated infrastructure on approximately 1,963 acres of privately-owned land in the County of Imperial, California. This assessment was prepared using methodologies and assumptions recommended in the rules and regulations promulgated by the Imperial County Air Pollution Control District (ICAPCD). Regional and local existing conditions are presented, along with pertinent emissions standards and regulations.

1.1 Project Overview

The Project proposes to construct a cluster of alternating current solar PV energy generation systems totaling 350 Megawatts (MWs) with accompanying battery storage. The Project consists of three individual site locations which make up the Vega SES Complex. Vega 2 is located on three non-contiguous parcels totaling 1,323 acres, Vega 3 is located on a 640-acre parcel but only compromising 230 acres, and Vague 5 is located on three parcels totaling 410 acres. It is proposed that Vega 2 and 3 will be constructed together beginning in early 2023 with Vega 5 being constructed in 2024.

All systems would be utilizing either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The individual PV systems would be arranged in large arrays by placing them in columns spaced approximately ten feet apart to maximize operational performance and to allow access for panel cleaning and maintenance.

1.2 Project Location

The total combined Project site area spans approximately 1,963 acres and is located 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The Site is transected by the Coachella and East Highline Canals and the Union Pacific Railway in northcentral Imperial County, California.

1.3 Project Site Access

The Project Area would be accessible from McDonald Road, a paved road off State Route 111. The Vega 5 Project Site is located at the eastern end of McDonald Road. As such, all vehicle travel to the Vega 5 Project Site would occur on paved roads. Access to the Vega 2 and 3 Project Site would require an additional 1.65 miles of travel on Wiest Road and Flowing Wells Road. Both of which are unpaved.

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1.4 Project Construction

Construction activities would involve demolition and grubbing, grading of the Project Site to establish access roads and pads for electrical equipment (inverters and step–up transformers), trenching for underground electrical collection lines, and the installation of solar equipment and security fencing. The construction of each Project component (Vega 2 & 3 and Vega 5) is estimated to take 12-18 months each and would begin in early 2023. A temporary, portable construction supply container would be located at the Project Site at the beginning of construction and removed at the end of construction. The number of on–site construction workers for Vega 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the Vega 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on–site construction workers for the Vega 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the Vega 5 battery storage facility and substation is not expected to exceed 50 workers at any one time. Onsite parking would be provided for all construction workers.

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2.0 AIR QUALITY

2.1 Air Quality Setting

Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below, along with the current regulatory structure that applies to the Salton Sea Air Basin (SSAB), which encompasses the Project Site, pursuant to the regulatory authority of the ICAPCD.

Ambient air quality is commonly characterized by climate conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The air basin is subject to a combination of topographical and climatic factors that reduce the potential for high levels of regional and local air pollutants. The following section describes the pertinent characteristics of the air basin and provides an overview of the physical conditions affecting pollutant dispersion in the Project area.

2.1.1 Salton Sea Air Basin

The California Air Resources Board (CARB) divides the State into air basins that share similar meteorological and topographical features. Imperial County, which extends over 4,482 square miles in the southeastern corner of California, lies in the SSAB, which includes the Imperial Valley and the central part of Riverside County, including the Coachella Valley. The province is characterized by the large-scale sinking and warming of air within the semi-permanent subtropical high-pressure center over the Pacific Ocean. The elevation in Imperial County ranges from about 230 feet below sea level in the Salton Sea to more than 2,800 feet on the mountain summits to the east.

Temperature and Precipitation

The flat terrain near the Salton Sea, intense heat from the sun during the day, and strong radiational cooling at night create deep convective thermals during the daytime and equally strong surface-based temperature inversions at night. The temperature inversions and light nighttime winds trap any local air pollution emissions near the ground. The area is subject to frequent hazy conditions at sunrise, followed by rapid daytime dissipation as winds pick up and the temperature warms. The lack of clouds and atmospheric moisture creates strong diurnal and seasonal temperature variations ranging from an average summer maximum of 108 degrees Fahrenheit (° F) down to a winter morning minimum of 38° F. The most pleasant weather occurs from about mid-October to early May when daily highs are in the 70s and 80s with very infrequent cloudiness or rainfall. Imperial County experiences rainfall on an average of only four times per year (>0.10 inches in 24 hours). The local area usually has three days of rain in winter and one thunderstorm day in August. The annual rainfall in this region is less than three inches per year (ICAPCD 2010).

Wind

Winds in the area are driven by a complex pattern of local, regional and global forces, but primarily reflect the temperature difference between the cool ocean to the west and the heated interior of the entire desert southwest. For much of the year, winds flow predominantly from the west to the east. In summer,

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intense solar heating in the Imperial Valley creates a more localized wind pattern, as air comes up from the southeast via the Gulf of California. During periods of strong solar heating and intense convection, turbulent motion creates good mixing and low levels of air pollution. However, even strong turbulent mixing is insufficient to overcome the limited air pollution controls on sources in the Mexicali, Mexico area. Imperial County is predominately agricultural land. This is a factor in the cumulative air quality of the SSAB. The agricultural production generates dust and small particulate matter through the use of agricultural equipment on unpaved roads, land preparation, and harvest practices. The Imperial County experiences unhealthful air quality from photochemical smog and from dust due to extensive surface disturbance and the very arid climate (ICAPCD 2010).

Inversion

The entire county is affected by inversion layers, where warm air overlays cooler air. Inversion layers trap pollutants close to the ground. In the winter, these pollutant-trapping, ground-based inversions are formed during windless, clear-sky conditions, as cold air collects in low-lying areas such as valleys and canyons. Imperial County experiences surface inversions almost every day of the year. Due to strong surface heating, these inversions are usually broken allowing pollutants to be more easily dispersed (ICAPCD 2010).

2.1.2 Criteria Air Pollutants

Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health with a determined margin of safety. Ozone (O_3), coarse particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2) are considered to be local pollutants because they tend to accumulate in the air locally. PM is also considered a local pollutant. Health effects commonly associated with criteria pollutants are summarized in Table 2-1.

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Table 2-1. Criteria Air Pollutants- Summary of Common Sources and Effects

Pollutant	Major Manmade Sources	Human Health & Welfare Effects
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO_2	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O_3	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (N_2O) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
PM_{10} & $PM_{2.5}$	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
SO_2	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, and locomotives.	Respiratory irritant. Aggravates lung and heart problems. Can damage crops and natural vegetation. Impairs visibility.

Source: California Air Pollution Control Officers Association (CAPCOA 2013)

Carbon Monoxide

CO in the urban environment is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High CO concentrations can cause headaches, aggravate cardiovascular disease and impair central nervous system functions. CO concentrations can vary greatly over comparatively short distances. Relatively high concentrations of CO are typically found near crowded intersections and along heavy roadways with slow moving traffic. Even under the most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within relatively short distances of the source. Overall CO emissions are decreasing as a result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973. CO levels in the SSAB are in compliance with the state and federal one- and eight-hour standards.

Nitrogen Oxides

Nitrogen gas comprises about 80 percent of the air and is naturally occurring. At high temperatures and under certain conditions, nitrogen can combine with oxygen to form several different gaseous compounds collectively called nitric oxides (NO_x). Motor vehicle emissions are the main source of NO_x in urban areas. NO_x is very toxic to animals and humans because of its ability to form nitric acid with water in the eyes, lungs, mucus membrane, and skin. In animals, long-term exposure to NO_x increases susceptibility to respiratory infections, and lowering resistance to such diseases as pneumonia and

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influenza. Laboratory studies show that susceptible humans, such as asthmatics, who are exposed to high concentrations can suffer from lung irritation or possible lung damage. Precursors of NO_x, such as NO and NO_2, attribute to the formation of O_3 and $PM_{2.5}$. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

Ozone

O_3 is a secondary pollutant, meaning it is not directly emitted. It is formed when volatile organic compounds (VOCs) or ROGs and NO_x undergo photochemical reactions that occur only in the presence of sunlight. The primary source of ROG emissions is unburned hydrocarbons in motor vehicle and other internal combustion engine exhaust. NO_x forms as a result of the combustion process, most notably due to the operation of motor vehicles. Sunlight and hot weather cause ground-level O_3 to form. Ground-level O_3 is the primary constituent of smog. Because O_3 formation occurs over extended periods of time, both O_3 and its precursors are transported by wind and high O_3 concentrations can occur in areas well away from sources of its constituent pollutants.

People with lung disease, children, older adults, and people who are active can be affected when O_3 levels exceed ambient air quality standards. Numerous scientific studies have linked ground-level O_3 exposure to a variety of problems including lung irritation, difficult breathing, permanent lung damage to those with repeated exposure, and respiratory illnesses.

Particulate Matter

PM includes both aerosols and solid particulates of a wide range of sizes and composition. Of concern are those particles smaller than or equal to 10 microns in diameter size (PM_{10}) and small than or equal to 2.5 microns in diameter ($PM_{2.5}$). Smaller particulates are of greater concern because they can penetrate deeper into the lungs than larger particles. PM_{10} is generally emitted directly as a result of mechanical processes that crush or grind larger particles or form the resuspension of dust, typically through construction activities and vehicular travel. PM_{10} generally settles out of the atmosphere rapidly and is not readily transported over large distances. $PM_{2.5}$ is directly emitted in combustion exhaust and is formed in atmospheric reactions between various gaseous pollutants, including NO_x, sulfur oxides (SO_x) and VOCs. $PM_{2.5}$ can remain suspended in the atmosphere for days and/or weeks and can be transported long distances.

The principal health effects of airborne PM are on the respiratory system. Short-term exposure of high $PM_{2.5}$ and PM_{10} levels are associated with premature mortality and increased hospital admissions and emergency room visits. Long-term exposure is associated with premature mortality and chronic respiratory disease. According to the U.S. Environmental Protection Agency (USEPA), some people are much more sensitive than others to breathing PM_{10} and $PM_{2.5}$. People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worse illnesses; people with bronchitis can expect aggravated symptoms; and children may experience decline in lung function due to breathing in PM_{10} and $PM_{2.5}$. Other groups considered sensitive include smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths.

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2.1.3 Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Additionally, diesel engines emit a complex mixture of air pollutants composed of gaseous and solid material. The solid emissions in diesel exhaust are known as diesel particulate matter (DPM). In 1998, California identified DPM as a TAC based on its potential to cause cancer, premature death, and other health problems (e.g., asthma attacks and other respiratory symptoms). Those most vulnerable are children (whose lungs are still developing) and the elderly (who may have other serious health problems). Overall, diesel engine emissions are responsible for the majority of California's known cancer risk from outdoor air pollutants. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

Diesel Exhaust

Most recently, CARB identified DPM as a TAC. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine (USEPA 2002). Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs; due to their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

Total Organic Gases

Total organic gases (TOG) emissions are compounds of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. Specifically, TOG emissions include all organic gas compounds emitted to the atmosphere, including the low reactivity compounds (methane, ethane, various chlorinated fluorocarbons, acetone, perchloroethylene, volatile methyl siloxanes, etc.). TOG emissions also include low volatility or "low vapor pressure" organic compounds (e.g., some

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petroleum distillate mixtures). TOG includes all organic compounds that can become airborne (through evaporation, sublimation, as aerosols, etc.), excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.

Various subsets of TOG cause headaches, dizziness, upper respiratory tract irritation, nausea, and cancer. Vehicular traffic traveling on area roadways, such as SR 98, are sources of TOG.

2.1.4 Asbestos

The term "asbestos" describes naturally occurring fibrous minerals found in certain types of rock formations. It is a mineral compound of silicon, oxygen, hydrogen, and various metal cations. When mined and processed, asbestos is typically separated into very thin fibers. When these fibers are present in the air, they are normally invisible to the naked eye. Once airborne, asbestos fibers can cause serious health problems. If inhaled, asbestos fibers can impair normal lung functions, and increase the risk of developing lung cancer, mesothelioma, or asbestosis.

Naturally-occurring asbestos, which was identified as a TAC in 1986 by CARB, is located in many parts of California and is commonly associated with ultramafic rock. The Project Site is not located in an area of known or suspected naturally-occurring asbestos (DOC 2000).

2.1.5 Ambient Air Quality

Ambient air quality at the Project Site can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. CARB maintains more than 60 monitoring stations throughout California. O_3, PM_{10} and $PM_{2.5}$ are the pollutant species most potently affecting the Project region. As described in detail below, the Project region is designated as a nonattainment area for the federal O_3, $PM_{2.5}$ and PM_{10} standards and is also a nonattainment area for the state standards for O_3 and PM_{10} (CARB 2019). The Niland-English Road air quality monitoring station (7711 English Road, Niland), located approximately 7.27 miles west of the Project Site, monitors ambient concentrations of O_3 and PM_{10}. The Brawley-Main Street #2 air quality monitoring station (220 Main Street, Brawley), located 17.8 miles southwest of the Project Site, monitors ambient concentrations of $PM_{2.5}$. Ambient emission concentrations will vary due to localized variations in emission sources and climate and should be considered "generally" representative of ambient concentrations in the Project area.

Table 2-2 summarizes the published data concerning O_3, $PM_{2.5}$ and PM_{10} from the Niland-English Road and Brawley-Main Street #2 monitoring stations for each year that the monitoring data is provided. O_3, PM_{10} and $PM_{2.5}$ are the pollutant species most potently affecting the Project region.

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Table 2-2. Summary of Ambient Air Quality Data

Pollutant Standards	2019	2020	2021
O_3- Niland-English Road			
Max 1-hour concentration (ppm)	0.060	0.054	0.065
Max 8-hour concentration (ppm) (state/federal)	0.055 / 0.054	0.046 / 0.045	0.055 / 0.055
Number of days above 1-hour standard (state/federal)	0 / 0	0 / 0	0 / 0
Number of days above 8-hour standard (state/federal)	0 / 0	0 / 0	0 / 0
PM_{10}- Niland-English Road			
Max 24-hour concentration (µg/m^3) (state/federal)	156.3 / 155.7	241.3 / 239.8	218.2 / 211.2
Number of days above 24-hour standard (state/federal)	49.3 / 1.0	68.9 / 1.0	86.0 / 4.0
$PM_{2.5}$- Brawley-Main Street			
Max 24-hour concentration (µg/m^3) (state/federal)	28.9 / 28.9	23.7 / 23.7	24.4 / 24.4
Number of days above federal 24-hour standard	0	0	*

Source: CARB 2022
µg/m^3 = micrograms per cubic meter; ppm = parts per million
* = Insufficient data available

The USEPA and CARB designate air basins or portions of air basins and counties as being in "attainment" or "nonattainment" for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. The National Ambient Air Quality Standards (NAAQS) (other than O_3, PM_{10} and $PM_{2.5}$ and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The NAAQS for O_3, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards (CAAQS) are not to be exceeded during a three-year period. The attainment status for the portion of the SSAB encompassing the Project Site is included in Table 2-3.

Table 2-3. Attainment Status of Criteria Pollutants in the Imperial County Portion of the SSAB

Pollutant	State Designation	Federal Designation
O_3	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Nonattainment
$PM_{2.5}$	Attainment	Nonattainment
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	Unclassified/Attainment

Source: CARB 2019

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The determination of whether an area meets the state and federal standards is based on air quality monitoring data. Some areas are unclassified, which means there is insufficient monitoring data for determining attainment or nonattainment. Unclassified areas are typically treated as being in attainment. Because the attainment/nonattainment designation is pollutant-specific, an area may be classified as nonattainment for one pollutant and attainment for another. Similarly, because the state and federal standards differ, an area could be classified as attainment for the federal standards of a pollutant and as nonattainment for the state standards of the same pollutant. The region is designated as a nonattainment area for the federal O_3, $PM_{2.5}$ and PM_{10} standards and is also a nonattainment area for the state standards for O_3 and PM_{10} (CARB 2019).

2.1.6 Sensitive Receptors

Sensitive receptors are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest existing noise-sensitive land use to the Project Site is a single-family residence located 523 feet from the southwestern corner of the Vega 5 Project boundary.

2.2 Regulatory Framework

2.2.1 Federal

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the USEPA to establish the NAAQS, with states retaining the option to adopt more stringent standards or to include other specific pollutants. On April 2, 2007, the Supreme Court found that carbon dioxide (CO_2) is an air pollutant covered by the CAA; however, no NAAQS have been established for CO_2.

These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those "sensitive receptors" most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. Table 2-3 lists the federal attainment status of the SSAB for the criteria pollutants.

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2.2.2 State

California Clean Air Act

The California Clean Air Act (CCAA) allows the state to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

California State Implementation Plan

The CCAA (and its subsequent amendments) requires the state to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register.

Local air districts, such as the ICAPCD, prepare air quality attainment plans or air quality management plans and submit them to CARB for review, approval, and incorporation into the applicable SIP. The air districts develop the strategies stated in the SIPs for achieving air quality standards on a regional basis.

For 8-Hour O_3, the ICAPCD adopted the 2017 8-hour Ozone State Implementation Plan in October 2018. The plan includes control measures which are an integral part of how the ICAPCD currently controls the ROG and NO_X emissions within the O_3 nonattainment areas. The overall strategy includes programs and control measures which represent the implementation of Reasonable Available Control Technology (40 CFR 51.912) and the assurance that stationary sources maintain a net decrease in emissions.

For PM_{10}, the ICAPCD adopted the PM_{10} State Implementation Plan in 2018, which maintained previously adopted fugitive dust control measures (Regulation VIII). The USEPA had previously approved Regulation VIII fugitive dust rules into the Imperial County portion of the California SIP in 2013.

For $PM_{2.5}$, the ICAPCD adopted the $PM_{2.5}$ SIP in April 2018. This SIP concluded that the majority of the $PM_{2.5}$ emissions resulted from transport in nearby Mexico. Specifically, the SIP demonstrates attainment of the 2006 $PM_{2.5}$ NAAQS "but for" transport of international emissions from Mexicali, Mexico. In accordance

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with the CCAA, the $PM_{2.5}$ SIP satisfies the attainment demonstration requirement satisfying the provisions of the CCAA.

The ICAPCD is working cooperatively with counterparts from Mexico to implement emissions reductions strategies and projects for air quality improvements at the border. The two countries strive to achieve these goals through local input from states, County governments, and citizens. Within the Mexicali and Imperial Valley area, the Air Quality Task Force (AQTF) has been organized to address those issues unique to the border region known as the Mexicali/Imperial air shed. The AQTF membership includes representatives from Federal, State, and local governments from both sides of the border, as well as representatives from academia, environmental organizations, and the general public. This group was created to promote regional efforts to improve the air quality monitoring network, emissions inventories, and air pollution transport modeling development, as well as the creation of programs and strategies to improve air quality.

Tanner Air Toxics Act & Air Toxics "Hot Spots" Information and Assessment Act

CARB's Statewide comprehensive air toxics program was established in 1983 with Assembly Bill (AB) 1807, the Toxic Air Contaminant Identification and Control Act (Tanner Air Toxics Act of 1983). AB 1807 created California's program to reduce exposure to air toxics and sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an airborne toxics control measure (ATCM) for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions.

CARB also administers the state's mobile source emissions control program and oversees air quality programs established by state statute, such as AB 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment (HRA) and, if specific thresholds are exceeded, required to communicate the results to the public in the form of notices and public meetings. In September 1992, the "Hot Spots" Act was amended by Senate Bill (SB) 1731, which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

2.2.3 Local

Imperial County Air Pollution Control District

The ICAPCD is the local air quality agency and shares responsibility with CARB for ensuring that state and federal ambient air quality standards are achieved and maintained in the SSAB. Furthermore, ICAPCD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs and regulates agricultural burning. Other ICAPCD responsibilities include monitoring ambient air quality, preparing clean air plans, planning activities such as modeling and maintenance of the emission inventory, and responding to citizen air quality complaints.

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To achieve and maintain ambient air quality standards, the ICAPCD has adopted various rules and regulations for the control of airborne pollutants. The ICAPCD Rules and Regulations that are applicable to the proposed project include, but are not limited to, ICAPCD Rule 801 requirements for construction activities. The purpose of this rule is to reduce the amount of PM_{10} entrained in the ambient air as a result of emissions generated from construction and other earthmoving activities by requiring actions to prevent, reduce, or mitigate PM_{10} emissions. In addition, the project is required to adopt best available control measures to minimize emissions from surface-disturbing activities to comply with ICAPCD Regulation VIII (Fugitive Dust Rules). These measures include the following (ICAPCD 2017):

- All disturbed areas, including bulk material storage which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material such as vegetative ground cover.
- All on-site and off-site unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- All unpaved traffic areas of 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at the delivery site after removal of bulk material.
- All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.
- Bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.
- The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

In addition, there are other ICAPCD rules and regulations, not detailed here, which may apply to the proposed Project but are administrative or descriptive in nature. These include rules associated with fees, enforcement and penalty actions, and variance procedures.

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2.3 Air Quality Emissions Impact Assessment

2.3.1 Thresholds of Significance

The impact analysis provided below is based on the following California Environmental Quality Act (CEQA) Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to air quality if it would do any of the following:

1) Conflict with or obstruct implementation of any applicable air quality plan.

2) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

3) Expose sensitive receptors to substantial pollutant concentrations.

4) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people).

ICAPCD Thresholds

The significance criteria established by the applicable air quality management or air pollution control district (ICAPCD) may be relied upon to make the above determinations. The ICAPCD has identified significance thresholds for use in evaluating project impacts under CEQA. Accordingly, the ICAPCD-recommended thresholds of significance are used to determine whether implementation of the proposed Project would result in a significant air quality impact. Significance thresholds for evaluation construction and operational air quality impacts are listed in Table 2-4.

Table 2-4. ICAPCD Significance Thresholds – Pounds per Day

Criteria Pollutant and Precursors	Construction Activities	Operations	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	
		Tier I Threshold	Tier II Threshold
ROG	75	<137	>137
NO_x	100	<137	>137
PM_{10}	150	<150	>150
$PM_{2.5}$	N/A	<550	>550
CO	550	<550	>550
SO_2	N/A	<150	>150

Source: ICAPCD 2017

Projects that are predicted to exceed Tier I thresholds require implementation of applicable ICAPCD standard mitigation measures to be considered less than significant. Projects exceeding Tier II thresholds are required to implement applicable ICAPCD standard mitigation measures, as well as applicable

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discretionary mitigation measures. Projects that exceed the Tier II thresholds after implementation of standard and discretionary mitigation measures would be considered to have a potentially significant impact to human health and welfare.

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

2.3.2 Methodology

Air quality impacts were assessed in accordance with methodologies recommended by the ICAPCD. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were calculated using CalEEMod model defaults for Imperial County coupled with information provided by the Project applicant. For instance, construction is estimated to take 12-18 months. According to the Traffic Impact Study prepared for the Project (KOA 2021a & 2021b), the number of on–site construction workers for Vega 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the Vega 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on–site construction workers for the Vega 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the Vega 5 battery storage facility and substation is not expected to exceed 50 workers at any one time.

Construction workers would access the Project Area from McDonald Road, a paved road off State Route 111. The Vega 5 Project Site is located at the eastern end of McDonald Road. As such, vehicle travel to the Vega 5 Project Site would not occur on any unpaved roads. Access to the Vega 2 and 3 Project Site would require an additional 1.65 miles of travel on Wiest Road and Flowing Wells Road. Both of which are unpaved.

Operational air pollutant emissions account for a conservative estimate of two worker trips per day. Such visits include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules if needed to maintain power generation efficiency.

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2.3.3 Impact Analysis

Project Construction-Generated Criteria Air Quality Emissions

Emissions associated with Project construction would be temporary and short-term but have the potential to represent a significant air quality impact. Two basic sources of short-term emissions will be generated through Project construction: operation of the heavy-duty equipment (i.e., excavators, loaders, haul trucks) and the creation of fugitive dust during clearing and grading. Construction activities such as excavation and grading operations, construction vehicle traffic, and wind blowing over exposed soils would generate exhaust emissions and fugitive PM emissions that affect local air quality at various times during construction. Effects would be variable depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust control efforts. The dry climate of the area during the summer months creates a high potential for dust generation. Construction activities would be subject to ICAPCD Regulation VIII which, as previously described, requires taking reasonable precautions to reduce the amount of PM_{10} entrained in the ambient air as a result of emissions generated from construction and other earthmoving activities by requiring actions to prevent, reduce, or mitigate PM_{10} emissions. In addition, the Project is required to adopt best available control measures to minimize emissions from surface-disturbing activities to comply with ICAPCD Regulation VIII (Fugitive Dust Rules).

Emissions associated with Project off-road equipment, worker commute trips, and ground disturbance were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. See Attachment A for more information regarding the construction assumptions, including types of construction equipment used and Project duration used in this analysis.

Predicted maximum daily emissions attributable to Project construction are summarized in Table 2-5. Such emissions are short-term and of temporary duration, lasting only as long as Project construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the ICAPCD thresholds of significance.

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Table 2-5. Unmitigated Project Construction-Generated Emissions

Construction Year	Pollutant (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction of Vega 2 and 3 (2023)	5.46	35.12	50.94	0.08	1,210.25	122.54
Construction of Vega 5 (2024)	3.96	32.64	41.48	0.07	11.51	5.14
ICAPCD Significance Threshold	*75*	*100*	*550*	*N/A*	*150*	*N/A*
Exceed ICAPCD Threshold?	**No**	**Yes**	**No**	**No**	**Yes**	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.
Notes: Pounds per day taken from the season (summer or winter) with the highest output.

As shown in Table 2-5, emissions of PM_{10} would exceed the ICAPCD significance threshold on the peak day(s) of construction for Vega 2 and 3. The predominant source of Project PM_{10} emissions is workers commuting to and from the Project Site on unpaved roads. Commute vehicles traveling over the exposed soils of unpaved roads generates substantial amounts of fugitive PM_{10} emissions. The access route on McDonald Road leading to the Vega 2 and 3 Project Site are paved; however, there are approximately 1.65 miles of unpaved roadway that would be used by commuting workers and vendors, specifically Wiest Road and Flowing Wells Road. It is noted that the access route leading to Vega 5 has no unpaved roads. Therefore, mitigation measure AQ-1 is required in order to reduce PM_{10} emissions to levels below the significance threshold. Mitigation measure AQ-1 would require the use of soil stabilizers on the 1.65 miles of unpaved roadway used for construction worker access to the Project Site. Construction activities associated with Vega 5 would not exceed ICAPCD significance threshold for PM_{10} emissions; however, mitigation measure AQ-1 is still imposed on Vega 5 construction to reduce the nuisance caused by fugitive dust.

The following mitigation is recommended:

AQ-1: Project Construction Dust Suppression

During construction activities the construction contractor shall employ the following PM_{10} reducing measures:

1. All unpaved roads associated with construction shall be effectively stabilized of dust emissions using Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant before the commencement of construction, and every 30 days thereafter until the end of all construction activities. Unpaved roads associated with construction include:

    - The 1.65 miles of unpaved road on Weist Road and Flowing Wells Road to the Vega 2 and 3 Project Site. Monthly application of Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant shall be applied at a rate of 0.1 gallon/ square yard of chemical dust suppressant.

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2. Prior to any earthmoving activity, the applicant shall submit a construction dust control plan and obtain Imperial County Air Pollution Control District and Imperial County Planning and Development Services Department (ICPDS) approval.

3. Pursuant to the Imperial County Air Pollution Control District, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII – Fugitive Dust Control Measures. Whereas these Regulation VIII measures are mandatory and are not considered project environmental mitigation measures, the Imperial County Air Pollution Control District CEQA Handbook's required additional standard and enhanced mitigation measures listed below shall be implemented prior to and during construction. Imperial County Air Pollution Control District will verify implementation and compliance with these measures as part of the grading permit review/approval process.

   Imperial County Air Pollution Control District Standard Measures for Fugitive Dust (PM_{10}) Control

   - All disturbed areas, including bulk material storage, which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material, such as vegetative ground cover.
   - All on-site and offsite unpaved roads will be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
   - All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
   - The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material.
   - All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.
   - Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.
   - The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized, and visible emissions shall be

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limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants, and/or watering.

Imperial County Air Pollution Control District "Discretionary" Measures for Fugitive Dust (PM_{10}) Control

- Water exposed soil only in those areas where active grading and vehicle movement occurs with adequate frequency to control dust.
- Replace ground cover in disturbed areas as quickly as possible.
- Automatic sprinkler system installed on all soil piles.
- Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site.
- Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees.
- Implement a shuttle service to and from retail services and food establishments during lunch hours.

Standard Mitigation Measures for Construction Combustion Equipment

- Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum.
- Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

Enhanced Mitigation Measures for Construction Equipment

To help provide a greater degree of reduction of PM emissions from construction combustion equipment, Imperial County Air Pollution Control District recommends the following enhanced measures.

- Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways.
- Implement activity management (e.g., rescheduling activities to reduce short-term impacts).

Table 2-6 shows the results of construction emissions with implementation of mitigation measures AQ-1.

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Table 2-6. Mitigated Project Construction-Generated Emissions

Construction Year	Pollutant (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction of Vega 2 and 3 (2023)	5.46	35.12	50.94	0.08	115.51	13.52
Construction of Vega 5 (2024)	3.96	32.64	41.48	0.07	5.89	2.91
ICAPCD Significance Threshold	*75*	*100*	*550*	*N/A*	*150*	*N/A*
Exceed ICAPCD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.
Notes: Pounds per day taken from the season (summer or winter) with the highest output. PM reduction values associated with the implementation of soil stabilizers on unpaved roads monthly over the course of construction per email communication with Monica Soucier of the ICAPCD (2021).

As shown in Table 2-6, emissions generated during Project construction would not exceed the ICAPCD's thresholds of significance with implementation of mitigation measures AQ-1.

Operational Criteria Air Quality Emissions

Although limited, implementation of the Project would result in long-term operational emissions of criteria air pollutants such as PM_{10}, $PM_{2.5}$, CO, and SO_2 as well as O_3 precursors such as ROG and NO_X. Project-generated increases in emissions would be predominately associated with motor vehicle use for routine maintenance work and site security as well as panel upkeep and cleaning. Long-term operational emissions attributable to the Project are identified in Table 2-7 and compared to the operational significance thresholds promulgated by the ICAPCD.

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Table 2-7. Operational-Related Emissions (Regional Significance Analysis)- Solar and Battery Storage Facilities

Emission Source	Pollutant (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer						
Area	50.85	0.00	0.24	0.00	0.00	0.00
Energy	0.66	6.05	5.08	0.03	0.46	0.46
Mobile	0.01	0.01	0.10	0.00	3.54	0.35
Total:	**51.52**	**6.06**	**5.42**	**0.03**	**4.00**	**0.81**
ICAPCD Significance Threshold	*137*	*137*	*150*	*550*	*550*	*150*
Exceed ICAPCD Significance Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Winter						
Area	50.85	0.00	0.24	0.00	0.00	0.00
Energy	0.66	6.05	5.08	0.03	0.46	0.46
Mobile	0.00	0.01	0.08	0.00	3.54	0.35
Total:	**51.51**	**6.06**	**5.40**	**0.03**	**4.00**	**0.81**
ICAPCD Significance Threshold	*137*	*137*	*150*	*550*	*550*	*150*
Exceed ICAPCD Significance Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.
Notes: Operational emissions account for two vehicle trips per day. It is noted that this is a conservative estimate as many days will have no operational related vehicle trips. Additionally, it accounts for the energy usage used for the battery energy storage system and the pumping of 32-acre feet of water per year.

As shown in Table 2-7, the Project's emissions would not exceed any ICAPCD's thresholds for any criteria air pollutants during operation. Additionally, the purpose of the Project is the construction of a renewable energy and storage facility. Once in operation, it will decrease the need for energy from fossil fuel–based power plants in the state (see Table 2-8). Thus, once operational the Project would represent a beneficial impact to air quality.

Conflict with an Applicable Air Quality Management Plan

As previously described, the Project region is classified as nonattainment for federal ozone, O_3, $PM_{2.5}$ and PM_{10} standards (CARB 2019). The USEPA, under the provisions of the CAA, requires each state with regions that have not attained the federal air quality standards to prepare a SIP, detailing how these standards are to be met in each local area. The SIP is a legal agreement between each state and the federal government to commit resources to improving air quality. It serves as the template for conducting regional and project-level air quality analysis. CARB is the lead agency for developing the SIP in California. Local air districts, such as the ICAPCD, prepare air quality attainment plans or air quality management

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plans and submit them to CARB for review, approval, and incorporation into the applicable SIP. The air districts develop the strategies stated in the SIPs for achieving air quality standards on a regional basis.

The region's SIP is constituted of the ICAPCD air quality plans: 2018 PM_{10} SIP, the 2018 Annual $PM_{2.5}$ SIP, the 2017 8-Hour Ozone SIP, 2013 24-Hour $PM_{2.5}$ SIP, the 2009 1997 8-hour Ozone RACT SIP, the 2009 PM10 SIP and the 2008 Ozone Early Progress Plans. Project compliance with all of the ICAPCD rules and regulations results in conformance with the ICAPCD air quality plans. These air quality attainment plans are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls describing how the state will attain ambient air quality standards. These SIP plans and associated control measures are based on information derived from projected growth in Imperial County in order to project future emissions and then determine strategies and regulatory controls for the reduction of emissions. Growth projections are based on the general plans developed by Imperial County and the incorporated cities in the county.

As previously described, the Project proposes to construct a cluster of alternating current solar PV energy generation systems totaling 350 MWs with accompanying battery storage on approximately 1,963 acres of land. The Project would not result in population growth and would not cause an increase in currently established population projections. The Project does not include residential development or large local or regional employment centers, and thus would not result in significant population or employment growth.

Furthermore, the operation of the Project would create renewable energy over its planned lifetime and decrease the need for energy from fossil fuel–based power plants in the state, which is considered a beneficial impact to statewide air quality. The energy produced by the Project would displace the criteria pollutant emissions which would otherwise be produced by existing business-as-usual power generation resources (including natural gas and coal).

Table 2-8 shows the emissions that would potentially be displaced by the Proposed Project. Note that this estimate only includes that associated with the combustion of fossil fuels; it does not include the vehicle trips associated with the Project's operations, and it similarly does not include operational employee trips associated with natural gas or coal combustion nor the emissions associated with extracting and transporting those power sources. In addition, this estimate only includes the displacement of that portion of the California market that comes from fossil fuels and does not include the approximate 50 percent of the California electricity generated by non-combustion sources (wind, solar, nuclear, hydro-electric) (California Energy Commission [CEC] 2019a). Displacement of fossil fuel emissions has a direct beneficial effect on human health for those receptors downwind of the location of the fossil fuel power plants.

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Table 2-8. Proposed Project Displaced Criteria Pollutant Emissions (Tons)

Construction Year	Emissions (Tons)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Emissions Displaced Annually (tons)						
Displaced Natural Gas-Source Emissions	0	0.61	0.19	0.42	0.58	0.23
Displaced Coal-Source Emissions	0	4.31	0.18	0.20	0.03	0.02
Total	0	4.92	0.37	0.63	0.61	0.26
Emissions Displaced over 30 Years (tons)						
Displaced Natural Gas-Source Emissions	0	18.36	5.56	12.61	17.43	7.05
Displaced Coal-Source Emissions	0	129.38	5.39	6.15	0.91	0.65
Total	0	147.74	10.95	18.76	18.34	7.69

Source: Displaced emissions calculated by ECORP using USEPA's AP-42 Fifth Edition Compilation of Air Emissions Factors 1995; 2015.
Notes: In order to provide a conservative analysis, the proposed Project is assumed to generate electricity 50 percent of the time available (4,380 hours annually). Heat Rate indicates the energy generator efficiency of existing fossil-fuel based energy generators. The heat rate of a power plant measures the amount of fuel used to generate one unit of electricity. Power plants with lower heat rates are more efficient than plants with higher heat rates. The CEC's "Updated Thermal Power Plant Efficiency Measures and Operational Characteristics for Production Cost Modeling" (2019b) estimates heat rates and operating ranges for thermal power plants supplying energy to California. The average heat rate of power plants types are as follows:
**Steam Boiler fueled by coal: 10,800 heat rate **Steam Boiler fueled by natural gas: 10,200 heat rate **Gas Turbine: 10,100 heat rate **Combined natural gas Boiler and Turbine: 7,640 heat rate
By omitting steam boilers fueled by coal since so little of California's energy is derived from coal, the average heat rate = 9,313 [(10,100 + 10,200 + 7,640) ÷ 3 = 9,313]. 14.6 MW (63,875,000 annual kWH) x 9,313 heat rate = 594,867,875,000 Btu displaced from fossil fuel production. Fossil fuel-based energy consumption in California is predominately derived from natural gas (34.23 percent). Coal constitutes 2.96 percent of all fossil fuel-based energy. Therefore, 247,286,575,638 of the displaced Btu is displaced natural gas consumption and 17,251,168,375 is displaced Btu is displaced coal. The heat content of coal is assumed at 24 million Btu per ton of coal burned. At a rate of 24 million Btu per ton of coal burned, the Project would displace 719 tons of burned coal annually.

As shown, the Project would potentially displace just under 147.74 tons of NO_x, 10.95 tons of CO, 18.76 tons of SO_2, 18.34 tons of PM_{10}, and 7.69 tons of $PM_{2.5}$ over the course of 30 years. Furthermore, as demonstrated in Table 2-6 and Table 2-7, the Project would not exceed the applicable significance thresholds for construction or operational-source emissions.

Exposure of Sensitive Receptors to Toxic Air Contaminants

As previously described, sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over age 65, children under age 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest existing noise-sensitive land use to the Project Site is a single-family residence located 523 feet from the southwestern corner of the Vega 5 Project boundary.

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Construction-Generated Air Contaminants

Construction of the Project would result in temporary, short-term Project-generated emissions of diesel particulate matter (DPM), ROG, NOx, CO, and PM_{10} from the exhaust of off-road, heavy-duty diesel equipment for Project construction; soil hauling truck traffic; paving; and other miscellaneous activities. The portion of the SSAB which encompasses the Project area is designated as a nonattainment area for federal O_3, $PM_{2.5}$ and PM_{10} standards and is also a nonattainment area for the state standards for O_3 and PM_{10} (CARB 2019). Thus, existing O_3 and PM_{10} levels in the SSAB are at unhealthy levels during certain periods. However, as shown in Table 2-6, the Project would not exceed the ICAPCD significance thresholds for construction emissions.

The health effects associated with O_3 are generally associated with reduced lung function. Because the Project would not involve construction activities that would result in O_3 precursor emissions (ROG or NO_x) in excess of the ICAPCD thresholds, the Project is not anticipated to substantially contribute to regional O_3 concentrations and the associated health impacts.

CO tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. The Project would not involve activities that would result in CO emissions in excess of the ICAPCD thresholds. Thus, the Project's CO emissions would not contribute to the health effects associated with this pollutant.

Particulate matter (PM_{10} and $PM_{2.5}$) contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. For construction activity, DPM is the primary TAC of concern. PM_{10} exhaust is considered a surrogate for DPM as all diesel exhaust is considered to be DPM. As with O_3 and NOx, the Project would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed the ICAPCD's thresholds. Accordingly, the Project's PM_{10} and $PM_{2.5}$ emissions are not expected to cause any increase in related regional health effects for these pollutants.

In summary, Project construction would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants.

Operational Air Contaminants

Operation of the Proposed Project would not result in the development of any substantial sources of air toxins. There would be no stationary sources associated Project operations; nor would the Project attract additional mobile sources that spend long periods queuing and idling at the site. Onsite Project emissions would not result in significant concentrations of pollutants at nearby sensitive receptors as the predominant operational emissions associated with the Proposed Project would be routine maintenance

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work and site security as well as panel upkeep and cleaning. Therefore, the Project would not be a substantial source of TACs. The Project will not result in a high carcinogenic or non-carcinogenic risk during operation.

Naturally Occurring Asbestos

Another potential air quality issue associated with construction-related activities is the airborne entrainment of asbestos due to the disturbance of naturally-occurring asbestos-containing soils. The Proposed Project is not located within an area designated by the State of California as likely to contain naturally-occurring asbestos (Department of Conservation [DOC] 2000). As a result, construction-related activities would not be anticipated to result in increased exposure of sensitive land uses to asbestos.

Carbon Monoxide Hot Spots

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours. It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. However, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards have become increasingly more stringent in the last 20 years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SSAB is designated as in attainment. Detailed modeling of Project-specific CO "hot spots" is not necessary and thus this potential impact is addressed qualitatively.

A CO "hot spot" would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur. The analysis prepared for CO attainment in the South Coast Air Quality Management District's (SCAQMD's) *1992 Federal Attainment Plan for Carbon Monoxide* in Los Angeles County and a Modeling and Attainment Demonstration prepared by the SCAQMD as part of the 2003 Air Quality Management Plan can be used to demonstrate the potential for CO exceedances of these standards. The SCAQMD is the air pollution control officer for much of southern California. The SCAQMD conducted a CO hot spot analysis as part of the 1992 CO Federal Attainment Plan at four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The intersections evaluated included Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. Despite this level of traffic, the CO analysis concluded that there was no violation of CO standards

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(SCAQMD 1992). In order to establish a more accurate record of baseline CO concentrations affecting the Los Angeles, a CO "hot spot" analysis was conducted in 2003 at the same four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards. The highest one-hour concentration was measured at 4.6 ppm at Wilshire Boulevard and Veteran Avenue and the highest eight-hour concentration was measured at 8.4 ppm at Long Beach Boulevard and Imperial Highway. Thus, there was no violation of CO standards.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD), the air pollution control officer for the San Francisco Bay Area, concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact.

The Proposed Project is anticipated to result in no more than two daily traffic trips. It is noted that this is a conservative estimate and many days will have no operational related vehicle trips. Thus, the Proposed Project would not generate traffic volumes at any intersection of more than 100,000 vehicles per day (or 44,000 vehicles per day) and there is no likelihood of the Project traffic exceeding CO values.

Odors

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

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Project Construction

During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the Project area. Therefore, odors generated during Project construction would not adversely affect a substantial number of people to odor emissions.

Project Operations

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Proposed Project does not include any uses identified as being associated with odors.

3.0 GREENHOUSE GAS EMISSIONS

3.1 Greenhouse Gas Setting

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead trapped, resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth. Without the greenhouse effect, the earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are CO_2, methane (CH_4), and N_2O. Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride; however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic factors together (Intergovernmental Panel on Climate Change [IPCC] 2014).

Table 3-1 describes the primary GHGs attributed to global climate change, including their physical properties, primary sources, and contributions to the greenhouse effect.

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Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2 (IPCC 2014). Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weight each gas by its global warming potential. Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Of the total annual human-caused CO_2 emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere (IPCC 2013).

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Table 3-1. Greenhouse Gases

Greenhouse Gas	Description
CO_2	Carbon dioxide is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere.[1]
CH_4	Methane is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH_4 to the atmosphere. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH_4 is about12 years.[2]
N_2O	Nitrous oxide is a clear, colorless gas with a slightly sweet odor. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N_2O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years.[3]

Sources: [1]USEPA 2016a, [2] USEPA 2016b, [3] USEPA 2016c

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; it is sufficient to say the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or microclimates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

3.1.1 Sources of Greenhouse Gas Emissions

In 2020, CARB released the 2020 edition of the California GHG inventory covering calendar year 2018 emissions. In 2018, California emitted 425.3 million gross metric tons of CO_2e including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2018, accounting for approximately 30 percent of total GHG emissions in the state. This sector was followed by the industrial sector (21 percent) and the electric power sector including both in-state and out-of-state sources (15 percent) (CARB 2020b). Emissions of CO_2 are byproducts of fossil fuel combustion. CH_4, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. N_2O is also largely attributable to agricultural practices and soil management. Carbon dioxide sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution (CO_2 dissolving into the water), respectively, two of the most common processes for removing CO_2 from the atmosphere.

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3.2 Regulatory Framework

3.2.1 State

Executive Order S-3-05

Executive Order (EO) S-3-05, signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the state. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

Assembly Bill 32 Climate Change Scoping Plan and Updates

In 2006, the California legislature passed Assembly Bill (AB) 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which outlines measures to meet the 2020 GHG reduction goals. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by the end of 2020.

The Scoping Plan is required by AB 32 to be updated at least every five years. The latest update, the 2017 Scoping Plan Update, addresses the 2030 target established by Senate Bill (SB) 32 as discussed below and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include increasing the use of renewable energy in the state, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by Executive Order (EO) B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

Senate Bill 100 of 2018

In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

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3.3 Greenhouse Gas Emissions Impact Assessment

3.3.1 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to greenhouse gas emissions if it would:

1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

2) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

The Appendix G thresholds for GHG's do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA. With respect to GHG emissions, the CEQA Guidelines § 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's GHG emissions or rely on a "qualitative analysis or other performance-based standards." (14 California Code of Regulations [CCR] 15064.4(b)). A lead agency may use a "model or methodology" to estimate GHG emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change." (14 CCR 15064.4(c)). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines § 15130(f)). As a note, the CEQA

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Guidelines were amended in response to SB 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Per CEQA Guidelines § 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions." Put another way, CEQA Guidelines § 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

The significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines § 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The ICAPCD has not adopted a GHG significance threshold yet recommends the 100,000-metric ton of CO_2e threshold established by the Mojave Desert Air Quality Management District (MDAQMD). As previously described, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). This ICAPCD-recommended threshold is appropriate as the MDAQMD GHG thresholds were formulated based on similar geography and climate patterns as found in Imperial County. Therefore, the 100,000-metric ton of CO_2e threshold is appropriate for this analysis.

In *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal. 4th 2014, 213, 221, 227, following its review of various potential GHG thresholds proposed in an academic study [Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203], the California Supreme Court identified the use of numeric bright-line thresholds as a potential pathway for compliance with CEQA GHG requirements. The study found numeric bright line thresholds designed to determine when small projects were so small as to not cause a cumulatively considerable impact on global climate change was consistent with CEQA. Specifically, Public Resources Code section 21003(f) provides it is a policy of the state that "[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." The Supreme Court-reviewed study noted, "[s]ubjecting the smallest projects to the full panoply of CEQA requirements, even though the public benefit would be minimal, would not be consistent with implementing the statute in the most efficient, expeditious manner. Nor would it be consistent with applying lead agencies' scarce resources toward mitigating actual significant

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climate change impacts." (Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203, 221, 227.)

3.3.2 Methodology

GHG-related impacts were assessed in accordance with methodologies recommended by the ICAPCD. Where GHG emission quantification was required, emissions were modeled using CalEEMod, version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential GHG emissions associated with both construction and operations from a variety of land use projects. Project construction generated GHG emissions were calculated using CalEEMod model defaults for Imperial County coupled with information provided by the Project applicant. For instance, construction is estimated to take 12-18 months. According to the Traffic Study prepared for the Project (KOA 2021a & 2021b), the number of on–site construction workers for Vega 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the Vega 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on–site construction workers for the Vega 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the Vega 5 battery storage facility and substation is not expected to exceed 50 workers at any one time.

Operational air pollutant emissions account for a conservative estimate of two worker trip per day. Such visits include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules if needed to maintain power generation efficiency.

3.3.3 Impact Analysis

Generation of GHG Emissions

Project Construction

Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project Site, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 3-2 illustrates the specific construction generated GHG emissions that would result from construction of the Project. Once construction is complete, the generation of these GHG emissions would cease.

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Table 3-2. Construction-Related Greenhouse Gas Emissions

Emissions Source	CO_2e (Metric Tons/ Year)
Construction of Vega 2 and 3 (2023)	961
Construction of Vega 5 (2024)	787
Significance Threshold	*10,000*
Exceed Significance Threshold?	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.

As shown in Table 3-2, implementation of the Project would result in the generation of approximately 961 metric tons of CO_2e for the construction of Vega 2 and 3, and 787 metric tons of CO_2e for the construction of Vega 5. Therefore, Project GHG emissions would not exceed the significance threshold.

Additionally, the Project proposes a solar energy generation facility intended to generate renewable energy. Solar plants generate far less GHG life-cycle emissions (approximately 83 to 94 percent less) than fossil-fueled energy plants. As identified in Table 3-5, the Project could potentially displace approximately 12,620 metric tons of CO_2e per year, and approximately 378,597 metric tons of CO_2e over the course of 30 years, which is considerably more than would be generated during construction.

Project Operations

Operation of the Project would result in an increase in GHG emissions solely associated with motor vehicle trips. Long-term GHG emissions attributed to operations of the Project are identified in Table 3-3.

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Table 3-3. Operational-Related Greenhouse Gas Emissions

Emission Source	CO_2e (Metric Tons/ Year)
Area Source	0
Energy	2,720
Mobile	4
Waste	0
Water	10
Total	**2,734**
Significance Threshold	*100,000*
Exceed Significance Threshold?	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.
Notes: Emission projections predominately based on CalEEMod model defaults for Imperial County. Operational emissions account for two vehicle trips per day. It is noted that this is a conservative estimate as many days will have no operational related vehicle trips. Additionally, it accounts for the energy usage used for the battery energy storage system and the pumping of 32-acre feet of water per year.

As shown in Table 3-3, operational-generated emissions would not exceed the potentially significant impact threshold of 100,000 metric tons of CO_2e annually.

Conflict with any Applicable Plan, Policy, or Regulation of an Agency Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases

The Project would not conflict with any adopted plans, policies, or regulations adopted for the purpose of reducing GHG emissions. The Proposed Project is subject to compliance with SB 32. As discussed previously, the Proposed Project-generated GHG emissions would not surpass either the SCAQMD or CAPCOA GHG significance thresholds, which were prepared with the purpose of complying with statewide GHG-reduction efforts. Additionally, once construction is complete, the Project would be a producer of renewable energy, which generates substantially less GHG emissions compared with the more common types of fossil-fueled energy generation facilities.

GHG emissions generated by energy sources account for all stages of the life cycle (including mining, construction, etc.), which are referred to as the cumulative GHG emissions and are usually expressed in grams of CO_2e per unit of busbar electricity (i.e., gCO_2/kWh_e). When comparing various fossil-fueled energy generators, the GHG emissions generated are dependent on the type of fuel (i.e., gas, oil, coal). GHG emissions generated by some of the more common types of fossil-fueled plants and solar-power plants are summarized in Table 3-4.

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Table 3-4. Life-Cycle Greenhouse Gas Emissions for Various Types of Energy Generators

Fossil Fueled	
Coal	950 to 1,250
Oil	500 to 1,200
Gas	440 to 780
Solar	43 to 73[3]

Source: Weisser 2007
Notes:
1 $gCO_2e/kWhe$ = grams of CO_2e per unit of busbar electricity.
2 Emissions are based on lifecycle of energy source including mining, construction, operation, etc.
3 Solar PV life-cycle emissions result from using fossil-fuel-based energy to produce the materials for solar cells, modules, and systems, as well as directly from smelting, production, and manufacturing facilities.

As shown in Table 3-4, solar plants generate far less GHG life-cycle emissions (approximately 83 to 94 percent less) than fossil-fueled energy plants. Therefore, the Proposed Project would contribute to the continued reduction of GHG emissions in the interconnected California and western U.S. electricity systems, as the energy produced by the Project would displace GHG emissions that would otherwise be produced by existing business-as-usual power generation resources (including natural gas, coal, arid renewable combustion resources). The Project would generate a maximum of 14.6 MW of electricity at any one time. Table 3-5 shows the emissions that would potentially be displaced by the Proposed Project. Note that this estimate only includes that associated with the combustion of fossil fuels; it does not include the vehicle trips associated with the Project's operations, and it similarly does not include operational employee trips associated with natural gas or coal combustion nor the emissions associated with extracting and transporting those power sources. In addition, this estimate only includes the displacement of that portion of the California market that comes from fossil fuels and does not include the approximate 50 percent of the California electricity generated by non-combustion sources (wind, solar, nuclear, hydro-electric) (CEC 2019a).

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Table 3-5. Proposed Project Displaced GHG Emissions (Metric Tons)

	Emissions (Metric Tons)			
	CO_2	CH_4	N_2O	CO_2e
Emissions Displaced Annually (metric tons)				
Displaced Natural Gas-Source Emissions	10,880	0.00	0.00	10,880
Displaced Coal-Source Emissions	1,737	0.01	0.01	1,740
Total	**12,617**	**0.01**	**0.01**	**12,620**
Emissions Displaced over 30 Years (metric tons)				
Displaced Natural Gas-Source Emissions	326,411	0.00	0.00	326,411
Displaced Coal-Source Emissions	52,097	0.35	0.26	52,186
Total	**378,508**	**0.35**	**0.26**	**378,597**

Source: Displaced emissions calculated by ECORP using USEPA's AP-42 Fifth Edition Compilation of Air Emissions Factors 1995; 2015.
Notes: In order to provide a conservative analysis, the Proposed Project is assumed to generate electricity 50 percent of the time available (4,380 hours annually). Heat Rate indicates the energy generator efficiency of existing fossil-fuel based energy generators. The heat rate of a power plant measures the amount of fuel used to generate one unit of electricity. Power plants with lower heat rates are more efficient than plants with higher heat rates. The CEC's "Updated Thermal Power Plant Efficiency Measures and Operational Characteristics for Production Cost Modeling" (2019b) estimates heat rates and operating ranges for thermal power plants supplying energy to California. The average heat rate of power plants types are as follows:
**Steam Boiler fueled by coal: 10,800 heat rate **Steam Boiler fueled by natural gas: 10,200 heat rate **Gas Turbine: 10,100 heat rate **Combined natural gas Boiler and Turbine: 7,640 heat rate
By omitting steam boilers fueled by coal since so little of California's energy is derived from coal, the average heat rate = 9,313 [(10,100 + 10,200 + 7,640) ÷ 3 = 9,313]. 14.6 MW (63,875,000 annual kWH) x 9,313 heat rate = 594,867,875,000 Btu displaced from fossil fuel production. Fossil fuel-based energy consumption in California is predominately derived from natural gas (34.23 percent). Coal constitutes 2.96 percent of all fossil fuel-based energy. Therefore, 247,286,575,638 of the displaced Btu is displaced natural gas consumption and 17,251,168,375 is displaced Btu is displaced coal. The heat content of coal is assumed at 24 million Btu per ton of coal burned. At a rate of 24 million Btu per ton of coal burned, the Project would displace 719 tons of burned coal annually.

As shown, the Project would potentially displace approximately 12,620 metric tons of CO_2e per year, and approximately 378,597 metric tons of CO_2e over the course of 30 years.

While the Project would emit some GHG emissions during construction and a very small amount during operations, the contribution of renewable resource energy production to meet the goals of the Renewable Portfolio Standard (Scoping Plan Measure E-3) would result in a net cumulative reduction of GHG emissions, a key environmental benefit. (Scoping Plan Measure E-3, Renewable Portfolio Standard, of the Climate Change Scoping Plan requires that all investor-owned utility companies generate 60 percent of their energy demand from renewable sources by year 2030.) Therefore, the short-term minor generation of GHG emissions during construction which is necessary to create this new, low-GHG-emitting power-generating facility, as well as the negligible amount generated during ongoing maintenance operations, would be more than offset by GHG emission reductions associated with solar-generated energy during operation.

Increasing sources of solar energy is one of the measures identified under the Scoping Plan to reduce statewide GHG emissions. The Proposed Project would reduce GHG emissions in a manner consistent with SB 32 and other California GHG-reducing legislation by creating a new source of solar power to replace the current use of fossil-fuel power and reduce GHG emissions power generation and use.

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The Project would not conflict with any applicable plan, policy, or regulation intended to reduce GHG emissions.

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LIST OF ATTACHMENTS

Attachment A – CalEEMod Output Files Criteria Air Pollutants & Greenhouse Gas Emissions

Attachment B – Renewable Energy Emissions Displacement

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ATTACHMENT A

CalEEMod Output Files Criteria Air Pollutants & Greenhouse Gas Emissions

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Vega 2 & 3 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vega 2 & 3

Imperial County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	1.00	0
Other Non-Asphalt Surfaces	1,553.00	Acre	1,553.00	67,648,680.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2024
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Industrial land use added to account for trip generation for operations.

Construction Phase - Building construction and paving assumed to occur simultaneously. Construction phasing updated to match PD.

Off-road Equipment - Equipment updated per information provided by the PD.

Trips and VMT - Updated per information provided by the PD.

On-road Fugitive Dust - % Paved calculated from Access Route Figure in PD. Default worker commute=10.2 miles. 2.61 miles of unpaved road to access project site. 1.65/10.2=16% unpaved roads. Vendor commute=11.9 miles and same roads will be used.

Grading -

Vehicle Trips - Conservative estimate of 1 trip per day for operations.

Road Dust - Used same % paved roads as construction workers.

Energy Use - General light industrial used for trip generation only

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Construction Off-road Equipment Mitigation - Mitigation measure AQ-1 accounted. PM Reduction value for applying soil stabilizers to unpaved roadways per communication with ICAPCD (Monica Soucier via email correspondence).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	155,000.00	195.00
tblConstructionPhase	NumDays	10,000.00	22.00
tblConstructionPhase	NumDays	15,500.00	43.00
tblConstructionPhase	NumDays	11,000.00	195.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	84
tblTripsAndVMT	VendorTripNumber	11,088.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	250.00
tblTripsAndVMT	WorkerTripNumber	20.00	250.00
tblTripsAndVMT	WorkerTripNumber	28,413.00	250.00
tblTripsAndVMT	WorkerTripNumber	15.00	250.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	ST_TR	1.99	1,000.00
tblVehicleTrips	SU_TR	5.00	1,000.00
tblVehicleTrips	WD_TR	4.96	1,000.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	5.4609	35.0950	50.9464	0.0898	1,208.8031	1.4545	1,210.2575	121.1904	1.3528	122.5432	0.0000	8,795.8120	8,795.8120	2.0019	0.1159	8,868.9187
Maximum	**5.4609**	**35.0950**	**50.9464**	**0.0898**	**1,208.8031**	**1.4545**	**1,210.2575**	**121.1904**	**1.3528**	**122.5432**	**0.0000**	**8,795.8120**	**8,795.8120**	**2.0019**	**0.1159**	**8,868.9187**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	5.4609	35.0950	50.9464	0.0898	114.0647	1.4545	115.5192	11.9345	1.3528	13.2873	0.0000	8,795.8120	8,795.8120	2.0019	0.1159	8,868.9187
Maximum	**5.4609**	**35.0950**	**50.9464**	**0.0898**	**114.0647**	**1.4545**	**115.5192**	**11.9345**	**1.3528**	**13.2873**	**0.0000**	**8,795.8120**	**8,795.8120**	**2.0019**	**0.1159**	**8,868.9187**

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	90.56	0.00	90.45	90.15	0.00	89.16	0.00	0.00	0.00	0.00	0.00	0.00

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**31.7072**	**1.4400e-003**	**0.1583**	**1.0000e-005**	**0.0000**	**5.6000e-004**	**5.6000e-004**	**0.0000**	**5.6000e-004**	**5.6000e-004**		**0.3399**	**0.3399**	**8.9000e-004**	**0.0000**	**0.3621**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**31.7072**	**1.4400e-003**	**0.1583**	**1.0000e-005**	**0.0000**	**5.6000e-004**	**5.6000e-004**	**0.0000**	**5.6000e-004**	**5.6000e-004**		**0.3399**	**0.3399**	**8.9000e-004**	**0.0000**	**0.3621**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition & Grubbing	Demolition	1/2/2023	1/31/2023	5	22	
2	Grading	Grading	2/1/2023	3/31/2023	5	43	
3	Building Construction	Building Construction	4/3/2023	12/29/2023	5	195	
4	Paving	Paving	4/3/2023	12/29/2023	5	195	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 129

Acres of Paving: 1553

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition & Grubbing	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition & Grubbing	Excavators	3	8.00	158	0.38
Demolition & Grubbing	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition & Grubbing	6	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	250.00	2.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

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Vega 2 & 3 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**		**0.9975**	**0.9975**		**0.9280**	**0.9280**		**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2518	0.5794	8.7421	0.0180	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
Total	**1.2518**	**0.5794**	**8.7421**	**0.0180**	**602.1148**	**9.6200e-003**	**602.1244**	**60.3651**	**8.8600e-003**	**60.3740**		**1,821.5065**	**1,821.5065**	**0.0576**	**0.0536**	**1,838.9237**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**		**0.9975**	**0.9975**		**0.9280**	**0.9280**	**0.0000**	**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2518	0.5794	8.7421	0.0180	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
Total	**1.2518**	**0.5794**	**8.7421**	**0.0180**	**56.8133**	**9.6200e-003**	**56.8229**	**5.9435**	**8.8600e-003**	**5.9524**		**1,821.5065**	**1,821.5065**	**0.0576**	**0.0536**	**1,838.9237**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.2036**	**1.4245**	**10.6281**	**3.6538**	**1.3105**	**4.9643**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2518	0.5794	8.7421	0.0180	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
Total	**1.2518**	**0.5794**	**8.7421**	**0.0180**	**602.1148**	**9.6200e-003**	**602.1244**	**60.3651**	**8.8600e-003**	**60.3740**		**1,821.5065**	**1,821.5065**	**0.0576**	**0.0536**	**1,838.9237**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.5894	0.0000	3.5894	1.4250	0.0000	1.4250			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**3.5894**	**1.4245**	**5.0139**	**1.4250**	**1.3105**	**2.7355**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2518	0.5794	8.7421	0.0180	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
Total	**1.2518**	**0.5794**	**8.7421**	**0.0180**	**56.8133**	**9.6200e-003**	**56.8229**	**5.9435**	**8.8600e-003**	**5.9524**		**1,821.5065**	**1,821.5065**	**0.0576**	**0.0536**	**1,838.9237**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9194	17.6181	18.8361	0.0303		0.9240	0.9240		0.8648	0.8648		2,882.4098	2,882.4098	0.7137		2,900.2515
Total	**1.9194**	**17.6181**	**18.8361**	**0.0303**		**0.9240**	**0.9240**		**0.8648**	**0.8648**		**2,882.4098**	**2,882.4098**	**0.7137**		**2,900.2515**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0300e-003	0.0924	0.0420	6.0000e-004	4.5734	9.8000e-004	4.5744	0.4602	9.4000e-004	0.4612		62.8049	62.8049	2.5000e-004	8.6400e-003	65.3862
Worker	1.2518	0.5794	8.7421	0.0180	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
Total	**1.2569**	**0.6718**	**8.7841**	**0.0186**	**606.6882**	**0.0106**	**606.6988**	**60.8253**	**9.8000e-003**	**60.8351**		**1,884.3115**	**1,884.3115**	**0.0579**	**0.0623**	**1,904.3099**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9194	17.6181	18.8361	0.0303		0.9240	0.9240		0.8648	0.8648	0.0000	2,882.4098	2,882.4098	0.7137		2,900.2515
Total	**1.9194**	**17.6181**	**18.8361**	**0.0303**		**0.9240**	**0.9240**		**0.8648**	**0.8648**	**0.0000**	**2,882.4098**	**2,882.4098**	**0.7137**		**2,900.2515**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0300e-003	0.0924	0.0420	6.0000e-004	0.4382	9.8000e-004	0.4392	0.0475	9.4000e-004	0.0485		62.8049	62.8049	2.5000e-004	8.6400e-003	65.3862
Worker	1.2518	0.5794	8.7421	0.0180	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
Total	**1.2569**	**0.6718**	**8.7841**	**0.0186**	**57.2515**	**0.0106**	**57.2621**	**5.9910**	**9.8000e-003**	**6.0008**		**1,884.3115**	**1,884.3115**	**0.0579**	**0.0623**	**1,904.3099**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2518	0.5794	8.7421	0.0180	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
Total	**1.2518**	**0.5794**	**8.7421**	**0.0180**	**602.1148**	**9.6200e-003**	**602.1244**	**60.3651**	**8.8600e-003**	**60.3740**		**1,821.5065**	**1,821.5065**	**0.0576**	**0.0536**	**1,838.9237**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2518	0.5794	8.7421	0.0180	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
Total	**1.2518**	**0.5794**	**8.7421**	**0.0180**	**56.8133**	**9.6200e-003**	**56.8229**	**5.9435**	**8.8600e-003**	**5.9524**		**1,821.5065**	**1,821.5065**	**0.0576**	**0.0536**	**1,838.9237**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Other Non-Asphalt Surfaces	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Unmitigated	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.7314					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.9612					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0146	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Total	**31.7072**	**1.4400e-003**	**0.1583**	**1.0000e-005**		**5.6000e-004**	**5.6000e-004**		**5.6000e-004**	**5.6000e-004**		**0.3399**	**0.3399**	**8.9000e-004**		**0.3621**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.7314					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.9612					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0146	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Total	**31.7072**	**1.4400e-003**	**0.1583**	**1.0000e-005**		**5.6000e-004**	**5.6000e-004**		**5.6000e-004**	**5.6000e-004**		**0.3399**	**0.3399**	**8.9000e-004**		**0.3621**

7.0 Water Detail

7.1 Mitigation Measures Water

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vega 2 & 3

Imperial County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	1.00	0
Other Non-Asphalt Surfaces	1,553.00	Acre	1,553.00	67,648,680.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2024
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Industrial land use added to account for trip generation for operations.

Construction Phase - Building construction and paving assumed to occur simultaneously. Construction phasing updated to match PD.

Off-road Equipment - Equipment updated per information provided by the PD.

Trips and VMT - Updated per information provided by the PD.

On-road Fugitive Dust - % Paved calculated from Access Route Figure in PD. Default worker commute=10.2 miles. 2.61 miles of unpaved road to access project site. 1.65/10.2=16% unpaved roads. Vendor commute=11.9 miles and same roads will be used.

Grading -

Vehicle Trips - Conservative estimate of 1 trip per day for operations.

Road Dust - Used same % paved roads as construction workers.

Energy Use - General light industrial used for trip generation only

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Construction Off-road Equipment Mitigation - Mitigation measure AQ-1 accounted. PM Reduction value for applying soil stabilizers to unpaved roadways per communication with ICAPCD (Monica Soucier via email correspondence).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	155,000.00	195.00
tblConstructionPhase	NumDays	10,000.00	22.00
tblConstructionPhase	NumDays	15,500.00	43.00
tblConstructionPhase	NumDays	11,000.00	195.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	84
tblTripsAndVMT	VendorTripNumber	11,088.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	250.00
tblTripsAndVMT	WorkerTripNumber	20.00	250.00
tblTripsAndVMT	WorkerTripNumber	28,413.00	250.00
tblTripsAndVMT	WorkerTripNumber	15.00	250.00

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	ST_TR	1.99	1,000.00
tblVehicleTrips	SU_TR	5.00	1,000.00
tblVehicleTrips	WD_TR	4.96	1,000.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.6150	3.8347	5.6763	0.0107	133.1167	0.1837	133.3004	13.4062	0.1706	13.5768	0.0000	953.0591	953.0591	0.1862	0.0119	961.2724
Maximum	**0.6150**	**3.8347**	**5.6763**	**0.0107**	**133.1167**	**0.1837**	**133.3004**	**13.4062**	**0.1706**	**13.5768**	**0.0000**	**953.0591**	**953.0591**	**0.1862**	**0.0119**	**961.2724**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.6150	3.8347	5.6762	0.0107	12.6285	0.1837	12.8122	1.3455	0.1706	1.5161	0.0000	953.0584	953.0584	0.1862	0.0119	961.2717
Maximum	**0.6150**	**3.8347**	**5.6762**	**0.0107**	**12.6285**	**0.1837**	**12.8122**	**1.3455**	**0.1706**	**1.5161**	**0.0000**	**953.0584**	**953.0584**	**0.1862**	**0.0119**	**961.2717**

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**90.51**	**0.00**	**90.39**	**89.96**	**0.00**	**88.83**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**11-30-2022**	**2-27-2023**	0.6508	0.6508
2	**2-28-2023**	**5-29-2023**	1.1529	1.1529
3	**5-30-2023**	**8-29-2023**	1.1343	1.1343
4	**8-30-2023**	**9-30-2023**	0.3945	0.3945
		Highest	1.1529	1.1529

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.7852	1.3000e-004	0.0143	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.7852**	**1.3000e-004**	**0.0143**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0278**	**0.0278**	**7.0000e-005**	**0.0000**	**0.0296**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.7852	1.3000e-004	0.0143	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.7852**	**1.3000e-004**	**0.0143**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0278**	**0.0278**	**7.0000e-005**	**0.0000**	**0.0296**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition & Grubbing	Demolition	1/2/2023	1/31/2023	5	22	
2	Grading	Grading	2/1/2023	3/31/2023	5	43	
3	Building Construction	Building Construction	4/3/2023	12/29/2023	5	195	

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Paving	Paving	4/3/2023	12/29/2023	5	195	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 129

Acres of Paving: 1553

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition & Grubbing	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition & Grubbing	Excavators	3	8.00	158	0.38
Demolition & Grubbing	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition & Grubbing	6	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	250.00	2.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition & Grubbing - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0250	0.2363	0.2161	4.3000e-004		0.0110	0.0110		0.0102	0.0102	0.0000	37.3913	37.3913	0.0105	0.0000	37.6531
Total	**0.0250**	**0.2363**	**0.2161**	**4.3000e-004**		**0.0110**	**0.0110**		**0.0102**	**0.0102**	**0.0000**	**37.3913**	**37.3913**	**0.0105**	**0.0000**	**37.6531**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0111	6.5300e-003	0.0771	1.8000e-004	6.4060	1.1000e-004	6.4061	0.6423	1.0000e-004	0.6424	0.0000	16.5675	16.5675	5.6000e-004	5.4000e-004	16.7424
Total	**0.0111**	**6.5300e-003**	**0.0771**	**1.8000e-004**	**6.4060**	**1.1000e-004**	**6.4061**	**0.6423**	**1.0000e-004**	**0.6424**	**0.0000**	**16.5675**	**16.5675**	**5.6000e-004**	**5.4000e-004**	**16.7424**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0250	0.2363	0.2161	4.3000e-004		0.0110	0.0110		0.0102	0.0102	0.0000	37.3912	37.3912	0.0105	0.0000	37.6530
Total	**0.0250**	**0.2363**	**0.2161**	**4.3000e-004**		**0.0110**	**0.0110**		**0.0102**	**0.0102**	**0.0000**	**37.3912**	**37.3912**	**0.0105**	**0.0000**	**37.6530**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0111	6.5300e-003	0.0771	1.8000e-004	0.6049	1.1000e-004	0.6050	0.0634	1.0000e-004	0.0635	0.0000	16.5675	16.5675	5.6000e-004	5.4000e-004	16.7424
Total	**0.0111**	**6.5300e-003**	**0.0771**	**1.8000e-004**	**0.6049**	**1.1000e-004**	**0.6050**	**0.0634**	**1.0000e-004**	**0.0635**	**0.0000**	**16.5675**	**16.5675**	**5.6000e-004**	**5.4000e-004**	**16.7424**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1979	0.0000	0.1979	0.0786	0.0000	0.0786	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0714	0.7421	0.6031	1.3300e-003		0.0306	0.0306		0.0282	0.0282	0.0000	117.2507	117.2507	0.0379	0.0000	118.1987
Total	**0.0714**	**0.7421**	**0.6031**	**1.3300e-003**	**0.1979**	**0.0306**	**0.2285**	**0.0786**	**0.0282**	**0.1067**	**0.0000**	**117.2507**	**117.2507**	**0.0379**	**0.0000**	**118.1987**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0218	0.0128	0.1507	3.5000e-004	12.5208	2.1000e-004	12.5210	1.2554	1.9000e-004	1.2556	0.0000	32.3819	32.3819	1.0900e-003	1.0600e-003	32.7238
Total	**0.0218**	**0.0128**	**0.1507**	**3.5000e-004**	**12.5208**	**2.1000e-004**	**12.5210**	**1.2554**	**1.9000e-004**	**1.2556**	**0.0000**	**32.3819**	**32.3819**	**1.0900e-003**	**1.0600e-003**	**32.7238**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0772	0.0000	0.0772	0.0306	0.0000	0.0306	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0714	0.7421	0.6031	1.3300e-003		0.0306	0.0306		0.0282	0.0282	0.0000	117.2506	117.2506	0.0379	0.0000	118.1986
Total	**0.0714**	**0.7421**	**0.6031**	**1.3300e-003**	**0.0772**	**0.0306**	**0.1078**	**0.0306**	**0.0282**	**0.0588**	**0.0000**	**117.2506**	**117.2506**	**0.0379**	**0.0000**	**118.1986**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0218	0.0128	0.1507	3.5000e-004	1.1823	2.1000e-004	1.1825	0.1238	1.9000e-004	0.1240	0.0000	32.3819	32.3819	1.0900e-003	1.0600e-003	32.7238
Total	**0.0218**	**0.0128**	**0.1507**	**3.5000e-004**	**1.1823**	**2.1000e-004**	**1.1825**	**0.1238**	**1.9000e-004**	**0.1240**	**0.0000**	**32.3819**	**32.3819**	**1.0900e-003**	**1.0600e-003**	**32.7238**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1872	1.7178	1.8365	2.9600e-003		0.0901	0.0901		0.0843	0.0843	0.0000	254.9506	254.9506	0.0631	0.0000	256.5287
Total	**0.1872**	**1.7178**	**1.8365**	**2.9600e-003**		**0.0901**	**0.0901**		**0.0843**	**0.0843**	**0.0000**	**254.9506**	**254.9506**	**0.0631**	**0.0000**	**256.5287**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7000e-004	9.7500e-003	4.1400e-003	6.0000e-005	0.4313	1.0000e-004	0.4314	0.0434	9.0000e-005	0.0435	0.0000	5.5592	5.5592	2.0000e-005	7.7000e-004	5.7881
Worker	0.0987	0.0579	0.6833	1.6000e-003	56.7804	9.4000e-004	56.7813	5.6933	8.6000e-004	5.6941	0.0000	146.8480	146.8480	4.9400e-003	4.7900e-003	148.3985
Total	**0.0992**	**0.0676**	**0.6875**	**1.6600e-003**	**57.2117**	**1.0400e-003**	**57.2127**	**5.7367**	**9.5000e-004**	**5.7376**	**0.0000**	**152.4072**	**152.4072**	**4.9600e-003**	**5.5600e-003**	**154.1866**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1872	1.7178	1.8365	2.9600e-003		0.0901	0.0901		0.0843	0.0843	0.0000	254.9503	254.9503	0.0631	0.0000	256.5284
Total	**0.1872**	**1.7178**	**1.8365**	**2.9600e-003**		**0.0901**	**0.0901**		**0.0843**	**0.0843**	**0.0000**	**254.9503**	**254.9503**	**0.0631**	**0.0000**	**256.5284**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7000e-004	9.7500e-003	4.1400e-003	6.0000e-005	0.0414	1.0000e-004	0.0415	4.5000e-003	9.0000e-005	4.5900e-003	0.0000	5.5592	5.5592	2.0000e-005	7.7000e-004	5.7881
Worker	0.0987	0.0579	0.6833	1.6000e-003	5.3614	9.4000e-004	5.3623	0.5616	8.6000e-004	0.5625	0.0000	146.8480	146.8480	4.9400e-003	4.7900e-003	148.3985
Total	**0.0992**	**0.0676**	**0.6875**	**1.6600e-003**	**5.4028**	**1.0400e-003**	**5.4038**	**0.5661**	**9.5000e-004**	**0.5671**	**0.0000**	**152.4072**	**152.4072**	**4.9600e-003**	**5.5600e-003**	**154.1866**

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1007	0.9937	1.4220	2.2200e-003		0.0497	0.0497		0.0458	0.0458	0.0000	195.2620	195.2620	0.0632	0.0000	196.8407
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1007**	**0.9937**	**1.4220**	**2.2200e-003**		**0.0497**	**0.0497**		**0.0458**	**0.0458**	**0.0000**	**195.2620**	**195.2620**	**0.0632**	**0.0000**	**196.8407**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0987	0.0579	0.6833	1.6000e-003	56.7804	9.4000e-004	56.7813	5.6933	8.6000e-004	5.6941	0.0000	146.8480	146.8480	4.9400e-003	4.7900e-003	148.3985
Total	**0.0987**	**0.0579**	**0.6833**	**1.6000e-003**	**56.7804**	**9.4000e-004**	**56.7813**	**5.6933**	**8.6000e-004**	**5.6941**	**0.0000**	**146.8480**	**146.8480**	**4.9400e-003**	**4.7900e-003**	**148.3985**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1007	0.9937	1.4220	2.2200e-003		0.0497	0.0497		0.0458	0.0458	0.0000	195.2617	195.2617	0.0632	0.0000	196.8405
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1007**	**0.9937**	**1.4220**	**2.2200e-003**		**0.0497**	**0.0497**		**0.0458**	**0.0458**	**0.0000**	**195.2617**	**195.2617**	**0.0632**	**0.0000**	**196.8405**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0987	0.0579	0.6833	1.6000e-003	5.3614	9.4000e-004	5.3623	0.5616	8.6000e-004	0.5625	0.0000	146.8480	146.8480	4.9400e-003	4.7900e-003	148.3985
Total	**0.0987**	**0.0579**	**0.6833**	**1.6000e-003**	**5.3614**	**9.4000e-004**	**5.3623**	**0.5616**	**8.6000e-004**	**0.5625**	**0.0000**	**146.8480**	**146.8480**	**4.9400e-003**	**4.7900e-003**	**148.3985**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Other Non-Asphalt Surfaces	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

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5.0 Energy Detail

Vega 2 & 3 - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.7852	1.3000e-004	0.0143	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296
Unmitigated	5.7852	1.3000e-004	0.0143	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.4110					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3729					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.3200e-003	1.3000e-004	0.0143	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296
Total	**5.7852**	**1.3000e-004**	**0.0143**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0278**	**0.0278**	**7.0000e-005**	**0.0000**	**0.0296**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.4110					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3729					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.3200e-003	1.3000e-004	0.0143	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296
Total	**5.7852**	**1.3000e-004**	**0.0143**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0278**	**0.0278**	**7.0000e-005**	**0.0000**	**0.0296**

7.0 Water Detail

7.1 Mitigation Measures Water

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vega 2 & 3

Imperial County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	1.00	0
Other Non-Asphalt Surfaces	1,553.00	Acre	1,553.00	67,648,680.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2024
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Industrial land use added to account for trip generation for operations.

Construction Phase - Building construction and paving assumed to occur simultaneously. Construction phasing updated to match PD.

Off-road Equipment - Equipment updated per information provided by the PD.

Trips and VMT - Updated per information provided by the PD.

On-road Fugitive Dust - % Paved calculated from Access Route Figure in PD. Default worker commute=10.2 miles. 2.61 miles of unpaved road to access project site. 1.65/10.2=16% unpaved roads. Vendor commute=11.9 miles and same roads will be used.

Grading -

Vehicle Trips - Conservative estimate of 1 trip per day for operations.

Road Dust - Used same % paved roads as construction workers.

Energy Use - General light industrial used for trip generation only

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Construction Off-road Equipment Mitigation - Mitigation measure AQ-1 accounted. PM Reduction value for applying soil stabilizers to unpaved roadways per communication with ICAPCD (Monica Soucier via email correspondence).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	155,000.00	195.00
tblConstructionPhase	NumDays	10,000.00	22.00
tblConstructionPhase	NumDays	15,500.00	43.00
tblConstructionPhase	NumDays	11,000.00	195.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	84
tblTripsAndVMT	VendorTripNumber	11,088.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	250.00
tblTripsAndVMT	WorkerTripNumber	20.00	250.00
tblTripsAndVMT	WorkerTripNumber	28,413.00	250.00
tblTripsAndVMT	WorkerTripNumber	15.00	250.00

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	ST_TR	1.99	1,000.00
tblVehicleTrips	SU_TR	5.00	1,000.00
tblVehicleTrips	WD_TR	4.96	1,000.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.8376	35.1215	45.9687	0.0844	1,208.8031	1.4545	1,210.2575	121.1904	1.3528	122.5432	0.0000	8,249.4666	8,249.4666	2.0024	0.1184	8,323.3569
Maximum	**4.8376**	**35.1215**	**45.9687**	**0.0844**	**1,208.8031**	**1.4545**	**1,210.2575**	**121.1904**	**1.3528**	**122.5432**	**0.0000**	**8,249.4666**	**8,249.4666**	**2.0024**	**0.1184**	**8,323.3569**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.8376	35.1215	45.9687	0.0844	114.0647	1.4545	115.5192	11.9345	1.3528	13.2873	0.0000	8,249.4666	8,249.4666	2.0024	0.1184	8,323.3569
Maximum	**4.8376**	**35.1215**	**45.9687**	**0.0844**	**114.0647**	**1.4545**	**115.5192**	**11.9345**	**1.3528**	**13.2873**	**0.0000**	**8,249.4666**	**8,249.4666**	**2.0024**	**0.1184**	**8,323.3569**

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	90.56	0.00	90.45	90.15	0.00	89.16	0.00	0.00	0.00	0.00	0.00	0.00

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**31.7072**	**1.4400e-003**	**0.1583**	**1.0000e-005**	**0.0000**	**5.6000e-004**	**5.6000e-004**	**0.0000**	**5.6000e-004**	**5.6000e-004**		**0.3399**	**0.3399**	**8.9000e-004**	**0.0000**	**0.3621**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**31.7072**	**1.4400e-003**	**0.1583**	**1.0000e-005**	**0.0000**	**5.6000e-004**	**5.6000e-004**	**0.0000**	**5.6000e-004**	**5.6000e-004**		**0.3399**	**0.3399**	**8.9000e-004**	**0.0000**	**0.3621**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition & Grubbing	Demolition	1/2/2023	1/31/2023	5	22	
2	Grading	Grading	2/1/2023	3/31/2023	5	43	
3	Building Construction	Building Construction	4/3/2023	12/29/2023	5	195	
4	Paving	Paving	4/3/2023	12/29/2023	5	195	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 129

Acres of Paving: 1553

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition & Grubbing	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition & Grubbing	Excavators	3	8.00	158	0.38
Demolition & Grubbing	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition & Grubbing	6	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	250.00	2.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**		**0.9975**	**0.9975**		**0.9280**	**0.9280**		**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.9403	0.6059	6.2526	0.0153	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
Total	**0.9403**	**0.6059**	**6.2526**	**0.0153**	**602.1148**	**9.6200e-003**	**602.1244**	**60.3651**	**8.8600e-003**	**60.3740**		**1,548.2795**	**1,548.2795**	**0.0581**	**0.0549**	**1,566.0824**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**		**0.9975**	**0.9975**		**0.9280**	**0.9280**	**0.0000**	**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.9403	0.6059	6.2526	0.0153	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
Total	**0.9403**	**0.6059**	**6.2526**	**0.0153**	**56.8133**	**9.6200e-003**	**56.8229**	**5.9435**	**8.8600e-003**	**5.9524**		**1,548.2795**	**1,548.2795**	**0.0581**	**0.0549**	**1,566.0824**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.2036**	**1.4245**	**10.6281**	**3.6538**	**1.3105**	**4.9643**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.9403	0.6059	6.2526	0.0153	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
Total	**0.9403**	**0.6059**	**6.2526**	**0.0153**	**602.1148**	**9.6200e-003**	**602.1244**	**60.3651**	**8.8600e-003**	**60.3740**		**1,548.2795**	**1,548.2795**	**0.0581**	**0.0549**	**1,566.0824**

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.5894	0.0000	3.5894	1.4250	0.0000	1.4250			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**3.5894**	**1.4245**	**5.0139**	**1.4250**	**1.3105**	**2.7355**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.9403	0.6059	6.2526	0.0153	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
Total	**0.9403**	**0.6059**	**6.2526**	**0.0153**	**56.8133**	**9.6200e-003**	**56.8229**	**5.9435**	**8.8600e-003**	**5.9524**		**1,548.2795**	**1,548.2795**	**0.0581**	**0.0549**	**1,566.0824**

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9194	17.6181	18.8361	0.0303		0.9240	0.9240		0.8648	0.8648		2,882.4098	2,882.4098	0.7137		2,900.2515
Total	**1.9194**	**17.6181**	**18.8361**	**0.0303**		**0.9240**	**0.9240**		**0.8648**	**0.8648**		**2,882.4098**	**2,882.4098**	**0.7137**		**2,900.2515**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7800e-003	0.1021	0.0432	6.0000e-004	4.5734	9.9000e-004	4.5744	0.4602	9.4000e-004	0.4612		62.9137	62.9137	2.4000e-004	8.6800e-003	65.5070
Worker	0.9403	0.6059	6.2526	0.0153	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
Total	**0.9451**	**0.7080**	**6.2958**	**0.0159**	**606.6882**	**0.0106**	**606.6988**	**60.8253**	**9.8000e-003**	**60.8351**		**1,611.1932**	**1,611.1932**	**0.0584**	**0.0636**	**1,631.5894**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9194	17.6181	18.8361	0.0303		0.9240	0.9240		0.8648	0.8648	0.0000	2,882.4098	2,882.4098	0.7137		2,900.2515
Total	**1.9194**	**17.6181**	**18.8361**	**0.0303**		**0.9240**	**0.9240**		**0.8648**	**0.8648**	**0.0000**	**2,882.4098**	**2,882.4098**	**0.7137**		**2,900.2515**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7800e-003	0.1021	0.0432	6.0000e-004	0.4382	9.9000e-004	0.4392	0.0475	9.4000e-004	0.0485		62.9137	62.9137	2.4000e-004	8.6800e-003	65.5070
Worker	0.9403	0.6059	6.2526	0.0153	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
Total	**0.9451**	**0.7080**	**6.2958**	**0.0159**	**57.2515**	**0.0106**	**57.2621**	**5.9910**	**9.8000e-003**	**6.0008**		**1,611.1932**	**1,611.1932**	**0.0584**	**0.0636**	**1,631.5894**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.9403	0.6059	6.2526	0.0153	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
Total	**0.9403**	**0.6059**	**6.2526**	**0.0153**	**602.1148**	**9.6200e-003**	**602.1244**	**60.3651**	**8.8600e-003**	**60.3740**		**1,548.2795**	**1,548.2795**	**0.0581**	**0.0549**	**1,566.0824**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.9403	0.6059	6.2526	0.0153	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
Total	**0.9403**	**0.6059**	**6.2526**	**0.0153**	**56.8133**	**9.6200e-003**	**56.8229**	**5.9435**	**8.8600e-003**	**5.9524**		**1,548.2795**	**1,548.2795**	**0.0581**	**0.0549**	**1,566.0824**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Other Non-Asphalt Surfaces	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Unmitigated	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.7314					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.9612					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0146	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Total	**31.7072**	**1.4400e-003**	**0.1583**	**1.0000e-005**		**5.6000e-004**	**5.6000e-004**		**5.6000e-004**	**5.6000e-004**		**0.3399**	**0.3399**	**8.9000e-004**		**0.3621**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.7314					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.9612					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0146	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Total	**31.7072**	**1.4400e-003**	**0.1583**	**1.0000e-005**		**5.6000e-004**	**5.6000e-004**		**5.6000e-004**	**5.6000e-004**		**0.3399**	**0.3399**	**8.9000e-004**		**0.3621**

7.0 Water Detail

7.1 Mitigation Measures Water

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PC ORIGINAL PKG

Vega 5 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vega 5

Imperial County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	1.00	0
Other Non-Asphalt Surfaces	410.00	Acre	410.00	17,859,600.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2025
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Industrial land use added to account for trip generation for operations.

Construction Phase - Building construction and paving assumed to occur simultaneously. Construction phasing updated to match PD.

Off-road Equipment - Equipment updated per information provided by the PD.

Trips and VMT - Updated per information provided by the PD.

On-road Fugitive Dust - Map provided in PD shows access roads to the project site are 100% paved.

Grading -

Vehicle Trips - Conservative estimate of 1 trip per day for operations.

Road Dust - Used same % paved roads as construction workers.

Energy Use - General light industrial used for trip generation only

PC ORIGINAL PKG

Vega 5 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Construction Off-road Equipment Mitigation - Mitigation measure AQ-1 accounted. PM Reduction value for applying soil stabilizers to unpaved roadways per

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	7,750.00	197.00
tblConstructionPhase	NumDays	500.00	23.00
tblConstructionPhase	NumDays	775.00	42.00
tblConstructionPhase	NumDays	550.00	197.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	100
tblTripsAndVMT	VendorTripNumber	2,927.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	125.00
tblTripsAndVMT	WorkerTripNumber	20.00	125.00
tblTripsAndVMT	WorkerTripNumber	7,501.00	125.00
tblTripsAndVMT	WorkerTripNumber	15.00	125.00

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	ST_TR	1.99	1,000.00
tblVehicleTrips	SU_TR	5.00	1,000.00
tblVehicleTrips	WD_TR	4.96	1,000.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	3.9647	32.6342	41.4866	0.0712	10.1735	1.3400	11.5134	3.9110	1.2328	5.1438	0.0000	6,919.0275	6,919.0275	1.9697	0.0580	6,973.2344
Maximum	**3.9647**	**32.6342**	**41.4866**	**0.0712**	**10.1735**	**1.3400**	**11.5134**	**3.9110**	**1.2328**	**5.1438**	**0.0000**	**6,919.0275**	**6,919.0275**	**1.9697**	**0.0580**	**6,973.2344**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	3.9647	32.6342	41.4866	0.0712	4.5593	1.3400	5.8992	1.6822	1.2328	2.9150	0.0000	6,919.0275	6,919.0275	1.9697	0.0580	6,973.2344
Maximum	**3.9647**	**32.6342**	**41.4866**	**0.0712**	**4.5593**	**1.3400**	**5.8992**	**1.6822**	**1.2328**	**2.9150**	**0.0000**	**6,919.0275**	**6,919.0275**	**1.9697**	**0.0580**	**6,973.2344**

PC ORIGINAL PKG

Vega 5 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	55.18	0.00	48.76	56.99	0.00	43.33	0.00	0.00	0.00	0.00	0.00	0.00

PC ORIGINAL PKG

Vega 5 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3709**	**3.8000e-004**	**0.0418**	**0.0000**	**0.0000**	**1.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**1.5000e-004**		**0.0897**	**0.0897**	**2.3000e-004**	**0.0000**	**0.0956**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3709**	**3.8000e-004**	**0.0418**	**0.0000**	**0.0000**	**1.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**1.5000e-004**		**0.0897**	**0.0897**	**2.3000e-004**	**0.0000**	**0.0956**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition & Grubbing	Demolition	1/1/2024	1/31/2024	5	23	
2	Grading	Grading	2/1/2024	3/29/2024	5	42	
3	Building Construction	Building Construction	4/1/2024	12/31/2024	5	197	
4	Paving	Paving	4/1/2024	12/31/2024	5	197	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 126

Acres of Paving: 410

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition & Grubbing	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition & Grubbing	Excavators	3	8.00	158	0.38
Demolition & Grubbing	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition & Grubbing	6	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	125.00	2.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2437	20.8781	19.7073	0.0388		0.9602	0.9602		0.8922	0.8922		3,747.4228	3,747.4228	1.0485		3,773.6345
Total	**2.2437**	**20.8781**	**19.7073**	**0.0388**		**0.9602**	**0.9602**		**0.8922**	**0.8922**		**3,747.4228**	**3,747.4228**	**1.0485**		**3,773.6345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
Total	**0.5801**	**0.2572**	**4.0308**	**8.7400e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**883.3310**	**883.3310**	**0.0260**	**0.0248**	**891.3662**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2437	20.8781	19.7073	0.0388		0.9602	0.9602		0.8922	0.8922	0.0000	3,747.4228	3,747.4228	1.0485		3,773.6345
Total	**2.2437**	**20.8781**	**19.7073**	**0.0388**		**0.9602**	**0.9602**		**0.8922**	**0.8922**	**0.0000**	**3,747.4228**	**3,747.4228**	**1.0485**		**3,773.6345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
Total	**0.5801**	**0.2572**	**4.0308**	**8.7400e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**883.3310**	**883.3310**	**0.0260**	**0.0248**	**891.3662**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**9.2036**	**1.3354**	**10.5390**	**3.6538**	**1.2286**	**4.8823**		**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
Total	**0.5801**	**0.2572**	**4.0308**	**8.7400e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**883.3310**	**883.3310**	**0.0260**	**0.0248**	**891.3662**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.5894	0.0000	3.5894	1.4250	0.0000	1.4250			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**3.5894**	**1.3354**	**4.9248**	**1.4250**	**1.2286**	**2.6535**	**0.0000**	**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
Total	**0.5801**	**0.2572**	**4.0308**	**8.7400e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**883.3310**	**883.3310**	**0.0260**	**0.0248**	**891.3662**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8116	16.6032	18.7590	0.0303		0.8319	0.8319		0.7780	0.7780		2,882.8590	2,882.8590	0.7102		2,900.6130
Total	**1.8116**	**16.6032**	**18.7590**	**0.0303**		**0.8319**	**0.8319**		**0.7780**	**0.7780**		**2,882.8590**	**2,882.8590**	**0.7102**		**2,900.6130**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8300e-003	0.0921	0.0403	5.9000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		61.9594	61.9594	2.4000e-004	8.4800e-003	64.4927
Worker	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
Total	**0.5849**	**0.3493**	**4.0711**	**9.3300e-003**	**0.9920**	**5.5400e-003**	**0.9975**	**0.2636**	**5.1300e-003**	**0.2688**		**945.2904**	**945.2904**	**0.0262**	**0.0333**	**955.8589**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8116	16.6032	18.7590	0.0303		0.8319	0.8319		0.7780	0.7780	0.0000	2,882.8590	2,882.8590	0.7102		2,900.6130
Total	**1.8116**	**16.6032**	**18.7590**	**0.0303**		**0.8319**	**0.8319**		**0.7780**	**0.7780**	**0.0000**	**2,882.8590**	**2,882.8590**	**0.7102**		**2,900.6130**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8300e-003	0.0921	0.0403	5.9000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		61.9594	61.9594	2.4000e-004	8.4800e-003	64.4927
Worker	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
Total	**0.5849**	**0.3493**	**4.0711**	**9.3300e-003**	**0.9920**	**5.5400e-003**	**0.9975**	**0.2636**	**5.1300e-003**	**0.2688**		**945.2904**	**945.2904**	**0.0262**	**0.0333**	**955.8589**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
Total	**0.5801**	**0.2572**	**4.0308**	**8.7400e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**883.3310**	**883.3310**	**0.0260**	**0.0248**	**891.3662**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
Total	**0.5801**	**0.2572**	**4.0308**	**8.7400e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**883.3310**	**883.3310**	**0.0260**	**0.0248**	**891.3662**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388
Other Non-Asphalt Surfaces	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Unmitigated	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.3259					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8400e-003	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Total	**8.3709**	**3.8000e-004**	**0.0418**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0897**	**0.0897**	**2.3000e-004**		**0.0956**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.3259					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8400e-003	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Total	**8.3709**	**3.8000e-004**	**0.0418**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0897**	**0.0897**	**2.3000e-004**		**0.0956**

7.0 Water Detail

7.1 Mitigation Measures Water

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vega 5

Imperial County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	1.00	0
Other Non-Asphalt Surfaces	410.00	Acre	410.00	17,859,600.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2025
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Industrial land use added to account for trip generation for operations.

Construction Phase - Building construction and paving assumed to occur simultaneously. Construction phasing updated to match PD.

Off-road Equipment - Equipment updated per information provided by the PD.

Trips and VMT - Updated per information provided by the PD.

On-road Fugitive Dust - Map provided in PD shows access roads to the project site are 100% paved.

Grading -

Vehicle Trips - Conservative estimate of 1 trip per day for operations.

Road Dust - Used same % paved roads as construction workers.

Energy Use - General light industrial used for trip generation only

PC ORIGINAL PKG

Vega 5 - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Construction Off-road Equipment Mitigation - Mitigation measure AQ-1 accounted. PM Reduction value for applying soil stabilizers to unpaved roadways per

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	7,750.00	197.00
tblConstructionPhase	NumDays	500.00	23.00
tblConstructionPhase	NumDays	775.00	42.00
tblConstructionPhase	NumDays	550.00	197.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	100
tblTripsAndVMT	VendorTripNumber	2,927.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	125.00
tblTripsAndVMT	WorkerTripNumber	20.00	125.00
tblTripsAndVMT	WorkerTripNumber	7,501.00	125.00
tblTripsAndVMT	WorkerTripNumber	15.00	125.00

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	ST_TR	1.99	1,000.00
tblVehicleTrips	SU_TR	5.00	1,000.00
tblVehicleTrips	WD_TR	4.96	1,000.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.4776	3.5638	4.8434	8.8700e-003	0.4164	0.1683	0.5848	0.1360	0.1562	0.2922	0.0000	781.6556	781.6556	0.1805	5.9700e-003	787.9457
Maximum	**0.4776**	**3.5638**	**4.8434**	**8.8700e-003**	**0.4164**	**0.1683**	**0.5848**	**0.1360**	**0.1562**	**0.2922**	**0.0000**	**781.6556**	**781.6556**	**0.1805**	**5.9700e-003**	**787.9457**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.4776	3.5638	4.8434	8.8700e-003	0.2985	0.1683	0.4669	0.0892	0.1562	0.2454	0.0000	781.6549	781.6549	0.1805	5.9700e-003	787.9450
Maximum	**0.4776**	**3.5638**	**4.8434**	**8.8700e-003**	**0.2985**	**0.1683**	**0.4669**	**0.0892**	**0.1562**	**0.2454**	**0.0000**	**781.6549**	**781.6549**	**0.1805**	**5.9700e-003**	**787.9450**

PC ORIGINAL PKG

Vega 5 - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**28.31**	**0.00**	**20.16**	**34.41**	**0.00**	**16.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
5	**11-30-2023**	**2-28-2024**	0.6268	0.6268
6	**2-29-2024**	**5-29-2024**	1.0358	1.0358
7	**5-30-2024**	**8-29-2024**	1.0087	1.0087
8	**8-30-2024**	**9-30-2024**	0.3508	0.3508
		Highest	1.0358	1.0358

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5273	3.0000e-005	3.7600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5273**	**3.0000e-005**	**3.7600e-003**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**7.3300e-003**	**7.3300e-003**	**2.0000e-005**	**0.0000**	**7.8000e-003**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5273	3.0000e-005	3.7600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5273**	**3.0000e-005**	**3.7600e-003**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**7.3300e-003**	**7.3300e-003**	**2.0000e-005**	**0.0000**	**7.8000e-003**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition & Grubbing	Demolition	1/1/2024	1/31/2024	5	23	
2	Grading	Grading	2/1/2024	3/29/2024	5	42	
3	Building Construction	Building Construction	4/1/2024	12/31/2024	5	197	

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Paving	Paving	4/1/2024	12/31/2024	5	197	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 126

Acres of Paving: 410

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition & Grubbing	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition & Grubbing	Excavators	3	8.00	158	0.38
Demolition & Grubbing	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition & Grubbing	6	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	125.00	2.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition & Grubbing - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0258	0.2401	0.2266	4.5000e-004		0.0110	0.0110		0.0103	0.0103	0.0000	39.0955	39.0955	0.0109	0.0000	39.3689
Total	**0.0258**	**0.2401**	**0.2266**	**4.5000e-004**		**0.0110**	**0.0110**		**0.0103**	**0.0103**	**0.0000**	**39.0955**	**39.0955**	**0.0109**	**0.0000**	**39.3689**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4100e-003	3.0300e-003	0.0372	9.0000e-005	0.0111	5.0000e-005	0.0111	2.9400e-003	5.0000e-005	2.9900e-003	0.0000	8.4013	8.4013	2.6000e-004	2.6000e-004	8.4857
Total	**5.4100e-003**	**3.0300e-003**	**0.0372**	**9.0000e-005**	**0.0111**	**5.0000e-005**	**0.0111**	**2.9400e-003**	**5.0000e-005**	**2.9900e-003**	**0.0000**	**8.4013**	**8.4013**	**2.6000e-004**	**2.6000e-004**	**8.4857**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0258	0.2401	0.2266	4.5000e-004		0.0110	0.0110		0.0103	0.0103	0.0000	39.0954	39.0954	0.0109	0.0000	39.3689
Total	**0.0258**	**0.2401**	**0.2266**	**4.5000e-004**		**0.0110**	**0.0110**		**0.0103**	**0.0103**	**0.0000**	**39.0954**	**39.0954**	**0.0109**	**0.0000**	**39.3689**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4100e-003	3.0300e-003	0.0372	9.0000e-005	0.0111	5.0000e-005	0.0111	2.9400e-003	5.0000e-005	2.9900e-003	0.0000	8.4013	8.4013	2.6000e-004	2.6000e-004	8.4857
Total	**5.4100e-003**	**3.0300e-003**	**0.0372**	**9.0000e-005**	**0.0111**	**5.0000e-005**	**0.0111**	**2.9400e-003**	**5.0000e-005**	**2.9900e-003**	**0.0000**	**8.4013**	**8.4013**	**2.6000e-004**	**2.6000e-004**	**8.4857**

3.3 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1933	0.0000	0.1933	0.0767	0.0000	0.0767	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0676	0.6799	0.5822	1.3000e-003		0.0280	0.0280		0.0258	0.0258	0.0000	114.4910	114.4910	0.0370	0.0000	115.4167
Total	**0.0676**	**0.6799**	**0.5822**	**1.3000e-003**	**0.1933**	**0.0280**	**0.2213**	**0.0767**	**0.0258**	**0.1025**	**0.0000**	**114.4910**	**114.4910**	**0.0370**	**0.0000**	**115.4167**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.8800e-003	5.5300e-003	0.0679	1.7000e-004	0.0202	1.0000e-004	0.0203	5.3700e-003	9.0000e-005	5.4500e-003	0.0000	15.3416	15.3416	4.8000e-004	4.8000e-004	15.4955
Total	**9.8800e-003**	**5.5300e-003**	**0.0679**	**1.7000e-004**	**0.0202**	**1.0000e-004**	**0.0203**	**5.3700e-003**	**9.0000e-005**	**5.4500e-003**	**0.0000**	**15.3416**	**15.3416**	**4.8000e-004**	**4.8000e-004**	**15.4955**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0754	0.0000	0.0754	0.0299	0.0000	0.0299	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0676	0.6799	0.5822	1.3000e-003		0.0280	0.0280		0.0258	0.0258	0.0000	114.4909	114.4909	0.0370	0.0000	115.4166
Total	**0.0676**	**0.6799**	**0.5822**	**1.3000e-003**	**0.0754**	**0.0280**	**0.1034**	**0.0299**	**0.0258**	**0.0557**	**0.0000**	**114.4909**	**114.4909**	**0.0370**	**0.0000**	**115.4166**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.8800e-003	5.5300e-003	0.0679	1.7000e-004	0.0202	1.0000e-004	0.0203	5.3700e-003	9.0000e-005	5.4500e-003	0.0000	15.3416	15.3416	4.8000e-004	4.8000e-004	15.4955
Total	**9.8800e-003**	**5.5300e-003**	**0.0679**	**1.7000e-004**	**0.0202**	**1.0000e-004**	**0.0203**	**5.3700e-003**	**9.0000e-005**	**5.4500e-003**	**0.0000**	**15.3416**	**15.3416**	**4.8000e-004**	**4.8000e-004**	**15.4955**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6354	1.8478	2.9900e-003		0.0819	0.0819		0.0766	0.0766	0.0000	257.6056	257.6056	0.0635	0.0000	259.1921
Total	**0.1784**	**1.6354**	**1.8478**	**2.9900e-003**		**0.0819**	**0.0819**		**0.0766**	**0.0766**	**0.0000**	**257.6056**	**257.6056**	**0.0635**	**0.0000**	**259.1921**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6000e-004	9.8100e-003	4.0200e-003	6.0000e-005	2.1600e-003	1.0000e-004	2.2600e-003	6.2000e-004	9.0000e-005	7.2000e-004	0.0000	5.5406	5.5406	2.0000e-005	7.6000e-004	5.7676
Worker	0.0463	0.0259	0.3185	7.8000e-004	0.0949	4.5000e-004	0.0953	0.0252	4.1000e-004	0.0256	0.0000	71.9593	71.9593	2.2600e-003	2.2300e-003	72.6814
Total	**0.0468**	**0.0357**	**0.3226**	**8.4000e-004**	**0.0970**	**5.5000e-004**	**0.0976**	**0.0258**	**5.0000e-004**	**0.0263**	**0.0000**	**77.5000**	**77.5000**	**2.2800e-003**	**2.9900e-003**	**78.4491**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6354	1.8478	2.9900e-003		0.0819	0.0819		0.0766	0.0766	0.0000	257.6053	257.6053	0.0635	0.0000	259.1918
Total	**0.1784**	**1.6354**	**1.8478**	**2.9900e-003**		**0.0819**	**0.0819**		**0.0766**	**0.0766**	**0.0000**	**257.6053**	**257.6053**	**0.0635**	**0.0000**	**259.1918**

PC ORIGINAL PKG

Vega 5 - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6000e-004	9.8100e-003	4.0200e-003	6.0000e-005	2.1600e-003	1.0000e-004	2.2600e-003	6.2000e-004	9.0000e-005	7.2000e-004	0.0000	5.5406	5.5406	2.0000e-005	7.6000e-004	5.7676
Worker	0.0463	0.0259	0.3185	7.8000e-004	0.0949	4.5000e-004	0.0953	0.0252	4.1000e-004	0.0256	0.0000	71.9593	71.9593	2.2600e-003	2.2300e-003	72.6814
Total	**0.0468**	**0.0357**	**0.3226**	**8.4000e-004**	**0.0970**	**5.5000e-004**	**0.0976**	**0.0258**	**5.0000e-004**	**0.0263**	**0.0000**	**77.5000**	**77.5000**	**2.2800e-003**	**2.9900e-003**	**78.4491**

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0973	0.9382	1.4406	2.2500e-003		0.0462	0.0462		0.0425	0.0425	0.0000	197.2613	197.2613	0.0638	0.0000	198.8563
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0973**	**0.9382**	**1.4406**	**2.2500e-003**		**0.0462**	**0.0462**		**0.0425**	**0.0425**	**0.0000**	**197.2613**	**197.2613**	**0.0638**	**0.0000**	**198.8563**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0463	0.0259	0.3185	7.8000e-004	0.0949	4.5000e-004	0.0953	0.0252	4.1000e-004	0.0256	0.0000	71.9593	71.9593	2.2600e-003	2.2300e-003	72.6814
Total	**0.0463**	**0.0259**	**0.3185**	**7.8000e-004**	**0.0949**	**4.5000e-004**	**0.0953**	**0.0252**	**4.1000e-004**	**0.0256**	**0.0000**	**71.9593**	**71.9593**	**2.2600e-003**	**2.2300e-003**	**72.6814**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0973	0.9382	1.4406	2.2500e-003		0.0462	0.0462		0.0425	0.0425	0.0000	197.2611	197.2611	0.0638	0.0000	198.8561
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0973**	**0.9382**	**1.4406**	**2.2500e-003**		**0.0462**	**0.0462**		**0.0425**	**0.0425**	**0.0000**	**197.2611**	**197.2611**	**0.0638**	**0.0000**	**198.8561**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0463	0.0259	0.3185	7.8000e-004	0.0949	4.5000e-004	0.0953	0.0252	4.1000e-004	0.0256	0.0000	71.9593	71.9593	2.2600e-003	2.2300e-003	72.6814
Total	**0.0463**	**0.0259**	**0.3185**	**7.8000e-004**	**0.0949**	**4.5000e-004**	**0.0953**	**0.0252**	**4.1000e-004**	**0.0256**	**0.0000**	**71.9593**	**71.9593**	**2.2600e-003**	**2.2300e-003**	**72.6814**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388
Other Non-Asphalt Surfaces	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388

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5.0 Energy Detail

Vega 5 - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5273	3.0000e-005	3.7600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-003
Unmitigated	1.5273	3.0000e-005	3.7600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3725					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1545					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.5000e-004	3.0000e-005	3.7600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-003
Total	**1.5273**	**3.0000e-005**	**3.7600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**7.3300e-003**	**7.3300e-003**	**2.0000e-005**	**0.0000**	**7.8000e-003**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3725					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1545					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.5000e-004	3.0000e-005	3.7600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-003
Total	**1.5273**	**3.0000e-005**	**3.7600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**7.3300e-003**	**7.3300e-003**	**2.0000e-005**	**0.0000**	**7.8000e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vega 5

Imperial County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	1.00	0
Other Non-Asphalt Surfaces	410.00	Acre	410.00	17,859,600.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2025
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Industrial land use added to account for trip generation for operations.

Construction Phase - Building construction and paving assumed to occur simultaneously. Construction phasing updated to match PD.

Off-road Equipment - Equipment updated per information provided by the PD.

Trips and VMT - Updated per information provided by the PD.

On-road Fugitive Dust - Map provided in PD shows access roads to the project site are 100% paved.

Grading -

Vehicle Trips - Conservative estimate of 1 trip per day for operations.

Road Dust - Used same % paved roads as construction workers.

Energy Use - General light industrial used for trip generation only

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Construction Off-road Equipment Mitigation - Mitigation measure AQ-1 accounted. PM Reduction value for applying soil stabilizers to unpaved roadways per

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	7,750.00	197.00
tblConstructionPhase	NumDays	500.00	23.00
tblConstructionPhase	NumDays	775.00	42.00
tblConstructionPhase	NumDays	550.00	197.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	100
tblTripsAndVMT	VendorTripNumber	2,927.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	125.00
tblTripsAndVMT	WorkerTripNumber	20.00	125.00
tblTripsAndVMT	WorkerTripNumber	7,501.00	125.00
tblTripsAndVMT	WorkerTripNumber	15.00	125.00

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	ST_TR	1.99	1,000.00
tblVehicleTrips	SU_TR	5.00	1,000.00
tblVehicleTrips	WD_TR	4.96	1,000.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	3.6801	32.6454	39.2032	0.0695	10.1735	1.3400	11.5134	3.9110	1.2328	5.1438	0.0000	6,760.8759	6,760.8759	1.9700	0.0592	6,817.6753
Maximum	**3.6801**	**32.6454**	**39.2032**	**0.0695**	**10.1735**	**1.3400**	**11.5134**	**3.9110**	**1.2328**	**5.1438**	**0.0000**	**6,760.8759**	**6,760.8759**	**1.9700**	**0.0592**	**6,817.6753**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	3.6801	32.6454	39.2032	0.0695	4.5593	1.3400	5.8992	1.6822	1.2328	2.9150	0.0000	6,760.8758	6,760.8758	1.9700	0.0592	6,817.6753
Maximum	**3.6801**	**32.6454**	**39.2032**	**0.0695**	**4.5593**	**1.3400**	**5.8992**	**1.6822**	**1.2328**	**2.9150**	**0.0000**	**6,760.8758**	**6,760.8758**	**1.9700**	**0.0592**	**6,817.6753**

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	55.18	0.00	48.76	56.99	0.00	43.33	0.00	0.00	0.00	0.00	0.00	0.00

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3709**	**3.8000e-004**	**0.0418**	**0.0000**	**0.0000**	**1.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**1.5000e-004**		**0.0897**	**0.0897**	**2.3000e-004**	**0.0000**	**0.0956**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3709**	**3.8000e-004**	**0.0418**	**0.0000**	**0.0000**	**1.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**1.5000e-004**		**0.0897**	**0.0897**	**2.3000e-004**	**0.0000**	**0.0956**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition & Grubbing	Demolition	1/1/2024	1/31/2024	5	23	
2	Grading	Grading	2/1/2024	3/29/2024	5	42	
3	Building Construction	Building Construction	4/1/2024	12/31/2024	5	197	
4	Paving	Paving	4/1/2024	12/31/2024	5	197	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 126

Acres of Paving: 410

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition & Grubbing	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition & Grubbing	Excavators	3	8.00	158	0.38
Demolition & Grubbing	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition & Grubbing	6	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	125.00	2.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2437	20.8781	19.7073	0.0388		0.9602	0.9602		0.8922	0.8922		3,747.4228	3,747.4228	1.0485		3,773.6345
Total	**2.2437**	**20.8781**	**19.7073**	**0.0388**		**0.9602**	**0.9602**		**0.8922**	**0.8922**		**3,747.4228**	**3,747.4228**	**1.0485**		**3,773.6345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
Total	**0.4379**	**0.2685**	**2.8885**	**7.4300e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**751.1272**	**751.1272**	**0.0263**	**0.0253**	**759.3348**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2437	20.8781	19.7073	0.0388		0.9602	0.9602		0.8922	0.8922	0.0000	3,747.4228	3,747.4228	1.0485		3,773.6345
Total	**2.2437**	**20.8781**	**19.7073**	**0.0388**		**0.9602**	**0.9602**		**0.8922**	**0.8922**	**0.0000**	**3,747.4228**	**3,747.4228**	**1.0485**		**3,773.6345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
Total	**0.4379**	**0.2685**	**2.8885**	**7.4300e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**751.1272**	**751.1272**	**0.0263**	**0.0253**	**759.3348**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**9.2036**	**1.3354**	**10.5390**	**3.6538**	**1.2286**	**4.8823**		**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
Total	**0.4379**	**0.2685**	**2.8885**	**7.4300e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**751.1272**	**751.1272**	**0.0263**	**0.0253**	**759.3348**

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.5894	0.0000	3.5894	1.4250	0.0000	1.4250			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**3.5894**	**1.3354**	**4.9248**	**1.4250**	**1.2286**	**2.6535**	**0.0000**	**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
Total	**0.4379**	**0.2685**	**2.8885**	**7.4300e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**751.1272**	**751.1272**	**0.0263**	**0.0253**	**759.3348**

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8116	16.6032	18.7590	0.0303		0.8319	0.8319		0.7780	0.7780		2,882.8590	2,882.8590	0.7102		2,900.6130
Total	**1.8116**	**16.6032**	**18.7590**	**0.0303**		**0.8319**	**0.8319**		**0.7780**	**0.7780**		**2,882.8590**	**2,882.8590**	**0.7102**		**2,900.6130**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5900e-003	0.1017	0.0415	5.9000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		62.0683	62.0683	2.3000e-004	8.5200e-003	64.6129
Worker	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
Total	**0.4425**	**0.3702**	**2.9300**	**8.0200e-003**	**0.9920**	**5.5400e-003**	**0.9975**	**0.2636**	**5.1300e-003**	**0.2688**		**813.1955**	**813.1955**	**0.0266**	**0.0339**	**823.9477**

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8116	16.6032	18.7590	0.0303		0.8319	0.8319		0.7780	0.7780	0.0000	2,882.8590	2,882.8590	0.7102		2,900.6130
Total	**1.8116**	**16.6032**	**18.7590**	**0.0303**		**0.8319**	**0.8319**		**0.7780**	**0.7780**	**0.0000**	**2,882.8590**	**2,882.8590**	**0.7102**		**2,900.6130**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5900e-003	0.1017	0.0415	5.9000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		62.0683	62.0683	2.3000e-004	8.5200e-003	64.6129
Worker	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
Total	**0.4425**	**0.3702**	**2.9300**	**8.0200e-003**	**0.9920**	**5.5400e-003**	**0.9975**	**0.2636**	**5.1300e-003**	**0.2688**		**813.1955**	**813.1955**	**0.0266**	**0.0339**	**823.9477**

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
Total	**0.4379**	**0.2685**	**2.8885**	**7.4300e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**751.1272**	**751.1272**	**0.0263**	**0.0253**	**759.3348**

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
Total	**0.4379**	**0.2685**	**2.8885**	**7.4300e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**751.1272**	**751.1272**	**0.0263**	**0.0253**	**759.3348**

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388
Other Non-Asphalt Surfaces	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Unmitigated	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.3259					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8400e-003	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Total	**8.3709**	**3.8000e-004**	**0.0418**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0897**	**0.0897**	**2.3000e-004**		**0.0956**

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.3259					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8400e-003	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Total	**8.3709**	**3.8000e-004**	**0.0418**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0897**	**0.0897**	**2.3000e-004**		**0.0956**

7.0 Water Detail

7.1 Mitigation Measures Water

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vega Complex Operations

Imperial County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	217.80	1000sqft	5.00	217,800.00	0
Refrigerated Warehouse-No Rail	217.80	1000sqft	5.00	217,800.00	0
Other Asphalt Surfaces	1,953.00	Acre	1,953.00	85,072,680.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2024
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Industrial land use used to account for BESS. Parking used to add acreage of total project site.

Construction Phase - Model run done for operations only.

Off-road Equipment - Model run done for operations only.

Trips and VMT - Model run done for operations only.

Architectural Coating - Model run done for operations only.

Vehicle Trips - Accounting for 2 vehicle trips per day

Road Dust - Percent paved taken from Vega 2 & 3 construcion workers PC ORIGINAL PKG

Vega Complex Operations - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Water And Wastewater - Water use from PD.

Solid Waste - No soild waste generated

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Interior	100.00	0.00
tblConstructionPhase	NumDays	11,000.00	0.00
tblConstructionPhase	PhaseEndDate	2/14/2822	12/17/2779
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	84
tblSolidWaste	SolidWasteGenerationRate	409.46	0.00
tblTripsAndVMT	WorkerTripNumber	7,183.00	0.00
tblVehicleTrips	ST_TR	2.12	5.0000e-003
tblVehicleTrips	SU_TR	2.12	5.0000e-003
tblVehicleTrips	WD_TR	2.12	5.0000e-003
tblWater	IndoorWaterUseRate	100,732,500.00	0.00
tblWater	OutdoorWaterUseRate	0.00	10,430,000.00

2.0 Emissions Summary

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Vega Complex Operations - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2779	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2779	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

PC ORIGINAL PKG

Vega Complex Operations - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Energy	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
Mobile	0.0103	0.0121	0.1077	2.3000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		23.1271	23.1271	9.3000e-004	9.6000e-004	23.4367
Total	**51.5354**	**6.0668**	**5.4354**	**0.0366**	**3.5405**	**0.4610**	**4.0015**	**0.3559**	**0.4610**	**0.8169**		**7,286.6919**	**7,286.6919**	**0.1415**	**0.1341**	**7,330.1963**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Energy	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
Mobile	0.0103	0.0121	0.1077	2.3000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		23.1271	23.1271	9.3000e-004	9.6000e-004	23.4367
Total	**51.5354**	**6.0668**	**5.4354**	**0.0366**	**3.5405**	**0.4610**	**4.0015**	**0.3559**	**0.4610**	**0.8169**		**7,286.6919**	**7,286.6919**	**0.1415**	**0.1341**	**7,330.1963**

PC ORIGINAL PKG

Vega Complex Operations - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	12/18/2779	12/17/2779	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1953

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 653,400; Non-Residential Outdoor: 217,800; Striped Parking Area: 5,104,361 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	0	0.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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Vega Complex Operations - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Architectural Coating - 2779

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

PC ORIGINAL PKG

Vega Complex Operations - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Architectural Coating - 2779

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0103	0.0121	0.1077	2.3000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		23.1271	23.1271	9.3000e-004	9.6000e-004	23.4367
Unmitigated	0.0103	0.0121	0.1077	2.3000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		23.1271	23.1271	9.3000e-004	9.6000e-004	23.4367

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	1.09	1.09	1.09	5,381	5,381
Refrigerated Warehouse-No Rail	1.09	1.09	1.09	5,381	5,381
Total	2.18	2.18	2.18	10,763	10,763

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.40	9.50	11.90	59.00	0.00	41.00	92	5	3
Refrigerated Warehouse-No	16.40	9.50	11.90	59.00	0.00	41.00	92	5	3

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Refrigerated Warehouse-No Rail	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
NaturalGas Unmitigated	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	30867.9	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
Total		**0.6658**	**6.0525**	**5.0841**	**0.0363**		**0.4600**	**0.4600**		**0.4600**	**0.4600**		**7,263.0421**	**7,263.0421**	**0.1392**	**0.1332**	**7,306.2027**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	30.8679	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
Total		**0.6658**	**6.0525**	**5.0841**	**0.0363**		**0.4600**	**0.4600**		**0.4600**	**0.4600**		**7,263.0421**	**7,263.0421**	**0.1392**	**0.1332**	**7,306.2027**

6.0 Area Detail

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Vega Complex Operations - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Unmitigated	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	11.3822					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	39.4546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0225	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Total	**50.8593**	**2.2100e-003**	**0.2435**	**2.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**		**0.5228**	**0.5228**	**1.3600e-003**		**0.5569**

PC ORIGINAL PKG

Vega Complex Operations - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	11.3822					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	39.4546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0225	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Total	**50.8593**	**2.2100e-003**	**0.2435**	**2.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**		**0.5228**	**0.5228**	**1.3600e-003**		**0.5569**

7.0 Water Detail

7.1 Mitigation Measures Water

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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Vega Complex Operations - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vega Complex Operations

Imperial County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	217.80	1000sqft	5.00	217,800.00	0
Refrigerated Warehouse-No Rail	217.80	1000sqft	5.00	217,800.00	0
Other Asphalt Surfaces	1,953.00	Acre	1,953.00	85,072,680.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2024
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Industrial land use used to account for BESS. Parking used to add acreage of total project site.

Construction Phase - Model run done for operations only.

Off-road Equipment - Model run done for operations only.

Trips and VMT - Model run done for operations only.

Architectural Coating - Model run done for operations only.

Vehicle Trips - Accounting for 2 vehicle trips per day

Road Dust - Percent paved taken from Vega 2 & 3 construcion workers PC ORIGINAL PKG

Vega Complex Operations - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Water And Wastewater - Water use from PD.

Solid Waste - No soild waste generated

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Interior	100.00	0.00
tblConstructionPhase	NumDays	11,000.00	0.00
tblConstructionPhase	PhaseEndDate	2/14/2822	12/17/2779
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	84
tblSolidWaste	SolidWasteGenerationRate	409.46	0.00
tblTripsAndVMT	WorkerTripNumber	7,183.00	0.00
tblVehicleTrips	ST_TR	2.12	5.0000e-003
tblVehicleTrips	SU_TR	2.12	5.0000e-003
tblVehicleTrips	WD_TR	2.12	5.0000e-003
tblWater	IndoorWaterUseRate	100,732,500.00	0.00
tblWater	OutdoorWaterUseRate	0.00	10,430,000.00

2.0 Emissions Summary

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Vega Complex Operations - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2779	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2779	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

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Vega Complex Operations - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	9.2797	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0427	0.0427	1.1000e-004	0.0000	0.0455
Energy	0.1215	1.1046	0.9279	6.6300e-003		0.0840	0.0840		0.0840	0.0840	0.0000	2,697.9588	2,697.9588	0.2828	0.0535	2,720.9819
Mobile	1.5100e-003	2.3700e-003	0.0164	4.0000e-005	0.6444	3.0000e-005	0.6444	0.0648	3.0000e-005	0.0648	0.0000	3.5440	3.5440	1.5000e-004	1.6000e-004	3.5960
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	9.9856	9.9856	1.7300e-003	2.1000e-004	10.0916
Total	**9.4028**	**1.1072**	**0.9662**	**6.6700e-003**	**0.6444**	**0.0841**	**0.7284**	**0.0648**	**0.0841**	**0.1488**	**0.0000**	**2,711.5310**	**2,711.5310**	**0.2848**	**0.0539**	**2,734.7149**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	9.2797	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0427	0.0427	1.1000e-004	0.0000	0.0455
Energy	0.1215	1.1046	0.9279	6.6300e-003		0.0840	0.0840		0.0840	0.0840	0.0000	2,697.9588	2,697.9588	0.2828	0.0535	2,720.9819
Mobile	1.5100e-003	2.3700e-003	0.0164	4.0000e-005	0.6444	3.0000e-005	0.6444	0.0648	3.0000e-005	0.0648	0.0000	3.5440	3.5440	1.5000e-004	1.6000e-004	3.5960
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	9.9856	9.9856	1.7300e-003	2.1000e-004	10.0916
Total	**9.4028**	**1.1072**	**0.9662**	**6.6700e-003**	**0.6444**	**0.0841**	**0.7284**	**0.0648**	**0.0841**	**0.1488**	**0.0000**	**2,711.5310**	**2,711.5310**	**0.2848**	**0.0539**	**2,734.7149**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	12/18/2779	12/17/2779	5	0	

Acres of Grading (Site Preparation Phase): 0

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Grading Phase): 0

Acres of Paving: 1953

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 653,400; Non-Residential Outdoor: 217,800; Striped Parking Area: 5,104,361 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	0	0.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2779

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Architectural Coating - 2779

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Architectural Coating - 2779

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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Vega Complex Operations - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5100e-003	2.3700e-003	0.0164	4.0000e-005	0.6444	3.0000e-005	0.6444	0.0648	3.0000e-005	0.0648	0.0000	3.5440	3.5440	1.5000e-004	1.6000e-004	3.5960
Unmitigated	1.5100e-003	2.3700e-003	0.0164	4.0000e-005	0.6444	3.0000e-005	0.6444	0.0648	3.0000e-005	0.0648	0.0000	3.5440	3.5440	1.5000e-004	1.6000e-004	3.5960

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	1.09	1.09	1.09	5,381	5,381
Refrigerated Warehouse-No Rail	1.09	1.09	1.09	5,381	5,381
Total	2.18	2.18	2.18	10,763	10,763

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.40	9.50	11.90	59.00	0.00	41.00	92	5	3
Refrigerated Warehouse-No	16.40	9.50	11.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Refrigerated Warehouse-No Rail	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,495.4807	1,495.4807	0.2598	0.0315	1,511.3581
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,495.4807	1,495.4807	0.2598	0.0315	1,511.3581
NaturalGas Mitigated	0.1215	1.1046	0.9279	6.6300e-003		0.0840	0.0840		0.0840	0.0840	0.0000	1,202.4781	1,202.4781	0.0231	0.0221	1,209.6238
NaturalGas Unmitigated	0.1215	1.1046	0.9279	6.6300e-003		0.0840	0.0840		0.0840	0.0840	0.0000	1,202.4781	1,202.4781	0.0231	0.0221	1,209.6238

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Vega Complex Operations - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	1.12668e+007	0.1215	1.1046	0.9279	6.6300e-003		0.0840	0.0840		0.0840	0.0840	0.0000	1,202.4781	1,202.4781	0.0231	0.0221	1,209.6238
Total		**0.1215**	**1.1046**	**0.9279**	**6.6300e-003**		**0.0840**	**0.0840**		**0.0840**	**0.0840**	**0.0000**	**1,202.4781**	**1,202.4781**	**0.0231**	**0.0221**	**1,209.6238**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	1.12668e+007	0.1215	1.1046	0.9279	6.6300e-003		0.0840	0.0840		0.0840	0.0840	0.0000	1,202.4781	1,202.4781	0.0231	0.0221	1,209.6238
Total		**0.1215**	**1.1046**	**0.9279**	**6.6300e-003**		**0.0840**	**0.0840**		**0.0840**	**0.0840**	**0.0000**	**1,202.4781**	**1,202.4781**	**0.0231**	**0.0221**	**1,209.6238**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	8.67715e+006	1,495.4807	0.2598	0.0315	1,511.3581
Total		**1,495.4807**	**0.2598**	**0.0315**	**1,511.3581**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	8.67715e+006	1,495.4807	0.2598	0.0315	1,511.3581
Total		**1,495.4807**	**0.2598**	**0.0315**	**1,511.3581**

6.0 Area Detail

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Vega Complex Operations - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	9.2797	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0427	0.0427	1.1000e-004	0.0000	0.0455
Unmitigated	9.2797	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0427	0.0427	1.1000e-004	0.0000	0.0455

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.0773					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	7.2005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0200e-003	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0427	0.0427	1.1000e-004	0.0000	0.0455
Total	**9.2797**	**2.0000e-004**	**0.0219**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0427**	**0.0427**	**1.1000e-004**	**0.0000**	**0.0455**

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Vega Complex Operations - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.0773					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	7.2005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0200e-003	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0427	0.0427	1.1000e-004	0.0000	0.0455
Total	**9.2797**	**2.0000e-004**	**0.0219**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0427**	**0.0427**	**1.1000e-004**	**0.0000**	**0.0455**

7.0 Water Detail

7.1 Mitigation Measures Water

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	9.9856	1.7300e-003	2.1000e-004	10.0916
Unmitigated	9.9856	1.7300e-003	2.1000e-004	10.0916

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0 / 10.43	9.9856	1.7300e-003	2.1000e-004	10.0916
Total		**9.9856**	**1.7300e-003**	**2.1000e-004**	**10.0916**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0 / 10.43	9.9856	1.7300e-003	2.1000e-004	10.0916
Total		**9.9856**	**1.7300e-003**	**2.1000e-004**	**10.0916**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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Vega Complex Operations - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vega Complex Operations

Imperial County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	217.80	1000sqft	5.00	217,800.00	0
Refrigerated Warehouse-No Rail	217.80	1000sqft	5.00	217,800.00	0
Other Asphalt Surfaces	1,953.00	Acre	1,953.00	85,072,680.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2024
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Industrial land use used to account for BESS. Parking used to add acreage of total project site.

Construction Phase - Model run done for operations only.

Off-road Equipment - Model run done for operations only.

Trips and VMT - Model run done for operations only.

Architectural Coating - Model run done for operations only.

Vehicle Trips - Accounting for 2 vehicle trips per day

Road Dust - Percent paved taken from Vega 2 & 3 construcion workers PC ORIGINAL PKG

Vega Complex Operations - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Water And Wastewater - Water use from PD.

Solid Waste - No soild waste generated

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Interior	100.00	0.00
tblConstructionPhase	NumDays	11,000.00	0.00
tblConstructionPhase	PhaseEndDate	2/14/2822	12/17/2779
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	84
tblSolidWaste	SolidWasteGenerationRate	409.46	0.00
tblTripsAndVMT	WorkerTripNumber	7,183.00	0.00
tblVehicleTrips	ST_TR	2.12	5.0000e-003
tblVehicleTrips	SU_TR	2.12	5.0000e-003
tblVehicleTrips	WD_TR	2.12	5.0000e-003
tblWater	IndoorWaterUseRate	100,732,500.00	0.00
tblWater	OutdoorWaterUseRate	0.00	10,430,000.00

2.0 Emissions Summary

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Vega Complex Operations - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2779	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2779	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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Vega Complex Operations - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Energy	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
Mobile	7.2700e-003	0.0134	0.0836	2.0000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		20.3574	20.3574	9.3000e-004	9.9000e-004	20.6764
Total	**51.5323**	**6.0681**	**5.4112**	**0.0365**	**3.5405**	**0.4610**	**4.0015**	**0.3559**	**0.4610**	**0.8169**		**7,283.9222**	**7,283.9222**	**0.1415**	**0.1342**	**7,327.4360**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Energy	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
Mobile	7.2700e-003	0.0134	0.0836	2.0000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		20.3574	20.3574	9.3000e-004	9.9000e-004	20.6764
Total	**51.5323**	**6.0681**	**5.4112**	**0.0365**	**3.5405**	**0.4610**	**4.0015**	**0.3559**	**0.4610**	**0.8169**		**7,283.9222**	**7,283.9222**	**0.1415**	**0.1342**	**7,327.4360**

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Vega Complex Operations - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	12/18/2779	12/17/2779	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1953

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 653,400; Non-Residential Outdoor: 217,800; Striped Parking Area: 5,104,361 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	0	0.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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Vega Complex Operations - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Architectural Coating - 2779

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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Vega Complex Operations - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Architectural Coating - 2779

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.2700e-003	0.0134	0.0836	2.0000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		20.3574	20.3574	9.3000e-004	9.9000e-004	20.6764
Unmitigated	7.2700e-003	0.0134	0.0836	2.0000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		20.3574	20.3574	9.3000e-004	9.9000e-004	20.6764

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	1.09	1.09	1.09	5,381	5,381
Refrigerated Warehouse-No Rail	1.09	1.09	1.09	5,381	5,381
Total	2.18	2.18	2.18	10,763	10,763

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.40	9.50	11.90	59.00	0.00	41.00	92	5	3
Refrigerated Warehouse-No	16.40	9.50	11.90	59.00	0.00	41.00	92	5	3

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Refrigerated Warehouse-No Rail	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
NaturalGas Unmitigated	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	30867.9	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
Total		**0.6658**	**6.0525**	**5.0841**	**0.0363**		**0.4600**	**0.4600**		**0.4600**	**0.4600**		**7,263.0421**	**7,263.0421**	**0.1392**	**0.1332**	**7,306.2027**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	30.8679	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
Total		**0.6658**	**6.0525**	**5.0841**	**0.0363**		**0.4600**	**0.4600**		**0.4600**	**0.4600**		**7,263.0421**	**7,263.0421**	**0.1392**	**0.1332**	**7,306.2027**

6.0 Area Detail

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Vega Complex Operations - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Unmitigated	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	11.3822					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	39.4546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0225	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Total	**50.8593**	**2.2100e-003**	**0.2435**	**2.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**		**0.5228**	**0.5228**	**1.3600e-003**		**0.5569**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	11.3822					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	39.4546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0225	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Total	**50.8593**	**2.2100e-003**	**0.2435**	**2.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**		**0.5228**	**0.5228**	**1.3600e-003**		**0.5569**

7.0 Water Detail

7.1 Mitigation Measures Water

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Vega Complex Operations - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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ATTACHMENT B

Renewable Energy Emissions Displacement

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Project Fossil Fuel Emissions Displacement

Megawatt Project[1]	Operational Time[2]	Annual Hours of Generation[2]	Annual Kilowatt Hours	Heat Rate[3]	Btu Displaced[4]
14.583 MW	50 Percent	4,380 Hours	63,873,540 Kilowatt Hours	9,313	594,854,278,020

[1] *The Project is anticipated to generate 350 megawatts daily. 350 ÷ 24 hours = 14.583 MWHR facility*

[2] *The Project is assumed to generate electricity 50 percent of the time available (4,380 hours annually).*

[3] *Heat Rate indicates the energy generator efficiency of existing fossil-fuel based energy generators. The heat rate of a power plant measures the amount of fuel used to generate one unit of electricity. Power plants with lower heat rates are more efficient than plants with higher heat rates. The CEC's "Updated Thermal Power Plant Efficiency Measures and Operational Characteristics for Production Cost Modeling" (2019) estimates heat rates and operating ranges for thermal power plants supplying energy to California. The average heat rate of power plants types are as follows:*
***Steam Boiler fueled by coal: 10,800 heat rate. **Steam Boiler fueled by natural gas: 10,200 heat rate. **Gas Turbine: 10,100 heat rate. **Combined natural gas Boiler and Turbine: 7,640 heat rate.*
Omitting steam boilers fueled by coal since so little of California's energy is derived from coal, the average heat rate = 9,313 [(10,100 + 10,200 + 7,640) ÷ 3 = 9,313]

[4] *63,873,540 anuual kilowatt hours x 9,313 average heat rate of existing fossil fuel generators = 594,854,278,020 Btu displaced from fossil fuel production.*
Energy consumption in California is predominately derived from natural gas (34.23%). Coal constitutes 2.96% of all energy-based energy consumption in California. Renewable sources (not including hydroelectric generators) account for 31.70% and nuclear power accounts for 8.98%. 7.34% of the state's energy comes from unspecificed nonrenewable sources and this percentage is added to the natural gas total for the purpose of this analysis. CEC. 2020. "2019 Total System Electric Generation". https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data
247,280,923,373 of the displaced BTU is displaced natural gas consumption and 17,250,774,063 of the displaced BTU is displaced coal.
The heat content of coal is assumed at 24 million Btu per ton of coal burned. At a rate of 24 million Btu per ton of coal burned, the Project would displace 719 tons of burned coal annually.

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Project Fossil Fuel Emissions Displacement

Fossil Fuel Emissions Displacement[5]

Emissions from Natural Gas Generation

247281 Displaced MMBtu

Tons Annually (Metric Tons for GHGs)

NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
0.61	0.19	0.58	0.23	0.42	10,880.36	0.00	0.00	10880.36

Emissions from Coal Generation

719 Displaced tons of burned coal

Tons Annually (Metric Tons for GHGs)

NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
4.31	0.18	0.03	0.02	0.20	1,736.58	0.01	0.01	1739.54

Total Emissions - Natural Gas and Coal

NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
4.92	0.37	0.61	0.26	0.63	12616.94	0.01	0.01	12619.90

[5]Source: Displaced emissions calculated by ECORP Consulting using U.S. EPA's AP-42 Fifth Edition Compilation of Air Emissions Factors 1995; 2015.

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Biological Technical Report

Vega SES 2 and 3 Solar Projects

Imperial County, California

Prepared For:

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December 2020, revised September 2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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LIST OF ACRONYMS AND ABBREVIATIONS

AOU	American Ornithologists' Union
APN	Assessor's Parcel Number
BCC	Bird of Conservation Concern
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CNPSEI	CNPS Electronic Inventory
CRPR	California Rare Plant Rank
CWA	Clean Water Act
ESA	Endangered Species Act
Gen-tie	Generator intertie
GIS	Geographic Information System
GPS	Global Positioning System
HCP	Habitat conservation plan
MBTA	Migratory Bird Treaty Act
MW	Megawatt
MWH	Megawatt-hour
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
Projects	Vega SES 2 and Vega SES 3 Solar Projects
RWQCB	Regional Water Quality Control Board (Colorado River Basin
SAA	Streambed Alteration Agreement
SSAR	Society for the Study of Amphibians and Reptiles
SSC	Species of Special Concern
sUAS	Small unmanned aircraft system
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

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USGS	U.S. Geological Survey

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1.0 INTRODUCTION

The Vega SES 2 and Vega SES 3 Solar Projects (Projects) are proposed 100-Megawatt (MW) direct current (dc) and 400 MW-hour (MWH) battery storage utility-scale solar projects located on approximately 1,712 acres of vacant land on three parcels in Imperial County, California. ECORP Consulting, Inc. conducted a literature review, small unmanned aircraft system (sUAS) survey, and biological reconnaissance survey of the Project sites to document the existing biological resources, to assess the habitat for its potential to support sensitive plant and wildlife species, and, as required under the California Environmental Quality Act (CEQA), to determine whether Project-related impacts could occur to sensitive biological resources.

1.1 Purpose of the Report

This report was prepared to describe biological resources on the Project sites and to support Project review under CEQA. Assessment of potential occurrences of special-status plants and animals is based on habitat, geographic and elevational range, and data from field surveys conducted by ECORP in 2020. For the purposes of this report, the term Project Areas refers to the areas proposed to be directly affected by implementation of the Projects and corresponds to the client-supplied Project boundaries. The term Survey Area refers to the Project Areas and a 500-foot buffer around the Project Area boundaries, potentially subject to temporary or indirect impacts.

1.2 Project Location and Description

The proposed Projects are located on approximately 1,712 acres of vacant land on three parcels in Imperial County, California (Assessor Parcel Numbers [APNs] 025-260-011, 025-010-006, and 025-270-023). The Projects are approximately 10 miles east of the Salton Sea and five miles west of the Chocolate Mountains (Figure 1). As depicted on the U.S. Geological Survey (USGS) 7.5-minute Iris, CA topographic quadrangle, the Projects are located within Sections 3, 4, 7, 8, 9, 10, 14, 15, 16, 17, and 18 of Township 11 South, Range 15 East, San Bernardino Base and Meridian.

For the purposes of this report, Vega 2 and 3 Projects were divided into 3 Study Areas (Figure 2). The term Study Area includes the 500-foot buffer.

A complete summary of geographic information is provided in Table 1.

Table 1. Geographic Information Summary

Study Area	Project Name	Accessor's Parcel Number (APN)	Sections	Township	Range	7.5-minute Quadrangle	Approximate Center of Study Area (latitude/longitude)
1	SES 2	025-260-011	8, 16, 17	11 South	15 East	Iris, CA[1]	33.212810, -115.432084
2	SES 2 and 3	025-010-006	3, 4, 7, 8, 9, 10, 15, 16, 17, 18	11 South	15 East	Iris, CA[1]	33.224760, -115.414804
3	SES 2	025-270-023	10, 14, 15	11 South	15 East	Iris, CA[1]	33.211691, -115.395183

[1]USGS 1992

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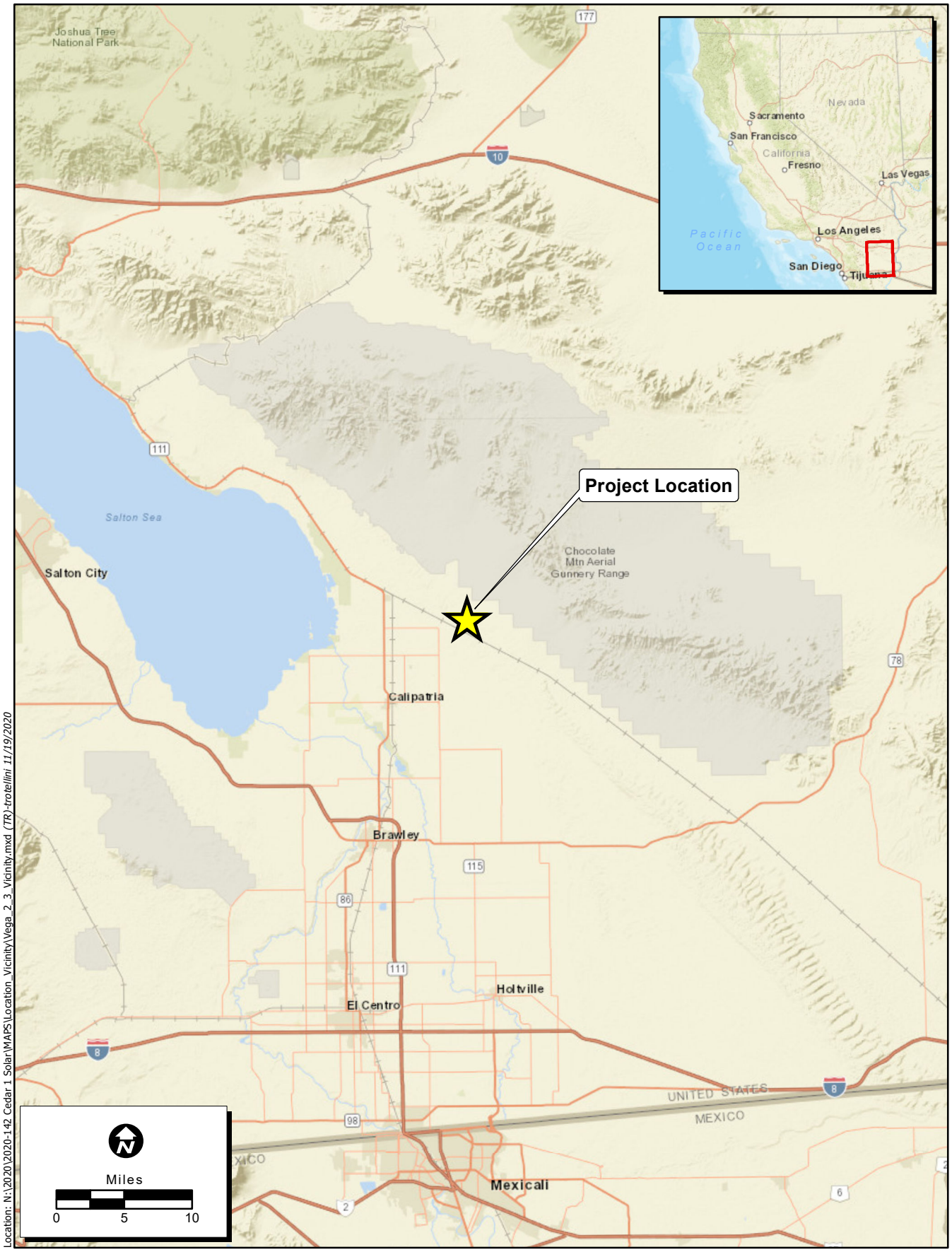

Location: N:\2020\2020-142 Cedar 1 Solar\MAPS\Location_Vicinity\Vega_2_3_Vicinity.mxd (TR)-trotellini 11/19/2020

Map Date: 11/18/2020

Sources:

Figure 1. Project Vicinity

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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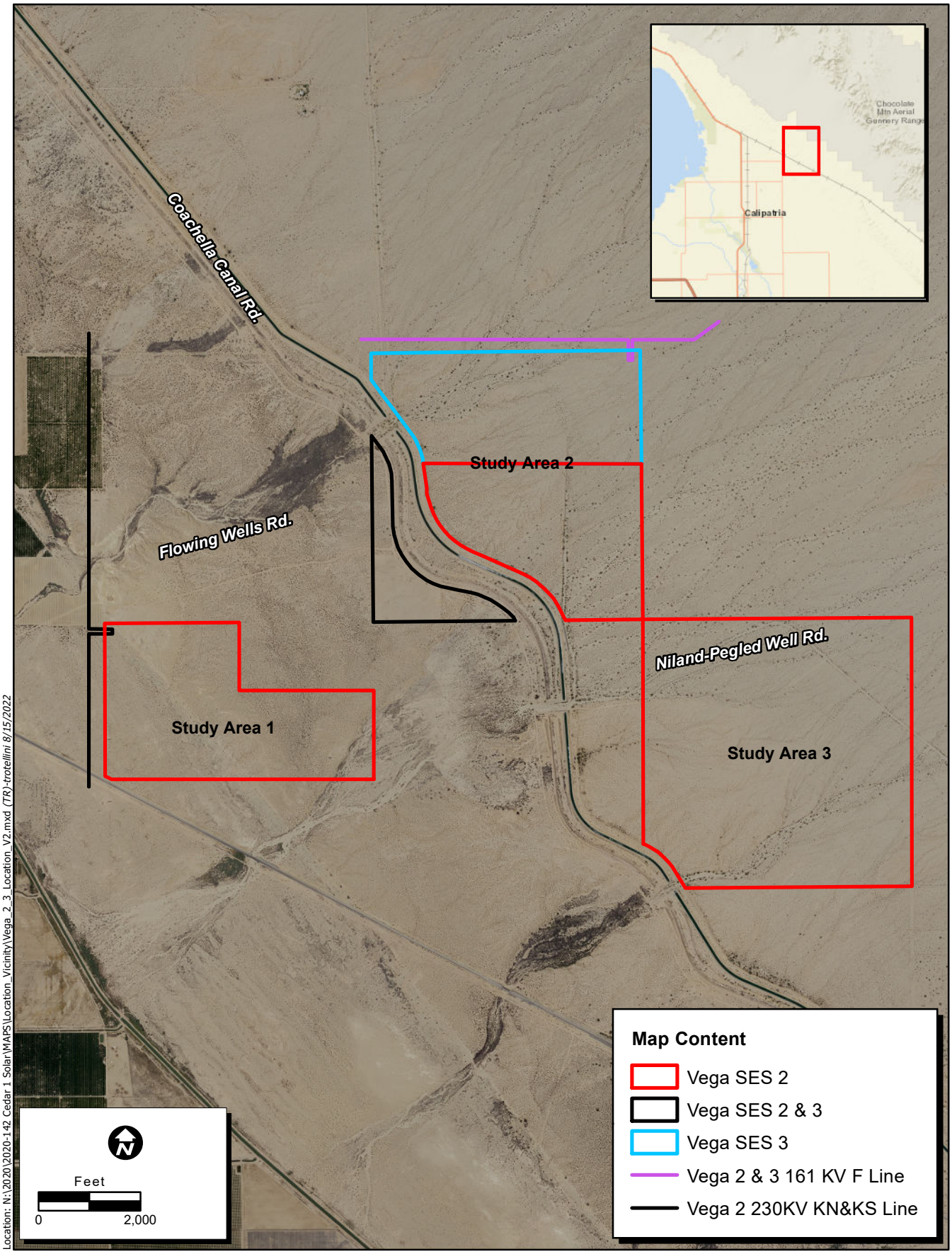

Location: N:\2020\2020-142 Cedar 1 Solar\MAPS\Location_Vicinity\Vega_2_3_Location_V2.mxd (TR)-trotellini 8/15/2022

Map Date: 8/15/2022

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 2. Project Location

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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Study Area 1 includes a battery storage utility-scale solar project located on approximately 448.3 acres of vacant land within one private parcel in Imperial County, California. Study Area 2, also known as the Mesa Grande parcel, includes a battery storage utility-scale solar project located on approximately 640 acres of vacant land within one private parcel in Imperial County. Study Area 3, also known as the Li Tong parcel, includes a battery storage utility-scale solar project located on approximately 624 acres of vacant land within one private parcel in Imperial County. The proposed Projects will connect to previously established Imperial Irrigation District generator intertie lines adjacent to Study Area 1 and 2.

Topography consists of gentle slopes with a gradual increase in elevation from the western extent to the eastern extent. The southwest portion of Study Area 1 (adjacent to the Union Pacific railroad) is slightly below sea level at an elevation of -2 meters (-7 feet) and the eastern extent of Study Area 3 is at an elevation of 55 meters (182 feet) above mean sea level. Adjacent land uses include active agricultural land to the west and Open Space/Bureau of Land Management Land to the north, east, and south. The Coachella Canal travels from northwest to southeast between the project impact areas of Study Area 2. Siphon Six travels through the northwestern portion of Study Area 2 and Siphon Five travels through the southwestern portion of Study Area 2 and the northwestern portion of Study Area 3.

2.0 REGULATORY CONSIDERATIONS

The biological reconnaissance survey was conducted to identify potential constraints and to ensure compliance with state and federal regulations regarding listed, protected, and sensitive species could be achieved. The regulations are detailed below.

2.1 Federal Regulations

2.1.1 Endangered Species Act

The Endangered Species Act (ESA) protects plants and animals that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service. Section 9 of the ESA prohibits the taking of endangered wildlife, where taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 U.S. Code 1538). Under Section 7 of the ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan (HCP) is developed.

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2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

2.1.3 Clean Water Act

The purpose of the Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into Waters of the U.S. without a permit from the U.S. Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The U.S. Environmental Protection Agency (USEPA) acts as a cooperating agency to set policy, guidance, and criteria for use in evaluation permit applications and also reviews USACE permit applications.

The USACE regulates "fill" or dredging of fill material within its jurisdictional features. "Fill material" means any material used for the primary purpose of replacing an aquatic area with dry land or changing the bottom elevation of a water body. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the State Water Resources Control Board (SWRCB), administered by each of nine California Regional Water Quality Control Boards (RWQCBs).

2.2 State and Local Regulations

2.2.1 California Endangered Species Act

The California ESA generally parallels the main provisions of the ESA but, unlike its federal counterpart, the California ESA applies the take prohibitions to species proposed for listing (called "candidates" by the State). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California ESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult

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with California Department of Fish and Wildlife (CDFW) to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

2.2.2 Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under federal and/or California ESAs. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code § 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any State agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code §§ 1900-1913) was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW. The Fish and Wildlife Commission has the authority to designate native plants as "endangered" or "rare" and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code § 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

2.2.4 Porter Cologne Water Quality Control Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" [Water Code 13260(a)].

Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050[e]). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of Waste Discharge Requirements for these activities.

On April 2, 2019, the SWRCB adopted the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (referred to as the Procedures) for inclusion in the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (Resolution No. 2019-0015). The new Procedures include:

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- definition of wetlands and aquatic resources that are Waters of the State,
- description of application requirements for individual orders (not general orders) for water quality certification, or waste discharge requirements,
- description of information required in compensatory mitigation plans, and
- definition of exemptions to application procedures.

The Office of Administrative Law approved the procedures on August 28, 2019, and the rule went into effect May 28, 2020.

2.2.5 California Fish and Game Code

2.2.5.1 Streambed Alteration Agreement

Section 1602 of the California Fish and Game Code requires that a Notification of Lake or Streambed Alteration be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." The CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant is the Streambed Alteration Agreement (SAA). Often, projects that require an SAA also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the SAA may overlap.

2.2.5.2 Migratory Birds

The CDFW enforces the protection of nongame native birds in §§ 3503, 3503.5, and 3800 of the California Fish and Game Code. Section 3513 of the California Fish and Game Code prohibits the possession or take of birds listed under the MBTA. These sections mandate the protection of California nongame native birds' nests and also make it unlawful to take these birds. All raptor species are protected from "take" pursuant to California Fish and Game Code § 3503.5 and are also protected at the federal level by the MBTA of 1918 (USFWS 1918).

2.2.6 Conservation and Open Space Element

Imperial County created the Conservation and Open Space Element plan to provide details and measures for management and preservation of biological resources as well as various other resources (i.e., cultural, soils, minerals). This plan focuses on protecting scarce resources and preventing wasteful exploitation, neglect, and destruction of California's natural resources. The plan outlines areas with sensitive habitat and sensitive species, also labelled "Resource Areas". Open space easements and protection of riparian habitat, rock outcrops, California fan palm oases, and wildlife corridors are also discussed in the plan. As it currently stands, the open space element follows CEQA guidelines with special focus on its scarce resources.

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2.2.7 CEQA Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of an important resource on a population-wide or region-wide basis.

3.0 METHODS

3.1 Literature Review

Prior to conducting the biological reconnaissance survey, ECORP biologists performed a literature review using the CDFW's California Natural Diversity Data Base (CNDDB; CDFW 2020a) and the California Native Plant Society's (CNPS') Electronic Inventory (CNPSEI; CNPS 2020) to determine the special-status plant and

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wildlife species that have been documented in the vicinity of the Project. The CNDDB and CNPSEI database searches were conducted on September 24 and November 2, 2020. ECORP searched CNDDB and CNPSEI records within the Project Area boundaries as depicted on USGS 7.5-minute Iris topographic quadrangle, and the surrounding topographic quadrangles: Wister, Iris Wash, Lion Head Mountain, Niland, Tortuga, Westmorland, Wiest, and Amos. The CNDDB and CNPSEI contain records of reported occurrences of federally or state-listed endangered, threatened, proposed endangered or threatened species, California Species of Special Concern (SSC), and other special-status species or habitat that may occur within or in the vicinity of the Project. Additional information was gathered from the following sources and includes, but is not limited to the following:

- U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) *Web Soil Survey* (NRCS 2020a);
- *Special Animals List* (CDFW 2020b);
- *State and Federally Listed Endangered and Threatened Animals of California* (CDFW 2020c);
- *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012);
- *The Manual of California Vegetation*, 2nd Edition (Sawyer et al. 2009); and
- various online websites (e.g., CalFlora 2020).

A desktop review of the National Wetlands Inventory (USFWS 2020a) and the corresponding USGS topographic maps was also conducted to determine if there were any blue line streams or drainages in the Survey Area that might potentially fall under the jurisdiction of either federal or State agencies.

3.2 Field Survey

3.2.1 sUAS Survey and Vegetation Mapping

Due to the size of the area and limited road access, an initial survey utilizing a sUAS was conducted to quickly assess current site conditions and gather high-resolution imagery. Upon arrival at the site, an initial field reconnaissance was conducted by the drone pilot to obtain an understanding of the site topography, access, vegetation densities, and staging areas for controlling the aerial flights. The drone was programmed to do a systematic flight over the property to collect high-resolution aerial photographs of the entire property. The photos collected were then combined into a single orthomosaic image that was incorporated into mapping files in a Geographic Information System (GIS).

The information gathered from the sUAS/drone survey were then used to assist the biologists with accurate mapping of the vegetation communities. A botanist utilized the high-resolution drone imagery to map vegetation communities. Vegetation classifications were in accordance with *A Manual of California Vegetation* (Sawyer et al. 2009). Vegetation communities that did not fit within the Sawyer classification system were described following Holland (1986) or Cowardin (alternative methods). Areas of the site that had already been graded, developed, and/or disturbed were mapped as such. Acreages of each vegetation community were calculated based on GIS data collected during the sUAS survey.

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3.2.2 Biological Reconnaissance Survey

The biological reconnaissance survey was conducted by walking the entire Study Area to determine the vegetation communities and wildlife habitats on the Project sites. Private property and inaccessible areas within the buffer were surveyed utilizing 8x42 binoculars. The biologists documented the plant and animal species present in the Survey Area and the conditions within the Survey Area were assessed for their potential to provide habitat for special-status plant and wildlife species, including those from the literature review. Data were recorded on submeter Global Positioning System (GPS) devices, data sheets, and maps. In instances where a special-status species was observed, the date, species, location and habitat, and GPS coordinates were recorded. The locations of special-status species observations were recorded using a handheld submeter GPS in North American Datum (NAD) 83, Universal Transverse Mercator (UTM) coordinates, Zone 11S. Photographs were also taken during the survey to provide visual representation of the various vegetation communities within the Project sites. The Project sites were also examined to assess its potential to facilitate wildlife movement or function as a movement corridor for wildlife throughout the region.

Plant and wildlife species, including any special-status species that were observed during the survey, were recorded. Plant nomenclature follows that of *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012). Wildlife nomenclature follows that of *The American Ornithologists' Union (AOU) Checklist of North American Birds* (AOU 2020), the Society for the Study of Amphibians and Reptiles (SSAR 2017), and the *Revised Checklist of North American Mammals North of Mexico* (Bradley et al. 2014).

3.2.3 Aquatic Resources Delineation

An aquatic resources delineation was conducted by ECORP delineation specialists in conjunction with the biological reconnaissance survey, the results of which are presented under separate cover (ECORP 2020).

3.3 Potential for Occurrence Determinations

Using information from the literature review and observations in the field, a list of special-status plant and animal species that have potential to occur within the Survey Area was generated. For the purposes of this assessment, special-status species are defined as plants or animals that:

- have been designated as either rare, threatened, or endangered by CDFW, CNPS, or the USFWS, and/or are protected under either the federal or California ESAs;
- are candidate species being considered or proposed for listing under these same acts;
- are fully protected by the California Fish and Game Code, §§ 3511, 4700, 5050, or 5515; and
- are of expressed concern to resource and regulatory agencies or local jurisdictions.

Special-status species reported for the region in the literature review or for which suitable habitat occurs on the Survey Area were assessed for their potential to occur within the Survey Area based on the following guidelines:

Present: The species was observed on site during a site visit or focused survey.

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High: Habitat (including soils and elevation factors) for the species occurs within the Survey Area and a known occurrence has recently been recorded (within the last 20 years) within five miles of the area.

Moderate: Habitat (including soils and elevation factors) for the species occurs within the Survey Area and a documented observation occurs within the database search, but not within five miles of the area; a historic documented observation (more than 20 years old) was recorded within five miles of the Survey Area; or a recently documented observation occurs within five miles of the area and marginal or limited amounts of habitat occurs in the Project site.

Low: Limited or marginal habitat for the species occurs within the Survey Area and a recently documented observation occurs within the database search, but not within five miles of the area; a historic documented observation (more than 20 years old) was recorded within five miles of the Survey Area; or suitable habitat strongly associated with the species occurs on site, but no records or only historic records were found within the database search.

Presumed Absent: Species was not observed during a site visit or focused surveys conducted in accordance with protocol guidelines at an appropriate time for identification; habitat (including soils and elevation factors) does not exist on site; or the known geographic range of the species does not include the Survey Area.

Note: Location information on some special-status species may be of questionable accuracy or unavailable. Therefore, for survey purposes, the environmental factors associated with a species' occurrence requirements may be considered sufficient reason to give a species a positive potential for occurrence. In addition, just because a record of a species does not exist in the databases does not mean it does not occur. In many cases, records may not be present in the databases because an area has not been surveyed for that particular species.

4.0 RESULTS

The results of the literature review and field surveys, including site characteristics, vegetation communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors) are summarized below.

4.1 Literature Review

4.1.1 Special-Status Plants and Wildlife

Special-status plants and wildlife species reported for the region in the literature review or for which suitable habitat occurs were evaluated for their potential to occur within the Project Areas or in the buffer areas within the Survey Area where indirect impacts could occur. Of all available records, a total of 18 special-status plant species and 19 special-status wildlife species were identified as having the potential for occurrence in the vicinity of the Project Areas (Attachments B and C).

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4.1.2 U.S. Fish and Wildlife Service Designated Critical Habitat

The Project Areas are not located within any USFWS-designated critical habitat. The closest designated critical habitat is for desert tortoise (*Gopherus agassizii*) located approximately seven miles to the northeast and Peirson's milk-vetch (*Astragalus magdalenae* var. *peirsonii*) located approximately six miles to the southeast of the Project Areas.

4.2 Biological Reconnaissance Survey

The biological reconnaissance survey was conducted by ECORP biologists Christina Congedo, Greg Hampton, Caroline Garcia, Christina Torres, and Jennifer Kendrick. Summarized below are the results of the biological reconnaissance survey, including site characteristics, plants and plant communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors). Weather conditions during the survey are summarized in Table 2.

Table 2. Weather Conditions During the Survey

Study Area	Date	Time		Temperature (˚F)		Cloud Cover (%)		Wind Speed (mph)	
		Start	End	Start	End	Start	End	Start	End
1	09/29/2020	0630	1400	67	105	0	0	4	3-6
1	9/30/2020	0640	1200	69	105	0	0	4-5	7
2	11/9/2020	0830	1530	57	64	5	0	0	0-3
2	11/10/2020	0745	1605	49	64	0	0	0	0
2 and 3	11/11/2020	0930	1645	63	67	0	0	2-3	2-3
3	11/12/2020	0800	1600	55	72	15	5	0-3	0-3
3	11/13/2020	0750	1430	48	77	0	0	0-3	0-3

4.2.1 Property Characteristics

The Study Areas consist of mostly undeveloped land. Disturbances onsite include the railroad, Coachella Canal, a small grove of active agriculture, and roads. An extensive alluvial fan system with associated riparian community traverses the Study Areas. This system begins at the Chocolate Mountains to the northeast and heads southwest across the sites. Study Area 1 is bordered by an active railroad right-of-way to the southwest. Within the southeast buffer of Study Area 1, an intermittent drainage flows southwest under the railroad tracks via a concrete underpass. A ridgeline, which runs northwest-southeast splits Study Area 1, with either side of the ridge descending into lowlands. Portions of the Coachella Canal travel through the western sections of Study Areas 2 and 3. Adjacent land uses include agricultural land to the west and undeveloped land to the north, south, and east. Representative site photographs are included in Attachment A.

Topography for the Study Areas generally consists of gentle slopes with a gradual increase in elevation from the western extent to the eastern extent. The southwest portion of Study Area 1 is slightly below sea

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level at an elevation of -2 meters (-7 feet), and the eastern extent of Study Area 3 is at an elevation of 55 meters (182 feet) above mean sea level. A soils analysis search was conducted using the Web Soil Survey data (NRCS 2020a). The eastern portions of Study Areas 2 and 3 fall within the Colorado Desert Area soil survey; therefore, soil survey data was not available for these portions. Eleven soil units, or types, occur within the Project Areas (Figure 3). These include:

- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 129 – Pits
- 130 - Rositas sand, 0 to 2 percent slopes
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 139 - Superstition loamy fine sand
- 141- Torriorthents and Orthids, 5 to 30 percent slopes
- 145 - Water

The Niland gravelly sand (124), Niland gravelly sand, wet (125), and Pits (129) map units contain hydric minor components (NRCS 2020b). A summary of characteristics based on official series descriptions for each of the soil series mapped within the Study Areas are provided under separate cover in the aquatic resources delineation report (ECORP 2020).

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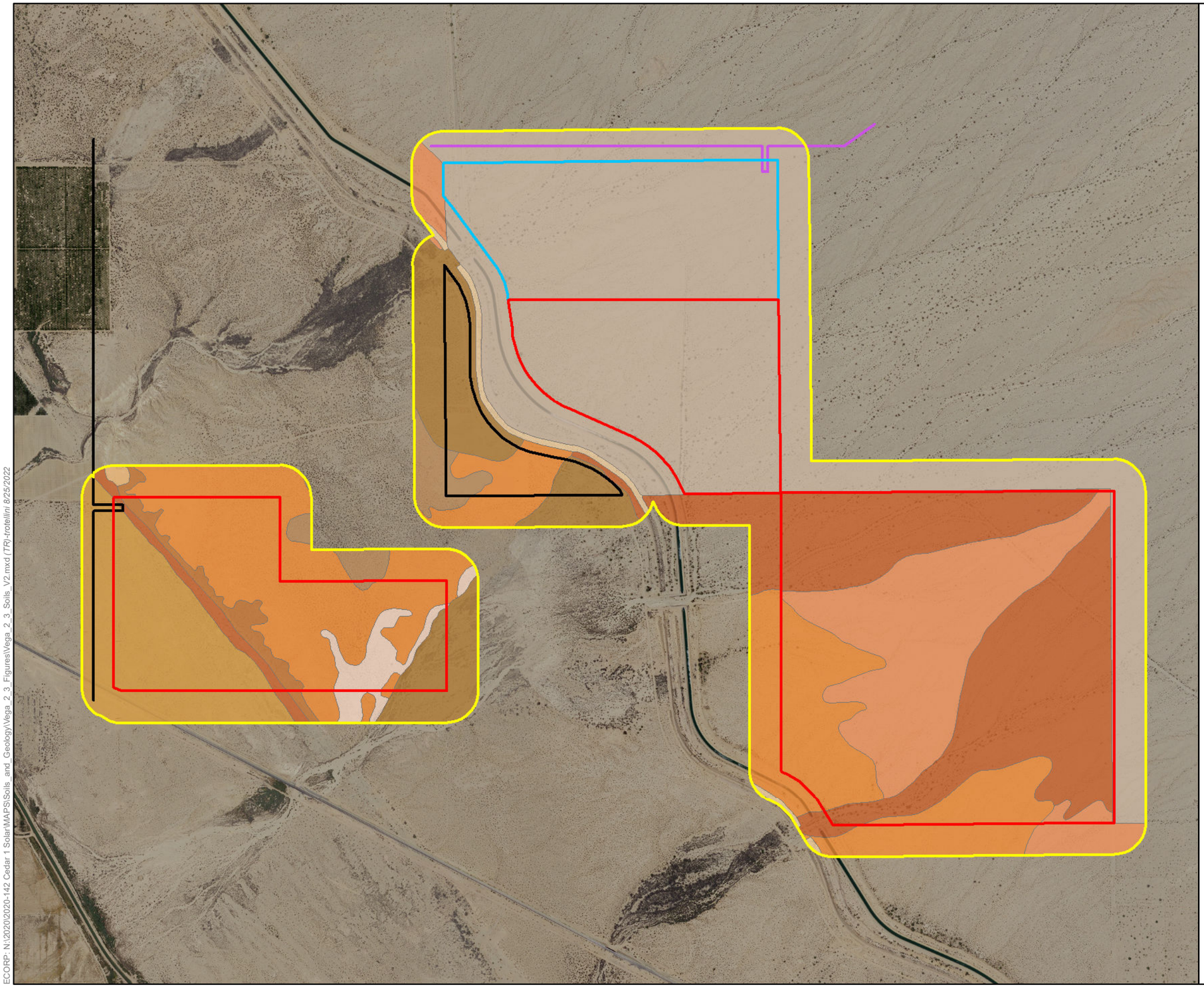


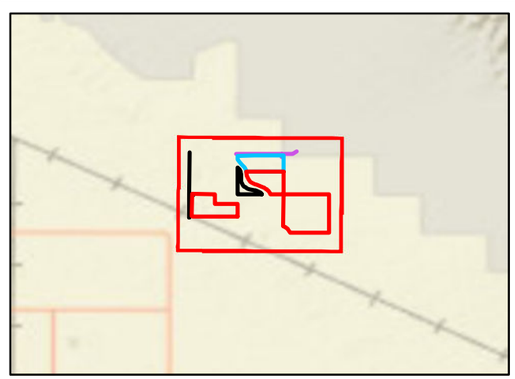
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Series Designation - Series Description

- 102 - Badland
- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 129 - Pits
- 130 - Rositas sand, 0 to 2 percent slopes
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 139 - Superstition loamy fine sand
- 141 - Torriorthents and Orthids, 5 to 30 percent slopes
- 145 - Water
- NOTCOM - No Digital Data Available

Sources: NAIP (2018)
Other Related Info if Needed



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Map Date: 8/25/2022

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Scale in Feet
0 500 1,000 1,500

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Figure 3. Natural Resources Conservation Service Soil Types
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

4.2.2 Vegetation Communities/Land Use

The majority of the Study Areas consists of creosote bush scrub and blue palo verde/ironwood woodland. The location of each vegetation community in the Study Areas are described in detail below and presented on Figure 4. Acreage of each habitat and vegetation community in the Project Areas, where direct impacts would occur, are shown in Table 3. Representative photographs of the habitats within the Study Areas are included in Attachment A.

Table 3. Vegetation Communities and Land Covers in Project Areas

Vegetation Communities and Land Covers	Acres
Bush Seepweed Scrub	7.44
Creosote Bush Scrub	881.97
Disturbed Creosote Bush Scrub	11.30
Blue Palo Verde/Ironwood Woodland	230.73
Tamarisk Thickets	1.57
Urban/Developed - Roads	8.50
Project Area Totals	**1141.51**

4.2.2.1 Bush Seepweed Scrub (*Suaeda [moquinii] nigra* Shrubland Alliance)

Bush sweepweed scrub is found on flat to gently sloping valley bottoms, bajadas, and toe slopes adjacent to alluvial fans. Bush seepweed scrub is dominated by bush sweepweed, a USFWS Wetland Inventory OBL species (USACE 1996), and can be co-dominant with four-wing saltbush (*Atriplex canescens*) and/or alkali goldenbush (*Isocoma acradenia*). This vegetation community typically has a sparse to intermittent herbaceous layer. This community was only observed in Study Area 1. Bush seepweed dominated the shrub cover with occasional occurrences of four-wing saltbush, arrow weed (*Pluchea sericea*), big saltbush (*Atriplex lentiformis*), alkali goldenbush, and tamarisk.

4.2.2.2 Creosote Bush Scrub (*Larrea tridentata* Shrubland Alliance)

Creosote bush scrub is the most characteristic vegetation of the California desert and is found on alluvial fans, bajadas, upland slopes, and washes. Creosote bush scrub is dominated by a nearly monotypic stand of creosote bush with an open canopy and an herbaceous layer of seasonal annuals and perennials. This community was dominant in all three Study Areas. Other species that were observed within this community included burrobush (*Ambrosia dumosa*), narrow leaved cryptantha (*Cryptantha angustifolia*), and desert plantain (*Plantago ovata*).

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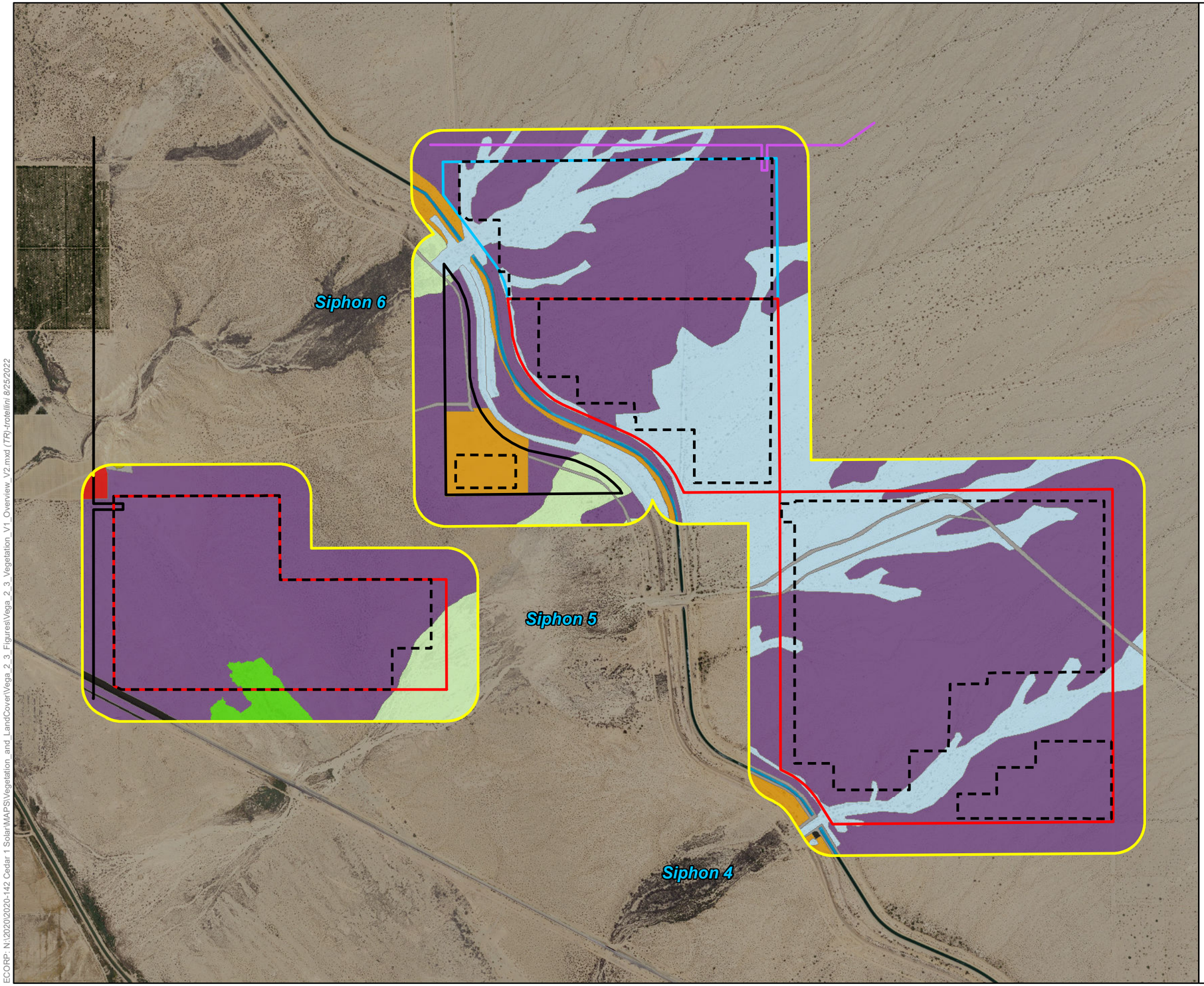


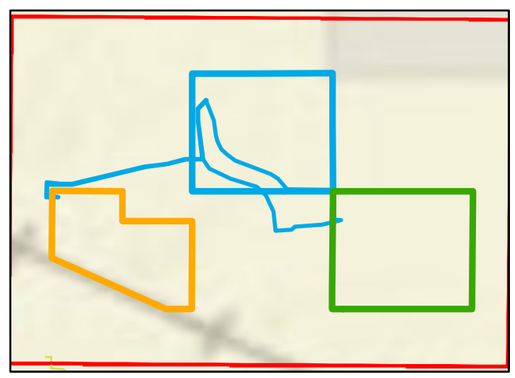
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Impact Areas
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Vegetation Communities and Land Cover

- Blue Palo Verde - Ironwood Woodland
- Four-wing Saltbush Scrub
- Bush Seepweed Scrub
- Active Agriculture
- Channel
- Creosote Bush Scrub
- Disturbed Creosote Bush Scrub
- Tamarisk Thickets
- Urban/Developed - Dirt Roads
- Urban/Developed

Sources: NAIP(2018), ECORP UAS Imagery (2020)
Other Related Info if Needed



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Map Date: 8/25/2022

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Scale in Feet
0 500 1,000 1,500

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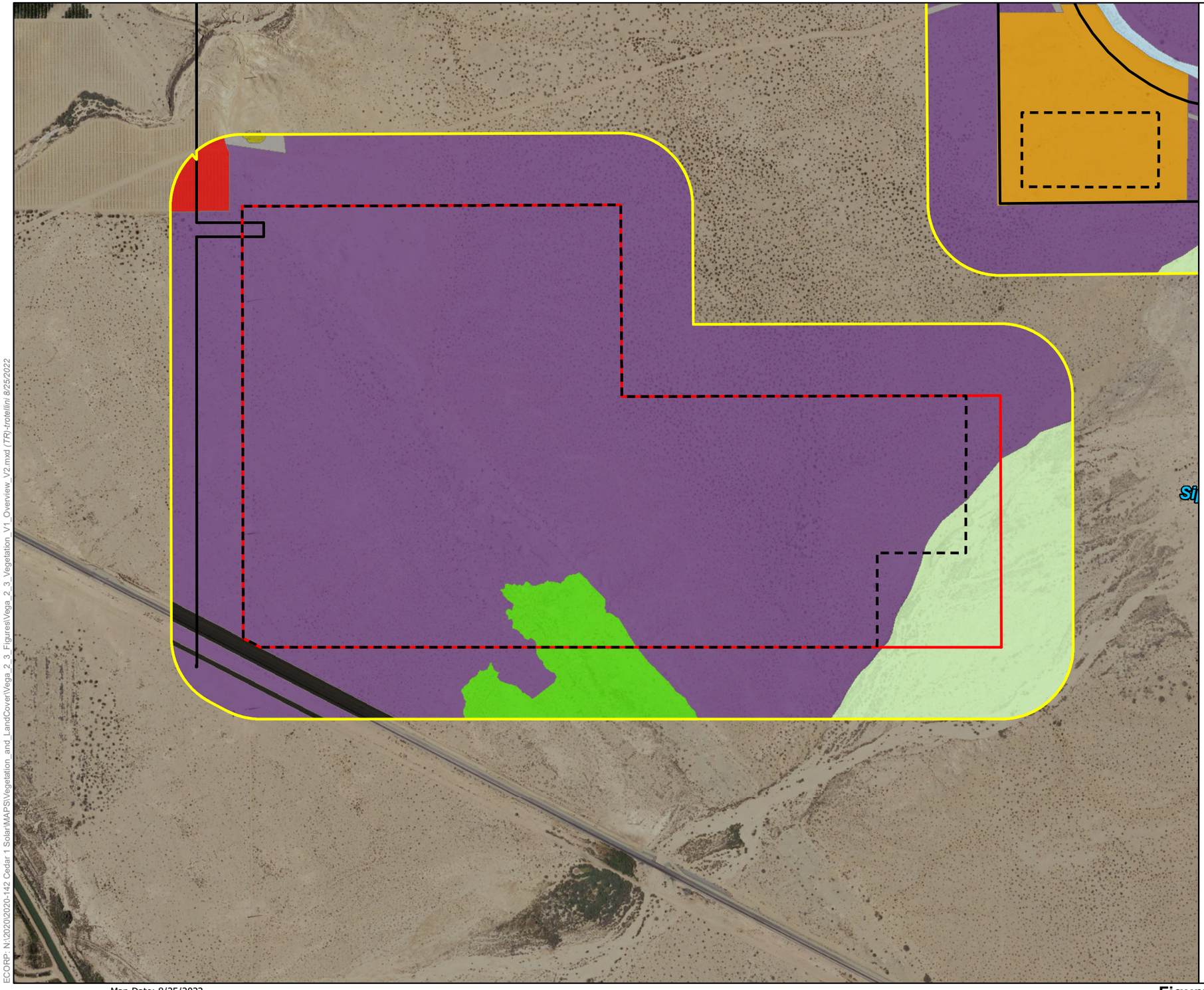
Figure 4. Vegetation Communities and Land Cover Overview
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



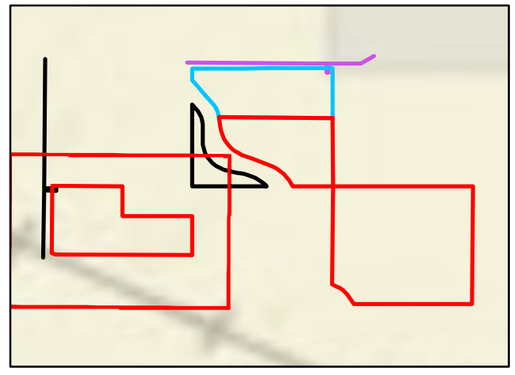
Map Features

- Vega SES 2
- Vega SES 2 & 3
- 500-ft Buffer
- Impact Areas
- Vega 2 230KV KN&KS Line

Vegetation Communities and Land Cover

- Blue Palo Verde - Ironwood Woodland
- Four-wing Saltbush Scrub
- Bush Seepweed Scrub
- Active Agriculture
- Creosote Bush Scrub
- Disturbed Creosote Bush Scrub
- Tamarisk Thickets
- Urban/Developed - Dirt Roads
- Urban/Developed

Sources: NAIP(2018), ECORP UAS Imagery (2020)
Other Related Info if Needed



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Map Date: 8/25/2022

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Scale in Feet
0 350 700

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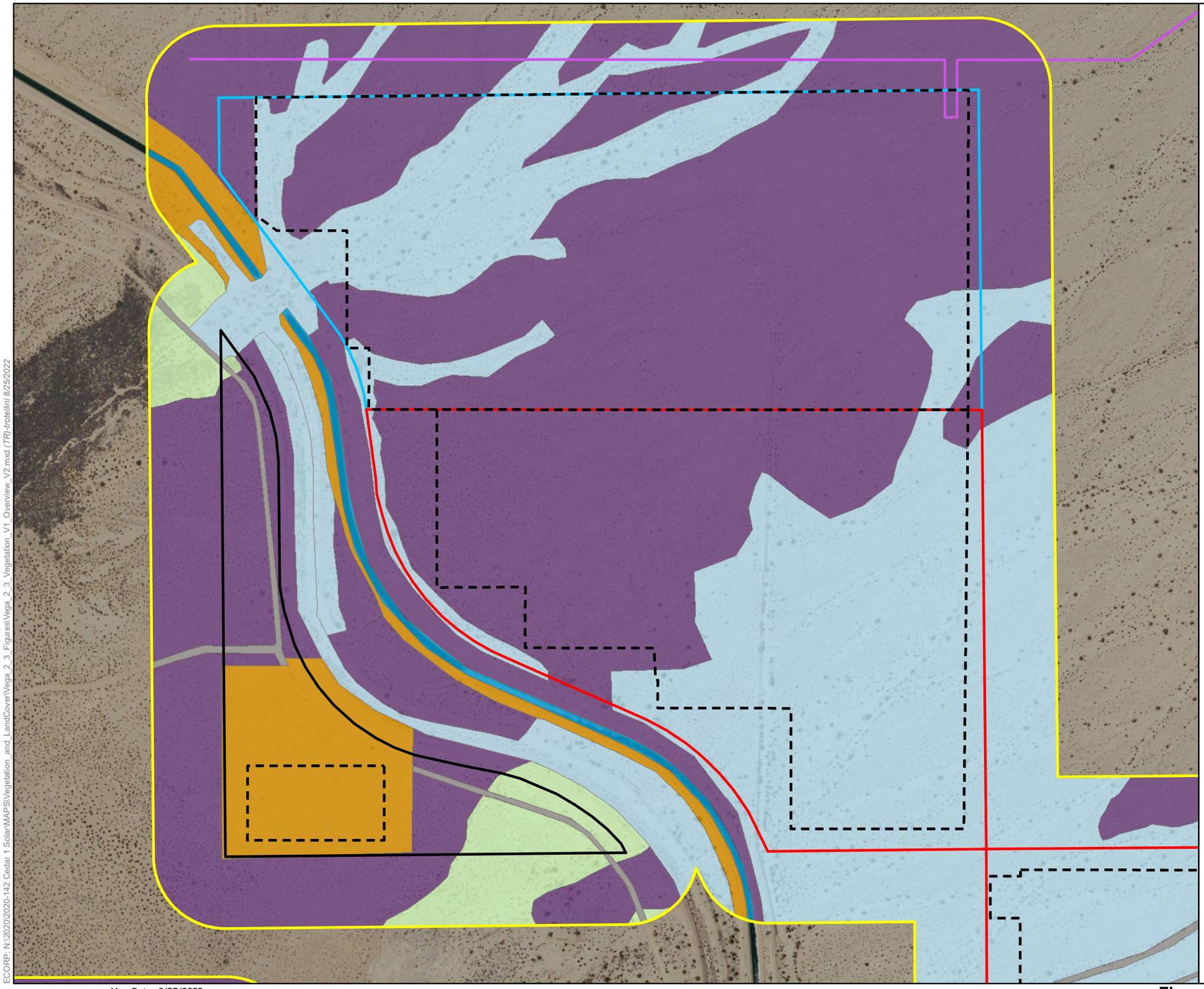
Figure 4. Vegetation Communities and Land Cover
Study Area 1
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



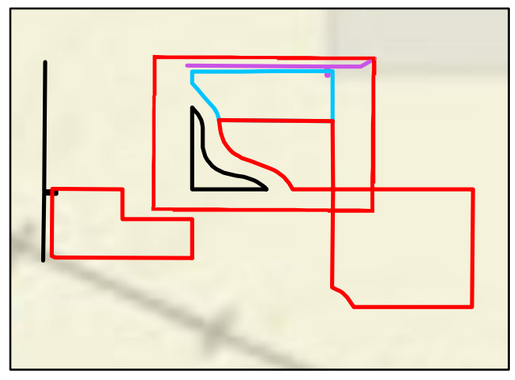
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Impact Areas
- Vega 2 & 3 161 KV F Line

Vegetation Communities and Land Cover

- Blue Palo Verde - Ironwood Woodland
- Channel
- Creosote Bush Scrub
- Disturbed Creosote Bush Scrub
- Tamarisk Thickets
- Urban/Developed - Dirt Roads

Sources: NAIP(2018), ECORP UAS Imagery (2020)
Other Related Info if Needed



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Map Date: 8/25/2022

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Scale in Feet
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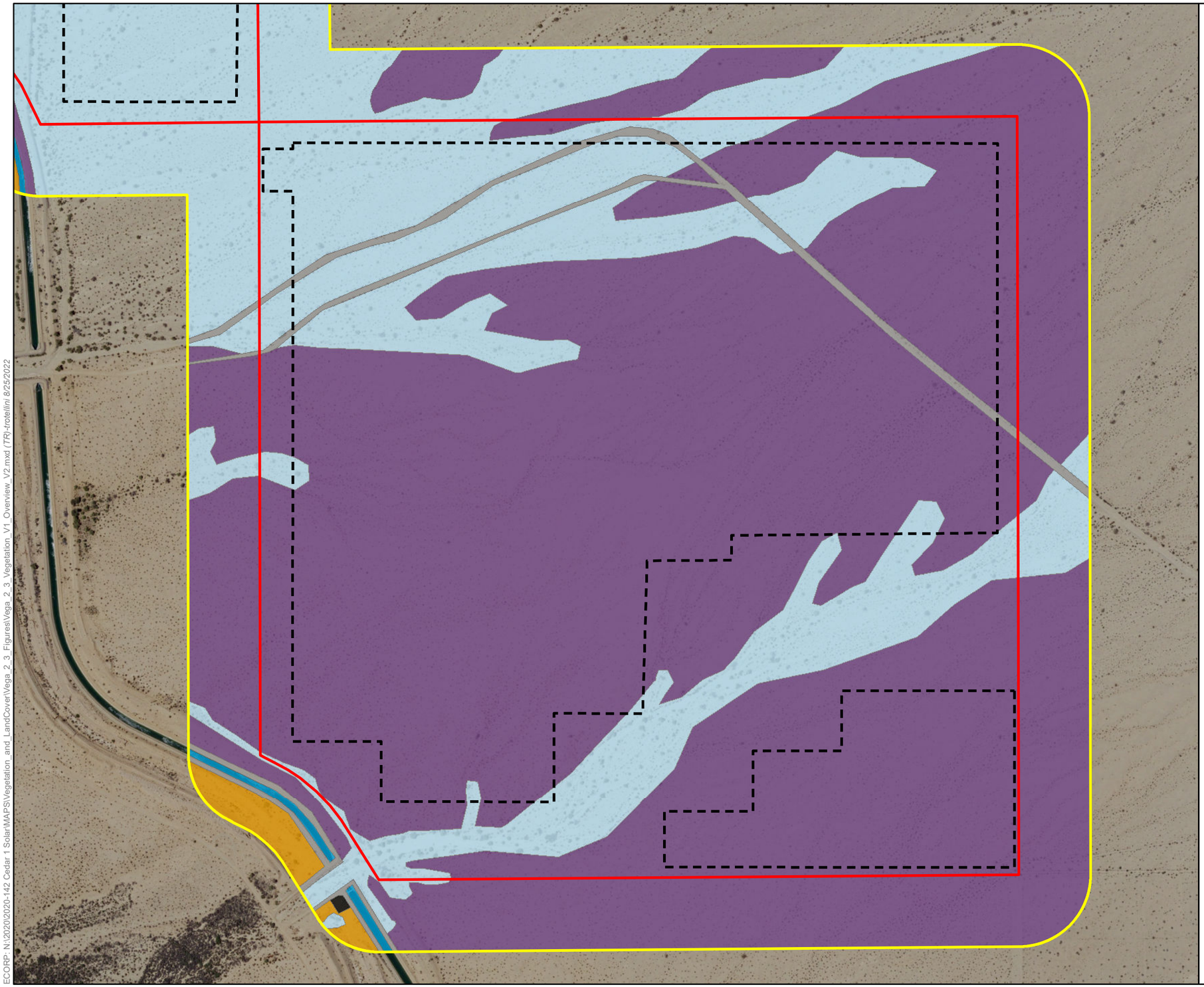
Figure 4. Vegetation Communities and Land Cover
Study Area 2
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



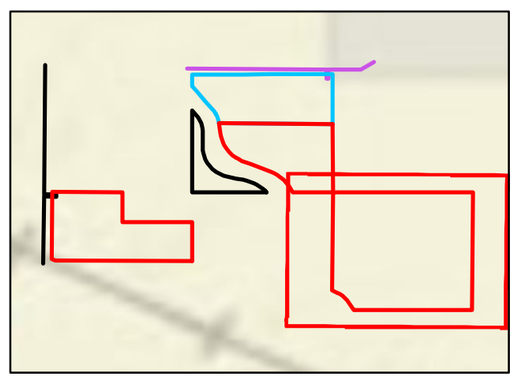
Map Features

- Vega SES 2
- 500-ft Buffer
- Impact Areas

Vegetation Communities and Land Cover

- Blue Palo Verde - Ironwood Woodland
- Channel
- Creosote Bush Scrub
- Disturbed Creosote Bush Scrub
- Urban/Developed - Dirt Roads
- Urban/Developed

Sources: NAIP(2018), ECORP UAS Imagery (2020)
Other Related Info if Needed



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Map Date: 8/25/2022

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Scale in Feet
0 350 700

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Figure 4. Vegetation Communities and Land Cover
Study Area 3
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

4.2.2.3 Disturbed Creosote Bush Scrub (Disturbed *Larrea tridentata* Shrubland Alliance)

Disturbed creosote bush is creosote bush scrub that has been previously altered. Within Study Areas 2 and 3, this vegetation cover is characterized as sparser with a high percentage of nonnative plant species including common Mediterranean grass (*Schismus barbatus*) and Saharan mustard (*Brassica tournefortii*).

Other plant species observed within this community include desert plantain and crinkle mat (*Tiquilia plicata*).

4.2.2.4 Blue Palo Verde/Ironwood Woodland (*Parkinsonia florida - Olneya tesota* Woodland Alliance)

Blue palo verde/ironwood woodland is characterized by blue palo verde or ironwood as a dominant or co-dominant plant species in the tree or tall shrub canopy that is open to continuous. The shrub layer is intermittent or open, while the herbaceous layer is sparse with seasonal annuals. It occurs in desert arroyo margins, seasonal watercourses, desert washes, bottomlands, bajadas, alluvial fans, and lower slopes. Blue palo verde/ironwood woodland take up large portions of Study Area 2 and 3. Other plant species observed within this community included creosote bush, cheesebush (*Ambrosia salsola*), and burrobush.

4.2.2.5 Tamarisk Thickets (*Tamarix* spp. Shrubland Semi-Natural Alliance)

Tamarisk thickets are characterized by a weedy monoculture of tamarisk. This habitat is typically in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. Within all three Study Areas, tamarisk was often the dominant, with arrow weed occasionally as a co-dominant plant species. Other species observed within this community included popcorn flowers (*Cryptantha* spp.), screw bean mesquite (*Prosopis pubescens*), and Mediterranean grass.

4.2.2.6 Other Land Cover Types

Urban/Developed

Urban/Developed areas do not constitute a vegetation classification, but rather a land cover type. Areas mapped as developed have been constructed upon or otherwise physically altered to an extent that natural vegetation communities are no longer supported. In the Study Areas, this land cover consisted primarily of compacted dirt roads and structures. In Study Area 1, an area consisting of bare ground surrounding four-wing saltbush scrub was also classified as "urban/developed – dirt roads" as this area functioned as a vehicle turnaround.

4.2.2.7 Vegetation Communities and Land Covers within Survey Area

One additional vegetation community and one additional land cover was observed within the buffer, but not within the Project Areas. These are described in detail below. No impacts to this vegetation community and land cover are expected as a result of Project-related activities.

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Active Agriculture

Active agriculture consists of row crops that include planted, typically monotypic rows of crops of annual and perennial species with open space between rows. Species composition frequently changes by season and year. Row crops often occur in upland areas with high soil quality, or floodplains and are almost always artificially irrigated. This land cover was observed in the northwestern portion of the buffer of Study Area 1.

Fourwing Saltbush Scrub (Atriplex canescens Shrubland Alliance)

Fourwing saltbush scrub is characterized by fourwing saltbush as a dominant within the shrub layer. The shrub canopy is open or intermittent, while the herbaceous layer can be variable, with seasonal herbs and nonnative grasses. It is found within playas, shores, lake deposits, dissected alluvial fans, or channel beds. Fourwing saltbush scrub was only observed in a small section within the buffer of Study Area 2. Other plant species observed areas within this community included creosote bush, Mediterranean grass, and brittlebush (*Encelia* spp.).

4.2.3 Wildlife Observed

Wildlife species observed included western side-blotch lizard (*Uta stansburiana elegans*), western whiptail lizard (*Aspidoscelis tigris*), desert patch-nosed snake (*Salvadora hexalepis hexalepis*), northern harrier *(Circus hudsonius*), loggerhead shrike (*Lanius ludovicianus*), black-tailed gnatcatcher (*Polioptila melanura*), great egret (*Ardea alba*), American kestrel (*Falco sparverius*), Gambel's quail (*Callipepla gambelii*), European starling (*Sturnus vulgaris*), killdeer (*Charadrius vociferus*), rock wren (*Salpinctes obsoletus*), turkey vulture (*Cathartes aura*), common raven (*Corvus corax*), great-tailed grackle (*Quiscalus mexicanus*), phainopepla (*Phainopepla nitens*), red-tailed hawk (*Buteo jamaicensis*), greater roadrunner (*Geococcyx californianus*), ladder-backed woodpecker (*Dryobates scalaris*), black phoebe (*Sayornis nigricans*), Say's phoebe (*Sayornis saya*), house finch (*Haemorhous mexicanus*), black-throated sparrow (*Amphispiza bilineata*), white-crowned sparrow (*Zonotrichia leucophrys*), Anna's hummingbird *(Calypte anna*), bushtit (*Psaltriparus minimus*), peregrine falcon (*Falco peregrinus*), cactus wren (*Campylorhynchus brunneicapillus*), lesser goldfinch (*Spinus psaltria*), black-tailed jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), bobcat (*Lynx rufus*), and signs of coyote (*Canis latrans*), desert kit fox (*Vulpes macrotis*), antelope squirrel (*Ammospermophilus leucurus*), kangaroo rat (*Dipodomys* sp.), and raccoon (*Procyon lotor*).

4.3 Special-Status Species Assessment

The literature review resulted in 22 special-status plant and 27 special-status wildlife species that have historically been recorded in the vicinity of the Project Areas or that are highly associated with habitat that occurs on the Project sites. Special-status plants were evaluated for their potential to occur within the Project Areas where impacts could occur. Special-status wildlife were evaluated for their potential to occur within the Survey Areas, a broader area that includes the Project Areas and buffer, where direct or indirect impacts could occur. Special-status wildlife species observed during the reconnaissance survey are depicted on Figure 5.

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4.3.1 Plants

Numerous special-status plant species have been recorded within five miles of the Project Areas, according to the CNDDB (CDFW 2020a), IPaC (USFWS 2020b), and CNPSEI (CNPS 2020). Of all available records, 18 special-status plant species were identified as those with the potential for occurrence within the vicinity of the Project Areas, while an additional four plant were presumed absent based on their known habitat not occurring within the Project Areas. Descriptions of the CNPS designations are found in Table 4 and a list of the special-status plant species identified in the literature review is presented below (CNPS 2020).

Table 4. CNPS Status Designations

List Designation	Meaning
1A	Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B	Plants Rare, Threatened, or Endangered in California and Elsewhere
2A	Plants Presumed Extirpated in California, But Common Elsewhere
2B	Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3	Plants about which we need more information; a review list
4	Plants of limited distribution; a watch list
List 1B, 2, and 4 extension meanings:	
.1	Seriously threatened in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)
.2	Moderately threatened in California (20-80 percent occurrences threatened / moderate degree and immediacy of threat)
.3	Not very threatened in California (less than 20 percent of occurrences threatened / low degree and immediacy of threat or no current threats known)

Note: According to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code (California Department of Fish and Game [CDFG] 1984). This interpretation is inconsistent with other definitions.

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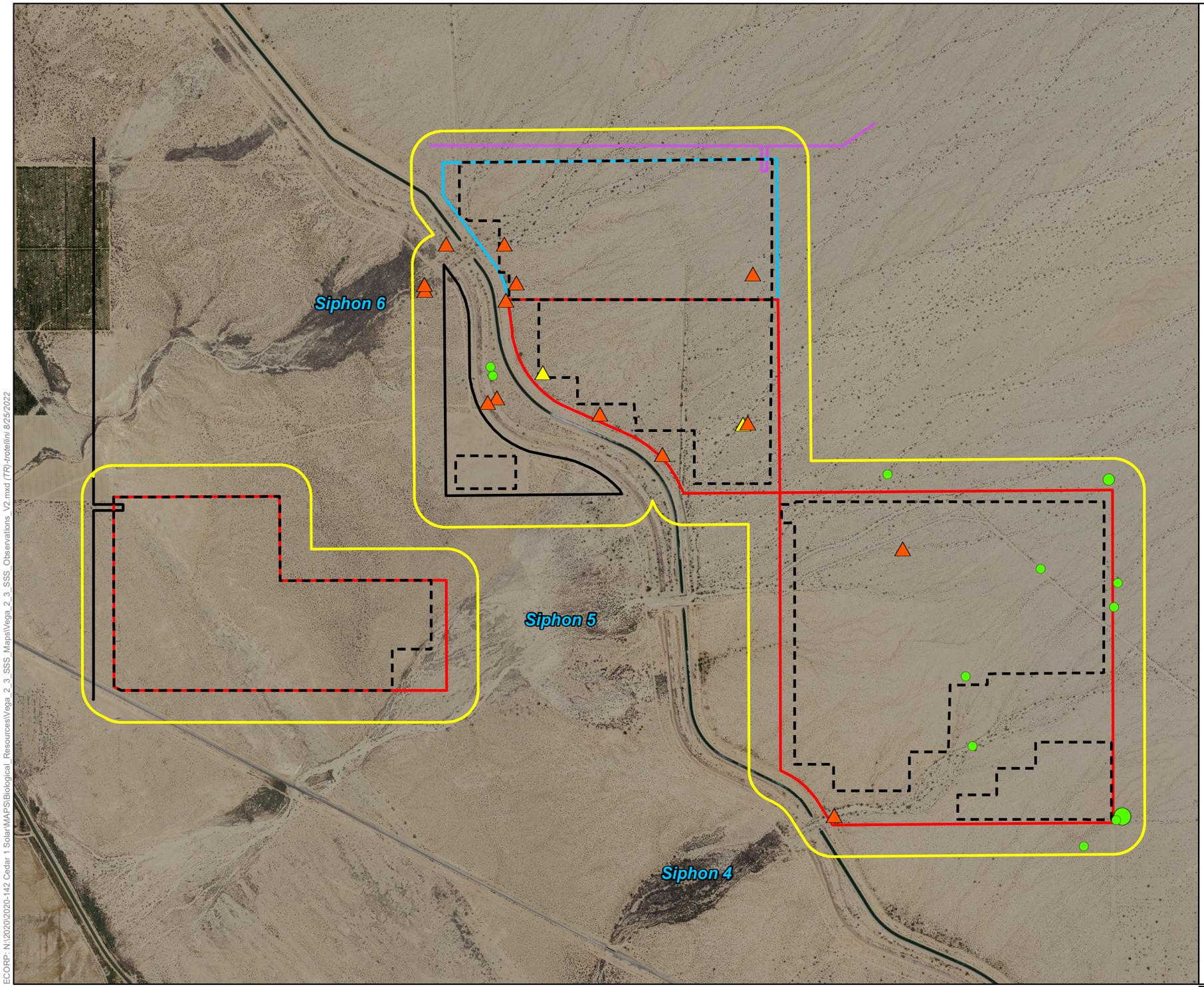


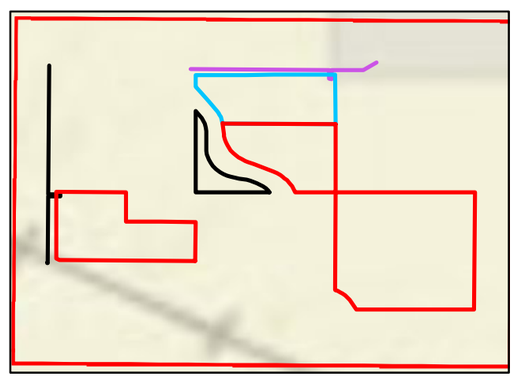
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Impact Areas
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Special status Species Observations

- Munz's cholla *(Cylindropuntia munzii)*
- Munz's cholla *(Cylindropuntia munzii)* (2 Count)
- Munz's cholla *(Cylindropuntia munzii)* (3-4 Count)
- Black-tailed Gnatcatcher (*Polioptila melanura*)
- Loggerhead Shrike (*Lanius ludovicianus*)

Sources: NAIP (2018)
Other Related Info if Needed



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Map Date: 8/25/2022

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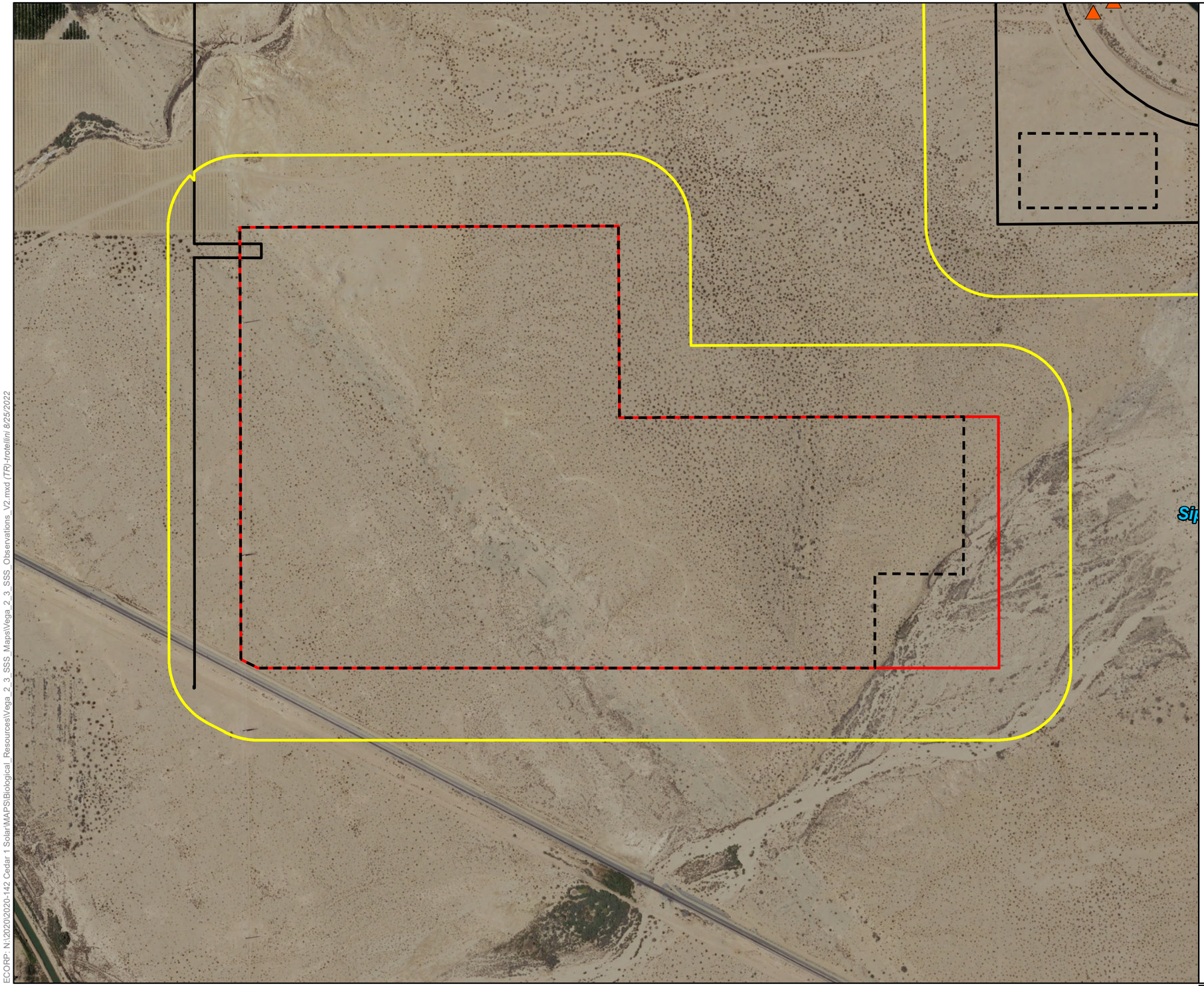
Scale in Feet
0 500 1,000 1,500

PC ORIGINAL PKG

Figure 5. Special-status Species Observations Overview
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Impact Areas
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Special status Species Observations

- Munz's cholla *(Cylindropuntia munzii)*
- Munz's cholla *(Cylindropuntia munzii)* (2 Count)
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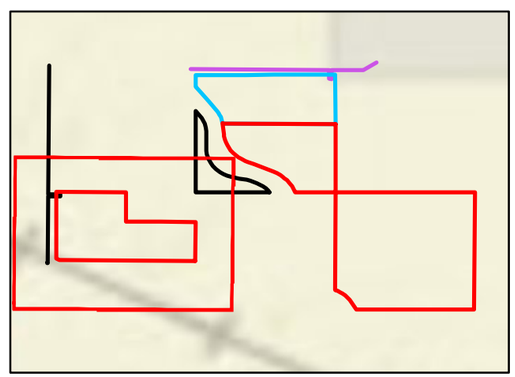
- Black-tailed Gnatcatcher (*Polioptila melanura*)
- Loggerhead Shrike (*Lanius ludovicianus*)
- Northern Harrier (*Circus hudsonius*)

Sources: NAIP (2018)
Other Related Info if Needed



ECORP: N:\2020\2020-142 Cedar 1 Solar\MAPS\Biological_Resources\Vega_2_3_SSS_Maps\Vega_2_3_SSS_Observations_V2.mxd (TR)-trotellini 8/25/2022

Map Date: 8/25/2022

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Scale in Feet
0 350 700

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Figure 5. Special-status Species Observations
Study Area 1
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

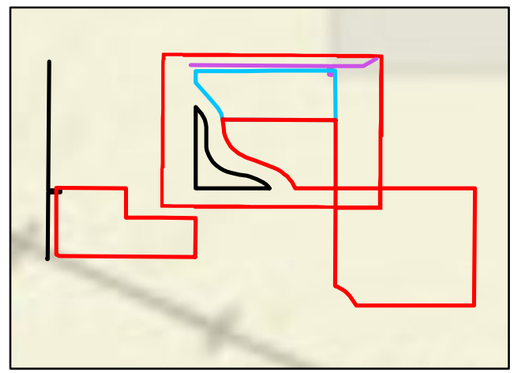
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Impact Areas
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Special status Species Observations

- Munz's cholla *(Cylindropuntia munzii)*
- Munz's cholla *(Cylindropuntia munzii)* (2 Count)
- Munz's cholla *(Cylindropuntia munzii)* (3-4 Count)
- Black-tailed Gnatcatcher (*Polioptila melanura*)
- Loggerhead Shrike (*Lanius ludovicianus*)

Sources: NAIP (2018)
Other Related Info if Needed



Map Date: 8/25/2022

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Scale in Feet
0 350 700

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Figure 5. Special-status Species Observations
Study Area 2
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

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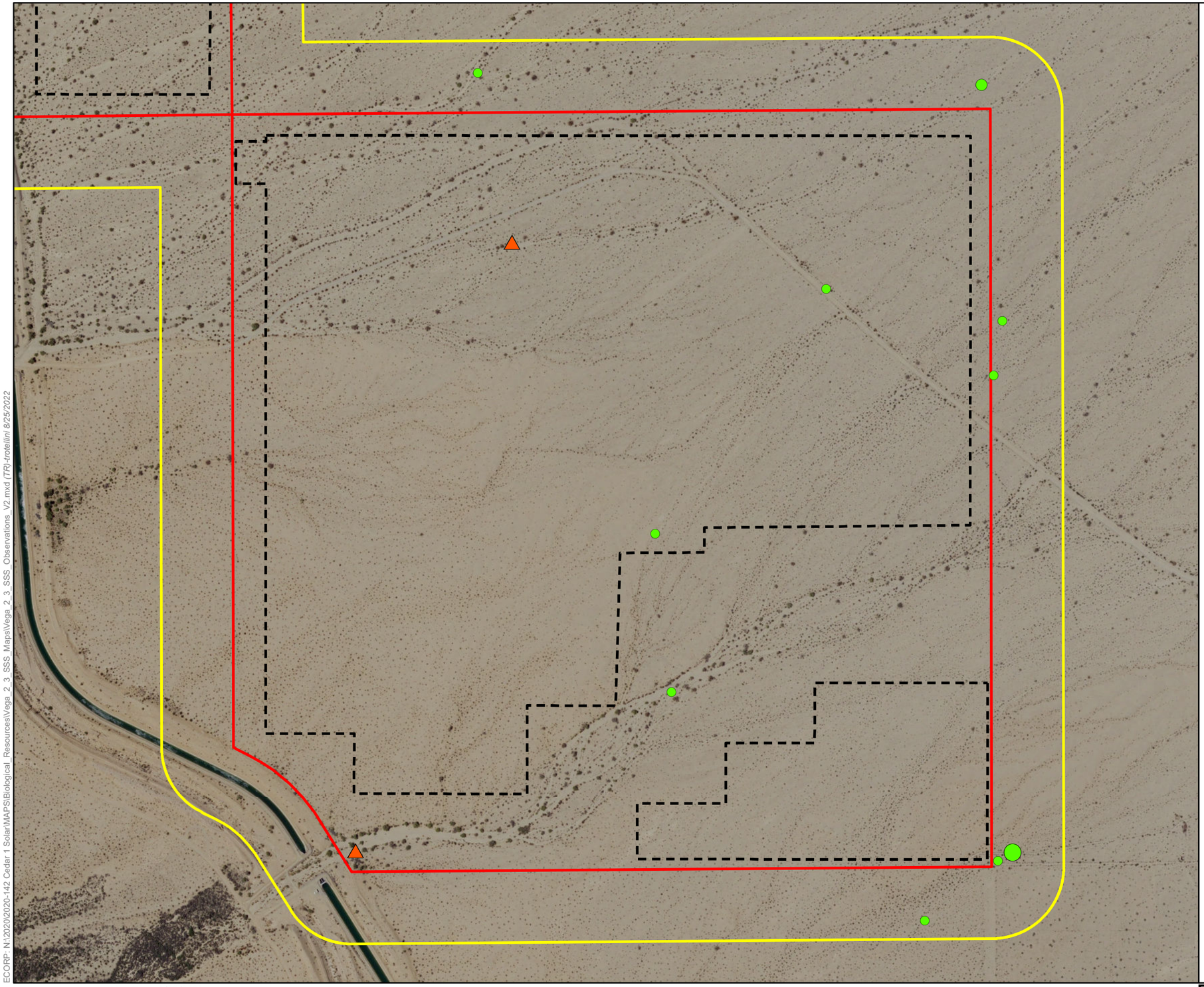


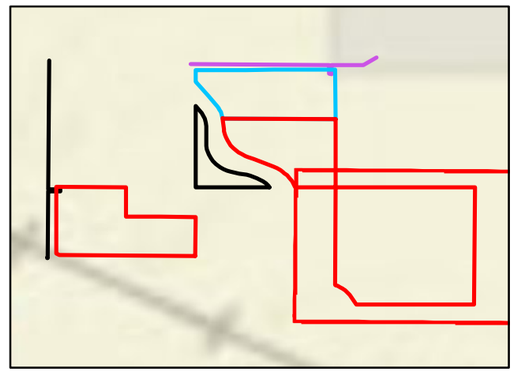
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Impact Areas
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Special status Species Observations

- Munz's cholla *(Cylindropuntia munzii)*
- Munz's cholla *(Cylindropuntia munzii)* (2 Count)
- Munz's cholla *(Cylindropuntia munzii)* (3-4 Count)
- Black-tailed Gnatcatcher (*Polioptila melanura*)
- Loggerhead Shrike (*Lanius ludovicianus*)

Sources: NAIP (2018)
Other Related Info if Needed



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Map Date: 8/25/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 350 700

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Figure 5. Special-status Species Observations
Study Area 3
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

4.3.1.1 Special-Status Plant Species Present

During the reconnaissance survey, the following species was observed within Study Areas 2 and 3:

- Munz's cholla (*Cylindropuntia munzii*) is a CNPS California Rare Plant Rank (CRPR) 1B.3 plant species. This species is known to occur at elevations between 150 and 600 meters (492 and 1,969 feet) and blooms in the month of May. Munz's cholla is known to occur in gravelly or sandy Sonoran desert scrub habitat. A total of two individuals were observed within Study Area 2 and 15 individuals were observed within Study Area 3. Most are located adjacent to the Project Areas. Two individuals are located within the Project Area of Study Area 3 and could be directly impacted. Additionally, there is high potential for this species to occur in Study Area 1 due to presence of creosote bush scrub habitat.

4.3.1.2 Special-Status Plant Species with a Moderate Potential to Occur

Due to the presence of suitable habitat and several known recent occurrences within five miles of the Project Areas, the following species were determined to have a moderate potential to occur:

- Gravel milk-vetch (*Astragalus sabulonum*) is a CRPR 2B.2 plant species. This species is known to occur at elevations between -60 and 930 meters (-197 and 3,051 feet) and blooms between February and June. Gravel milk-vetch is known to occur in Sonoran desert scrub habitat within sandy, sometimes gravelly flats, washes, and roadsides. One historic CNDDB record from 1906 was recorded approximately 3.66 miles northwest of Study Area 1. Potential habitat occurs within the Study Areas for this species in the creosote bush scrub habitat.
- Wiggins' croton (*Croton wigginsii*) is a CRPR 2B.2 plant species. This species is known to occur at elevations between 50 and 100 meters (164 and 328 feet) and blooms between March and May. Wiggins' croton is known to occur in sandy Sonoran desert scrub habitat. One historic CNDDB record from 1986 was recorded approximately 3.8 miles southeast of Study Area 3. Potential habitat occurs within the Study Areas for this species in the sandy, creosote bush scrub habitat.
- Glandular ditaxis (*Ditaxis claryana*) is a CRPR 2B.2 plant species. This species is known to occur at elevations between sea level and 465 meters (sea level and 1,526 feet) and blooms between October and March. Glandular ditaxis (*Ditaxis claryana*) is known to occur in sandy Sonoran desert scrub habitat. One historic CNDDB record from 1978 was recorded within the northern portion of Study Area 3. Potential habitat occurs within the Study Areas for this species in the creosote bush scrub habitat.
- Sand food (*Pholisma sonorae*) is a CRPR 1B.2 plant species. This parasitic species attaches to the roots of host *Eriogonum*, *Tiquilia*, *Ambrosia*, and *Pluchea* species. Sand food is known to occur at elevations between sea level and 200 meters (sea level and 656 feet) and blooms between April and June. It is known to occur in sandy Sonoran desert scrub habitat. One historic CNDDB record from 1980 was recorded approximately 4.42 miles southeast of the Study Areas, and a known occurrence exists within the CNPS quadrant database. Potential habitat occurs within the Study Areas for this species in the sandy, creosote bush scrub habitat.

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4.3.1.3 Special-Status Plant Species with Low Potential to Occur

The following species were found to have a low potential to occur on the Project Areas because of limited habitat for the species on the site and a known occurrence has been reported in the database, but not within five miles of the Project Areas, or suitable habitat strongly associated with the species occurs within the Project Areas, but no records were found in the database search:

- Salton milk-vetch (*Astragalus crotalariae*), CNPS 4.3
- Harwood's milk-vetch (*Astragalus insularis* var. *harwoodii*), CNPS 2B.2
- Borrego milk-vetch (*Astragalus lentiginosus* var. *borreganus*), CNPS 4.3
- pink fairy-duster (*Calliandra eriophylla*), CNPS 2B.3
- sand evening-primrose (*Chylismia arenaria*), CNPS 2B.2
- spiny abrojo (*Condalia globosa* var. *pubescens*), CNPS 4.2
- Abrams' spurge (*Euphorbia abramsiana*), CNPS 2B.2
- ribbed cryptantha (*Johnstonella costata*), CNPS 4.3
- slender-spined all thorn (*Koeberlinia spinosa* var. *tenuispina*), CNPS 2B.2
- slender cottonheads (*Nemacaulis denudata* var. *gracilis*), CNPS 2B.2
- roughstalk witch grass (*Panicum hirticaule* var. *hirticaule*), CNPS 2B.1
- Coves' cassia (*Senna covesii*), CNPS 2B.1
- Mecca-aster (*Xylorhiza cognata*), CNPS 1B.2

4.3.1.4 Special-Status Plant Species Presumed Absent

The following species are presumed absent from the Project sites due to the lack of suitable habitat, soil type, and/or elevation range at the Project Areas:

- chaparral sand-verbena (*Abronia villosa* var. *aurita*), CNPS 1B.1
- Peirson's milk-vetch (*Astragalus magdalenae* var. *peirsonii)*, CNPS 1B.2
- Algodones Dunes sunflower (*Helianthus niveus* var. *tephrodes*), CNPS 1B.2
- giant Spanish-needle (*Palafoxia arida* var. *gigantea*), CNPS 1B.3

4.3.2 Wildlife

The literature search documented 27 special-status wildlife species in the vicinity of the Survey Area, seven of which are federally and/or state-listed. Of the 27 special-status wildlife species identified in the literature review, two were present within the Survey Area, one was found to have a high potential to occur, eight were found to have a moderate potential to occur and six were found to have a low potential

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to occur; the remaining nine species are presumed absent from the Survey Area. Descriptions of the federal and state wildlife designations are found in Table 5, and a brief natural history and discussion of the special-status wildlife species found onsite that have a high or moderate potential to occur within the Survey Area are provided below.

Table 5. Wildlife Status Designations

List Designation	Meaning
Federal Designation	**Jurisdiction under United States Fish and Wildlife Service (USFWS)**
END	Federally listed as Endangered
THR	Federally listed as Threatened
CAN	Federal Candidate Species
FSC	Federal Species of Concern
FPD	Federal Proposed for Delisting
BBC	Bird of Conservation Concern
State Designation	**Jurisdiction under California Fish and Wildlife Service (CDFW)**
END	State listed as Endangered
THR	State listed as Threatened
SSC	California Species of Special Concern
FP	Fully Protected Species
WL	Watch List

4.3.2.1 Special-Status Wildlife Species Present

The following species were observed within the Survey Area during the reconnaissance survey:

- Loggerhead shrike is a USFWS bird of conservation concern (BCC) and CDFW SSC. This species prefers open country with scattered shrubs and trees. They frequent agricultural fields, abandoned orchards, desert scrublands, and riparian areas. Two individuals were observed perching in palo verde-ironwood woodland, and creosote bush scrub of Study Area 2.
- Black-tailed gnatcatcher is a CDFW WL species. This species remains in pairs all year, defending permanent territories. Black-tailed gnatcatchers prefer dry washes or desert brush with varied growth of mesquite, acacias, and paloverdes, but are also known to inhabit tamarisk scrub. Many pairs of black-tailed gnatcatchers were observed foraging and calling within the palo verde-ironwood woodland, tamarisk thickets, bush seepweed scrubs, and creosote bush scrub within and adjacent to Study Areas 1 and 2.

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4.3.2.2 Special-Status Wildlife Species with a High Potential to Occur

One species was found to have a high potential to occur within the Survey Area due to the presence of suitable habitat for the species on the sites and because a known occurrence has been recorded within five miles of the sites:

- Burrowing owl (*Athene cunicularia*) is a USFWS BCC, a CDFW SSC, and Imperial County Species of Conservation Focus. It is typically found in dry open areas with few trees and short grasses; it is also found in vacant lots near human habitation. It uses uninhabited mammal burrows for roosts and nests, often in close proximity to California ground squirrel (*Otospermophilus beecheyi*) colonies. It primarily feeds on large insects and small mammals but will also eat birds and amphibians. A burrowing owl was observed on the Vega SES 5 Project site, which is adjacent to Vega SES 2/Study Area 1. This means burrowing owl is likely to also occur within the Vega 2 and 3 Project Areas and may not have been observed due to wintering movement trends.

4.3.2.3 Special-Status Wildlife Species with a Moderate Potential to Occur

Nine species were found to have moderate potential to occur within the Survey Area because habitat (including soils and elevation factors) for the species occurs on the sites and a known occurrence exists within the database search, but not within five miles of the Survey Area; or a known occurrence exists within five miles of the Survey Area and marginal or limited amounts of habitat occurs within the Survey Area:

- Flat-tailed horned lizard (*Phrynosoma mcallii*) is a CDFW SSC and Imperial County Species of Conservation Focus. This species is most commonly found on sandy flats and valleys within desert scrub habitat with little or no windblown sand. They can also be found on salt flats and gravelly soils. The creosote bush scrub habitat provides suitable habitat for the flat-tailed horned lizard. There are known regional populations to north and south of the sites but occurrences in proximity to the Project Areas themselves is not well-known.

- Desert tortoise is a federally and state-threatened species. This species is found in sandy flats to rocky foothills, including alluvial fans, washes, and canyons where suitable soils for den construction are present. The creosote bush scrub, alluvial fans, and washes provide suitable habitat for the desert tortoise. One burrow with a half-moon shape was found during the reconnaissance survey within Vega 2 in Study Area 1. No desert tortoise sign (scat, tracks, carcasses, scrapes, etc.) was observed however the shape indicates that a desert tortoise could use the burrow. Desert tortoise critical habitat is seven miles northeast of the Project Areas.

- Northern harrier is a CDFW SSC. This species is typically found in open habitats with dense ground cover including grasslands, agricultural fields, and marshes. Northern harriers nest on the ground, preferring wetland habitat for cover. There is some suitable habitat for this species within all three Study Areas. This species was observed outside of the Survey Area during the reconnaissance survey.

- California horned lark (*Eremophila alpestris* ssp. *actia*) is a CDFW WL species. It occurs in bare, open areas dominated by low vegetation or widely scattered shrubs, including prairies, deserts,

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and plowed fields. It nests in a hollow on the ground. The sparse creosote scrub habitat onsite and in the buffer zones provides potential habitat.

- Merlin (*Falco columbarius*) is a CDFW WL species. This species prefers open and semi-open areas within woodlands near water bodies including rivers, lakes, and wetlands. There are suitable open areas within the upland habitats adjacent to the tamarisk thickets that provide suitable habitat for the merlin. Therefore, wintering individuals have a moderate potential to occur within the Survey Area. There is a CNDDB record from 2007 located approximately three miles from the Project Areas.
- Crissal thrasher (*Toxostoma crissale*) is a CDFW SSC. It inhabits desert scrub and riparian brush with dense mesquite thickets often near streams or washes. The tamarisk thickets and bush seepweed scrub along the washes provides suitable habitat for this species.
- California black rail (*Laterallus jamaicensis* ssp. *coturniculus*) is a USFWS BBC, state-threatened, and CDFW fully protected species. California black rail are typically found in marsh habitat, including riparian marshes, saltmarshes, and wetlands. This species prefers consistent shallow water within the habitats. There is suitable habitat during the rainy season and shortly after for the California black rail within the riparian habitats in the Study Areas. There is one recent CNNDB record from 2015 approximately 4.8 miles from the Project Areas and four historic CNDDB records, two of which are located within the Project Areas.
- Yuma hispid cotton rat (*Sigmodon hispidus eremicus*) is a CDFW SSC. This species is generally associated with mesic habitats near drainage ditches, streams, and sloughs but also occurs in open fields or on the borders of open fields where there is dense grass habitat or agricultural fields. There is potential for this species to occur near the Coachella Canal, where they can utilize runways through dense herbaceous growth along the canal.
- Palm Springs pocket mouse (*Perognathus longimembris bangsi*) is a CDFW SSC. This species is associated with flat or gently sloping habitats of loose or sandy soils, with relatively sparse vegetation. There is potential for this species in the creosote bush scrub habitats of the Study Areas.

4.3.2.4 Wildlife Species with Low Potential to Occur

Six species were found to have a low potential to occur within the Survey Area because limited habitat for the species occurs on the sites and a known occurrence has been reported in the database, but not within five miles of the Survey Area, or suitable habitat strongly associated with the species occurs within the Survey Area, but no records were found in the database search:

- mountain plover (*Charadrius montanus*), USFWS BCC and CDFW SSC,
- Gila woodpecker (*Melanerpes uropygialis*), USFWS BCC and state endangered,
- Yuma Ridgway's rail (*Rallus obsoletus yumanensis*), USFWS END and state threatened and CDFW fully protected,

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- California leaf-nosed bat (*Macrotus californicus*), CDFW SSC,
- pallid bat (*Antrozous pallidus*), CDFW SSC, and
- western yellow bat (*Lasiurus xanthinus*), CDFW SSC.

4.3.2.5 Wildlife Species Presumed Absent

The following nine species are presumed absent from the Survey Area due to the lack of suitable habitat:

- razorback sucker (*Xyrauchen texanus*), federally listed endangered, state listed endangered, and CDFW FP,
- Sonoran desert toad (*Incilius alvarius*), CDFW SSC,
- barefoot gecko (*Coleonyx switaki*), state threatened,
- western mastiff bat (*Eumops perotis* ssp. *californicus*), CDFW SSC,
- pocketed free-tailed bat (*Nyctinomops femorosaccus*), CDFW SSC,
- big free-tailed bat (*Nyctinomops macrotis*), CDFW SSC
- Mexican long-tongued bat (*Choeronycteris mexicana*), CDFW SSC,
- Townsend's big-eared bat (*Corynorhinus townsendii*), CDFW SSC, and
- peninsular bighorn sheep (*Ovis canadensis* ssp. *nelson*), federally listed endangered, state listed endangered, and CDFW FP.

4.4 Wildlife Movement Corridors, Linkages, and Significant Ecological Areas

The concept of habitat corridors addresses the linkage between large blocks of habitat that allow the safe movement of mammals and other wildlife species from one habitat area to another. The definition of a corridor is varied, but corridors may include such areas as greenbelts, refuge systems, underpasses, and biogeographic land bridges, for example. In general, a corridor is described as a linear habitat, embedded in a dissimilar matrix, which connects two or more large blocks of habitat. Wildlife movement corridors are critical for the survivorship of ecological systems for several reasons. Corridors can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas provides for the potential of genetic exchange between wildlife species populations, thereby maintaining genetic variability and adaptability to maximize the success of wildlife responses to changing environmental conditions. This is especially critical for small populations subject to loss of variability from genetic drift and effects of inbreeding. Naturally, the nature of corridor use and wildlife movement patterns varies greatly among species.

The Study Areas were assessed for their ability to function as a wildlife corridor. The Study Areas have an alluvial fan system, which stems from the Chocolate Mountains and spreads across the landscape in the lowland areas. This interconnected drainage system has associated riparian corridors, which occur

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throughout all three Study Areas. These areas provide cover for migrating and nesting birds. It also provides foraging habitat for raptors and small and large mammals, including rodents, felids, and canids. The large drainages and canal lined with tamarisk thickets and blue palo verde/ironwood woodlands are likely utilized by wildlife moving through the area. A bobcat was spotted using the tamarisk thickets for movement during the reconnaissance surveys. Therefore, these features and associated riparian habitat would be considered linkages between natural habitat areas.

The western portion of the Study Areas 2 and 3 are restricted by the Coachella Canal, and the southern border of Study Area 1 is restricted by railroad tracks. Due to the nature of this Study Area's location between the canal and railroad, it is already disconnected and acts as more of a buffer between agricultural lands and wildlands to the northeast, but not as a corridor for mammals.

The blue palo verde/ironwood woodland of Study Areas 2 and 3 provides shelter and good-quality foraging habitat. This habitat would function as a corridor for wildlife movement from the Chocolate Mountains. The bush seepweed scrub provides moderate shelter and little to moderate-quality foraging habitat. The creosote bush scrub habitats offer little shelter, but moderate-quality foraging habitat. The eastern portion of the Study Areas 2 and 3, east of Coachella Canal, currently provide wildlife movement opportunities because it consists of open and relatively unimpeded land. This portion of the Projects would be considered a wildlife movement corridor.

5.0 PROJECT IMPACTS

Implementation of the Projects has potential to impact blue palo verde – ironwood woodland, bush seepweed scrub, creosote bush scrub, disturbed creosote bush scrub, and tamarisk thickets. These communities may provide suitable nesting and foraging habitat for passerines, including loggerhead shrike, black-tailed gnatcatcher, burrowing owl, raptor foraging habitat, and habitat for gravel milk-vetch, Wiggins' croton, glandular ditaxis, sand food, and Munz's cholla. The following recommendations would be required to determine if the Projects would result in significant impacts to vegetation communities, special-status plant and wildlife species, jurisdictional waters, and wildlife movement corridors.

5.1.1 Special-Status Species

5.1.1.1 Special-Status Plants

The literature review identified 18 special-status plant species that have the potential to occur within the Project Areas. Of 22 original records, four plant species are presumed absent due to the lack of suitable habitat within the Project Areas. These species are chaparral sand-verbena, Peirson's milk-vetch, Algodones Dunes sunflower, and giant Spanish-needle. A total of 13 plant species have a low potential to occur due to the limited suitable habitat within the Project Areas. These species are Salton milk-vetch, Harwood's milk-vetch, Borrego milk-vetch, pink fairy-duster, sand evening-primrose, spiny abrojo, Abrams' spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, roughstalk witch grass, Coves' cassia, and Mecca-aster. A total of four plant species have a moderate potential to occur due to the presence of suitable habitat within the Project Areas. These species are gravel milk-vetch, Wiggins' croton, glandular ditaxis, and sand food.

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One rare plant species, Munz's cholla (CRPR 1B.3), was found to be present within Study Areas 2 and 3, and there is high potential for this species to occur within Study Area 1. Suitable habitat for this species is present within the creosote bush scrub habitat. Two individuals are located within the Project Area of Study Area 3 and could be directly impacted. Impacts that may occur to the species includes loss of individuals, habitat, and seedbank. Depending on the size of the population, this impact may be significant. Implementation of **BIO-1**, **BIO-2**, and **BIO-9** is recommended to decrease the chances of a significant impact.

5.1.1.2 Special-Status Wildlife

The literature review identified 27 special-status wildlife species that have the potential to occur within the Survey Area. However, 15 of these species have a low or no potential to occur due to the lack of suitable and/or limited habitat within the Survey Area. Wildlife species that are presumed absent from the Survey Areas include razorback sucker, Sonoran desert toad, barefoot gecko, western mastiff bat, pocketed free-tailed bat, big free-tailed bat, Mexican long-tongued bat, Townsend's big-eared bat, and peninsular bighorn sheep. Wildlife species with a low potential to occur include Gila woodpecker, Yuma Ridgway's rail, California leaf-nosed bat, pallid bat, and western yellow bat.

Ten species have a moderate or high potential to occur within the Survey Area, these species are flat-tailed horned lizard, Mojave desert tortoise, northern harrier, California horned lark, merlin, Crissal thrasher, California black rail, Yuma hispid cotton rat, Palm Springs pocket mouse, and burrowing owl. Additionally, two special-status wildlife species were observed onsite during the habitat assessment; loggerhead shrike and black-tailed gnatcatcher were observed in the tamarisk thickets, bush seepweed scrub, blue palo verde/ironwood woodland, and creosote bush scrub throughout the Study Areas. Direct impacts to these species that could occur include injury, mortality, nest failures, and loss of young. Indirect impacts include loss of nesting and foraging habitat, increase in anthropogenic effects (i.e., noise levels, introduction of invasive and nonnative species, increase in human activity, increase in dust). Impacts to these species could be considered significant; therefore, implementation of **BIO-2**, **BIO-3**, **BIO-4**, **BIO-5**, and **BIO-7** is recommended.

Foraging habitat for a number of raptor species and breeding habitat for numerous passerine species that are protected by the MBTA occurs throughout the Project sites. The sites provide nesting habitat for ground-nesting species as well as species that nest in riparian scrub habitat. The presence of large ironwood and palo verde trees within the Study Areas is suitable nesting habitat for raptor species. Additionally, northern harriers are ground nesters, for which the tamarisk thickets and other dense habitats provide potential nesting habitat for this species. Direct impacts to nesting avian species include injury, mortality, loss of young, and nest failure. Indirect impacts include loss of foraging and nesting habitat for passerine and raptors species, increase in noise and human activities, and potential introduction of invasive or nonnative species. Implementation of **BIO-4**, **BIO-5**, and **BIO-7** are recommended to mitigate for potential impacts.

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5.1.2 Sensitive Natural Communities

The approximately 1,712-acre Project sites are comprised of blue palo verde/ironwood woodland, creosote bush scrub, disturbed creosote bush scrub, bush seepweed scrub, tamarisk thickets, and urban/developed land, which would be directly impacted by the Projects. In-kind mitigation, up to 3:1 ratio, may be required by CDFW to offset impacts to bush seepweed scrub, blue palo verde/ironwood woodland, and tamarisk thickets in order to reduce impacts to less than significant. Implementation of **BIO-7** and **BIO-8** is recommended to reduce potential impacts to less than significant threshold.

5.1.3 State- and/or Federally Protected Wetlands and Waters

The results of the Aquatic Resources Delineation and discussion of potential impacts on state- or federally protected wetlands or Waters of the U.S. are discussed in the Aquatic Resources Delineation Report (ECORP 2020), prepared under separate cover. Implementation of **BIO-6** and **BIO-8** is recommended to mitigate for potential significant impacts.

5.1.4 Wildlife Corridors and Nursery Sites

Study Area 1 is located adjacent to areas containing existing disturbances (i.e., railroad, roads, Coachella Canal, and active agricultural land). A majority of this area does not contain suitable vegetation and/or cover to support wildlife movement. Study Areas 2 and 3 does support wildlife movement opportunities connecting the Project Areas to large, undeveloped natural areas to the northeast. The riparian habitats of these areas, in particular, could act as a potential corridor and nursey site for migrating wildlife species. The proposed Project Area of Study Area 3 avoids one of the alluvial fan systems that could function as a corridor, thereby preserving wildlife movement in this area. Implementation of **BIO-2**, **BIO-4**, **BIO-5**, **BIO-6**, and **BIO-7** are recommended to mitigate for potential significant impacts.

5.1.5 Habitat and Conservation Plans and Natural Community Conservation

The Projects will follow the guidelines in Imperial County's Conservation and Open Space Element and meet the requirements outlined in the plan. Consultation with County of Imperial Department of Planning and Development, USFWS, and CDFW would be required should listed plant and/or wildlife species be found to occur.

6.0 RECOMMENDATIONS AND MITIGATION MEASURES

The following recommendations have been developed in accordance with the CEQA impacts analysis for the Projects (see Section 5) but should not be considered mitigation measures at this point in the Project planning process. These actions are recommended prior to Project implementation:

BIO-1 **Rare Plant Surveys:** Rare plant surveys should be conducted within suitable habitat on the Project Areas during the appropriate blooming period for the gravel milk-vetch, Wiggins' croton, glandular ditaxis, sand food, and Munz's cholla. The surveys should be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status

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Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If Project-related impacts to rare plants on the Project site are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population, salvage or seed collection, and additional monitoring requirements.

BIO-2 **Biological Monitoring:** A qualified biologist should be present to monitor all ground-disturbing and vegetation-clearing activities conducted for the Projects. During each monitoring day, the biological monitor should perform clearance survey "sweeps" at the start of each work day that vegetation clearing takes place to minimize impacts on special-status species with potential to occur (including, but not limited to, special-status and/or nesting bird species and flat-tailed horned lizard). The monitor will be responsible for ensuring that impacts to special-status species, nesting birds, and active nests will be avoided to the greatest extent possible. Biological monitoring should take place until the Project sites have been completely cleared of any vegetation. If an active nest is identified, the biological monitor should establish an appropriate disturbance limit buffer around the nest using flagging or staking. Construction activities should not occur within any disturbance limit buffer zones until the nest is deemed no longer active by the biologist. If special-status wildlife species are detected during biological monitoring activities, then consultation with the USFWS and/or CDFW should be conducted and a mitigation plan should be developed to avoid and offset impacts to these species. Mitigation measures may consist of work restrictions or additional biological monitoring activities after ground-disturbing activities are complete.

BIO-3 **Pre-Construction Surveys for Burrowing Owl:** Pre-construction surveys for burrowing owl should be conducted within the Project Areas and adjacent areas prior to the start of ground-disturbing activities. The surveys should follow the methods described in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Two surveys should be conducted, with the first survey being conducted between 30 and 14 days before initial ground disturbance (grading, grubbing, and construction), and the second survey being conducted no more than 24 hours prior to initial ground disturbance. If burrowing owls and/or suitable burrowing owl burrows with sign (e.g., whitewash, pellets, feathers, prey remains) are identified on the Project site during the survey and impacts to those features are unavoidable, consultation with the CDFW should be conducted and the methods described in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) for avoidance and/or passive relocation should be followed.

BIO-4 **Pre-Construction Nesting Bird Survey:** If construction or other project activities are scheduled to occur during the bird breeding season (Typically February 1 through August 31

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for raptors and March 15 through August 31 for the majority of migratory bird species), a pre-construction nesting-bird survey should be conducted by a qualified avian biologist to ensure that active bird nests, including those for the loggerhead shrike, black-tailed gnatcatcher, and burrowing owl, will not be disturbed or destroyed. The survey should be completed no more than three days prior to initial ground disturbance. The nesting-bird survey should include the Project Areas and adjacent areas where Project activities have the potential to affect active nests, either directly or indirectly due to construction activity or noise. If an active nest is identified, the biologist should establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities should not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist.

BIO-5 **Pre-Construction Survey for Special-Status Species:** A pre-construction survey should be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey should take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys should take place regardless of breeding season timing and should focus on identifying the presence of special-status wildlife species present within the Project Areas or that were identified as having a high potential to occur within the Project Areas. These species include, but are not limited to, burrowing owl, loggerhead shrike, and black-tailed gnatcatcher. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.

BIO-6 **Aquatic Resources Regulatory Permitting:** If Project-related impacts will occur to areas under the jurisdiction of the USACE, CDFW or RWQCB, a regulatory permit with those agencies is needed prior to the impact occurring. Permitting includes preparation and submittal of a Pre-Construction Notification under Section 404 of the federal Clean Water Act, an Application for Water Quality Certification under Section 401 of the federal Clean Water Act and a Notification of Lake or Streambed Alteration under Section 1600 of the California Fish and Game Code. Other items such as finalized project plans, quantities of fill material, supporting technical studies and so on are also submitted along with the applications. As a part of this process, the project must also identify and approve mitigation through the respective agencies. Mitigation can include onsite or offsite options or could include payment of an in-lieu fee to a conservation organization. Types of mitigation can include restoration, creation, rehabilitation, enhancement or other types of habitat improvement. Typically, the type of mitigation and acreage of mitigation is negotiated with the regulatory agencies during the permitting process.

BIO-7 **Sensitive Habitat Avoidance:** To the greatest extent possible, plans should avoid impacts to blue palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thicket habitats to minimize potential impacts to special-status species. Excluding these habitats from the

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Project should also minimize mitigation and permitting requirements to meet the less than significant threshold.

BIO-8 **Minimization of Impacts to Riparian Habitat:** Solar panels, structures, and new access roads should not be placed within 50 feet of riparian habitat boundaries. A construction buffer of 300 feet should be established around the riparian habitat during bird breading season (February 1 – August 31). Prior to construction, fencing should be installed approximately 10 feet from the wetland and riparian habitat boundaries within 50 feet of the Project. Fencing should be easily visible to construction. Plans should clearly delineate access roads and staging areas. The extensive alluvial fan systems should not be used as access roads between Project Areas.

BIO-9 **Rare Plant Relocation:** If Project impacts are unavoidable to Munz's cholla, prior to grading activities, individuals that will be impacted will be salvaged and transplanted to augment an existing nearby population or other approved mitigation site. During revegetation activities, specific methods regarding salvaging, stockpiling and transplantation, will be required to ensure successful survivorship. These methods can include the correct timing and procedure for individual transplants as well as the reporting and documentation of the process to the necessary regulatory agencies.

The following best management practices are not mitigation measures pursuant to CEQA but are recommended to further reduce impacts to special-status species that have potential to occur on the property:

- Confine all work activities to a pre-determined work area. Prior to the initiation of ground disturbing activities, the project footprint, including laydown and staging areas, will be clearly delineated using fencing. All equipment and materials shall use existing roads and parking areas for equipment staging and laydown.

- To prevent inadvertent entrapment of wildlife during the construction phase of the Project, all excavated, steep-walled holes or trenches more than two feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen fill or wooden planks should be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals.

- Wildlife are often attracted to burrow- or den-like structures such as pipes, and may enter stored pipes and become trapped or injured. To prevent wildlife use of these structures, all construction pipes, culverts, or similar structures with a diameter of four inches or greater should be capped while stored onsite.

- All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or Project site.

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- Use of rodenticides and herbicides on the Project site should be restricted. This is necessary to prevent primary or secondary poisoning of wildlife, including burrowing owl and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the USEPA, California Department of Food and Agriculture, and other State and federal legislation. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to burrowing owl.

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LIST OF ATTACHMENTS

Attachment A – Representative Site Photographs

Attachment B – Special-Status Plant Potential for Occurrence Table

Attachment C – Special-Status Wildlife Potential for Occurrence Table

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ATTACHMENT A

Representative Site Photographs

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Photo 1. View of bush seepweed within the Project Area, facing southeast.

Photo 2. Potential desert tortoise burrow found within the western portion of Study Area 1. No desert tortoise sign was observed. September 29, 2020.

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Photo 3. Section of the Coachella Canal within the northwestern portion of Study Area 2, between project impact areas; photo facing northwest. November 9, 2020.

Photo 4. Munz's cholla (*Cylindropuntia munzii*) found within the western portion of Study Area 2, outside of the project impact area, west of the Coachella Canal. November 9, 2020.

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Photo 5. Drainage system and associated blue palo verde - ironwood woodland habitat within the northwestern portion of Study Area 2; photo facing west. November 9, 2020.

Photo 6. Creosote bush scrub within the southwestern portion of Study Area 2; photo facing east. November 10, 2020.

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Photo 7. Drainage system (with signs of OHV activity) within the northwestern portion of Study Area 3 and associated blue palo verde- ironwood woodland habitat; photo facing east. November 11, 2020.

Photo 8. Small mammal burrow complex along berm within the southwest section of Study Area 3; photo facing west. November 11, 2020.

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ATTACHMENT B

Special-Status Plant Potential for Occurrence

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Special-Status Plant Species with Potential to Occur				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project Areas**
Abronia villosa var. *aurita* chaparral sand-verbena	**USFWS**: None **CDFW**: None **CRPR**: 1B.1 **BLM**: Sensitive	Mar-Sep (75 - 1600)	Chaparral Coastal scrub Desert dunes	**Presumed absent:** No habitat occurs within the Project Areas; a known occurrence exists within the CNPS quadrat database.
Astragalus crotalariae Salton milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 4.3 **BLM**: None	Jan-Apr (-60 - 250)	Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project Areas; a known occurrence exists within the CNPS quadrat database.
Astragalus insularis var. *harwoodii* Harwood's milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Jan-May (0 – 710)	Desert dunes Mojavean desert scrub	**Low:** Limited habitat occurs within the Project Areas. No CNDDB record within 5 miles of Project Areas. A known occurrence exists within the CNPS quadrat database.
Astragalus lentiginosus var. *borreganus* Borrego milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 4.3 **BLM**: None	Feb-May (30 – 895)	Mojavean desert scrub Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project Areas; a known occurrence exists within the CNPS quadrat database.
Astragalus magdalenae var. *peirsonii* Peirson's milk-vetch	**USFWS**: Threatened **CDFW**: Endangered **CRPR**: 1B.2 **BLM**: Federal Threatened	Dec-Apr (60 - 225)	Desert dunes	**Presumed absent:** No habitat occurs within the Project Areas. No CNDDB record within 5 miles of the Project Areas. A known occurrence exists within the CNPS quadrat database.
Astragalus sabulonum gravel milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Feb-Jun (-60 - 930)	Desert dunes Mojavean desert scrub Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project Areas. Historic CNDDB record (1906) approximately 3.66 miles northwest of Project Areas. A known occurrence exists within the CNPS quadrat database.
Calliandra eriophylla pink fairy-duster	**USFWS**: None **CDFW**: None **CRPR**: 2B.3 **BLM**: None	Jan-Mar (120 – 1500)	Sonoran desert scrub	**Low:** Limited habitat occurs within the Project Areas. No CNDDB record within 5 miles of the Project Areas. A known occurrence exists within the CNPS quadrat database.

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Special-Status Plant Species with Potential to Occur				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project Areas**
Chylismia arenaria sand evening-primrose	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Nov-May (-70 – 915)	Sonoran desert scrub	**Low:** Habitat occurs within the Project Areas. No CNDDB record within 5 miles of the Project Areas. A known occurrence exists within the CNPS quadrat database.
Condalia globosa var. *pubescens* spiny abrojo	**USFWS**: None **CDFW**: None **CRPR**: 4.2 **BLM**: None	Mar-May (85 – 1000)	Sonoran desert scrub	**Low:** Limited habitat (elevation) occurs within the Project Areas; a known occurrence exists within the CNPS quadrat database.
Croton wigginsii Wiggins' croton	**USFWS**: None **CDFW**: Rare **CRPR**: 2B.2 **BLM**: Sensitive	Mar-May (50 - 100)	Desert dunes Sonoran desert scrub	**Moderate:** Limited habitat for this species occurs within the Project Areas. One historic CNDDB record (1986) approximately 3.8 miles southeast of the Project Areas. A known occurrence exists within the CNPS quadrat database.
Cylindropuntia munzii Munz's cholla	**USFWS**: None **CDFW**: None **CRPR**: 1B.3 **BLM**: Sensitive	May (150 – 600)	Sonoran desert scrub	**Present:** This species was present on Vega 2 and Vega 3 Project Areas (Study Area 2 & 3). There is high potential for this species in Study Area 1, due to presence of creosote bush scrub habitat.
Ditaxis claryana glandular ditaxis	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Oct, Dec, Jan, Feb, Mar (0 – 465)	Mojavean desert scrub Sonoran desert scrub	**Moderate:** Habitat for the species occurs within the Project Areas. A historic CNDDB record (1978) occurs within Project Areas. A known occurrence exists within the CNPS quadrat database.
Euphorbia abramsiana Abrams' spurge	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Sep-Nov (-5 – 1310)	Mojavean desert scrub Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project Areas. No CNDDB record within 5 miles of Project Areas. A known occurrence exists within the CNPS quadrat database.

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Special-Status Plant Species with Potential to Occur				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project Areas**
Helianthus niveus var. *tephrodes* Algodones Dunes sunflower	**USFWS**: None **CDFW**: Endangered **CRPR**: 1B.2 **BLM**: None	Sep-May (50 - 100)	Desert dunes	**Presumed absent:** No habitat occurs within the Project Areas. No CNDDB record within 5 miles of Project Areas. A known occurrence exists within the CNPS quadrat database.
Johnstonella costata ribbed cryptantha	**USFWS**: None **CDFW**: None **CRPR**: 4.3 **BLM**: None	Feb-May (-60 - 500)	Desert dunes Mojavean desert scrub Sonoran desert scrub	**Low:** Limited habitat for this species occurs within the Project Areas; a known occurrence exists within the CNPS quadrat database.
Koeberlinia spinosa var. *tenuispina* slender-spined all thorn	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	May-Jul (150 - 510)	Riparian woodland Sonoran desert scrub	**Low:** Limited habitat occurs within the Project Areas. No CNDDB record within 5 miles of the Project Areas. A known occurrence exists within the CNPS quadrat database.
Nemacaulis denudata var. *gracilis* slender cottonheads	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Apr-May (-50 - 400)	Coastal dunes Desert dunes Sonoran desert scrub	**Low:** Limited habitat for this species occurs within the Project Areas. No CNDDB record within 5 miles of site. A known occurrence exists within the CNPS quadrat database.
Palafoxia arida var. *gigantea* giant Spanish-needle	**USFWS**: None **CDFW**: None **CRPR**: 1B.3 **BLM**: Sensitive	Jan-May (15 - 100)	Desert dunes	**Presumed absent:** No habitat occurs within the Project Areas. No CNDDB record occurs within 5 miles of the Project Areas.
Panicum hirticaule var. *hirticaule* roughstalk witch grass	**USFWS**: None **CDFW**: None **CRPR**: 2B.1 **BLM**: None	Aug-Dec (45 – 315)	Desert dunes Joshua tree woodland Mojavean desert scrub Sonoran desert scrub	**Low:** Limited habitat occurs within the Project Areas. No CNDDB record within 5 miles of the Project Areas. A known occurrence exists within the CNPS quadrat database.
Pholisma sonorae sand food	**USFWS**: None **CDFW**: None **CRPR**: 1B.2 **BLM**: Sensitive	Apr-Jun (0 - 200)	Desert dunes Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project Areas. One historic CNDDB record (1980) occurs approximately 4.42 miles southeast of the Project Areas. A known occurrence exists within the CNPS quadrat database.

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Special-Status Plant Species with Potential to Occur				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project Areas**
Senna covesii Coves' cassia	**USFWS**: None **CDFW**: None **CRPR**: 2B.1 **BLM**: None	Aug-Dec (45 – 1315)	Desert dunes Joshua tree woodland Mojavean desert scrub Sonoran desert scrub	**Low:** Limited habitat occurs within the Project Areas. No CNDDB record occurs within 5 miles of Project Areas. A known occurrence exists within the CNPS quadrat database.
Xylorhiza cognata Mecca-aster	**USFWS**: None **CDFW**: None **CRPR**: 1B.2 **BLM**: Sensitive	Jan-Jun (20 – 400)	Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project Areas. No CNDDB record occurs within 5 miles of Project Areas. A known occurrence exists within the CNPS quadrat database.

California Native Plant Society (CNPS) Rare Plant Ranks:
1B: Plants rare, threatened, and endangered in California and elsewhere.
2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
4: Plants of limited distribution; a watch list.

CNPS Threat Ranks:
0.1: Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2: Fairly threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat)
0.3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Sources:
California Natural Diversity Data Base (CNDDB) (CDFW 2020)
CNPS Rare and Endangered Plant Inventory (CNPS 2020)
Calflora Information on California Plants (Calflora 2020)
IPaC (USFWS 2020)
Special Status Plants (BLM 2015)

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ATTACHMENT C

Special-Status Wildlife Potential for Occurrence

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Special-Status Wildlife Species Potential For Occurrence				
Scientific Name Common Name	**Status**		**Habitat Requirements**	**Potential for Occurrence**
VERTEBRATES				
OSTEICHTHYES (BONY FISH)				
CATOSTOMIDAE (suckers)				
Xyrauchen texanus razorback sucker	USFWS: CDFW:	**END** **END,** FP	Rivers and lakes in the southwestern United States	**Presumed absent.** There is suitable habitat within Coachella Canal. One historic record (1974), but no recent CNDDB records occur within 5 miles of the Project Areas.
AMPHIBIANS				
BUFONIDAE (true toads)				
Incilius alvarius Sonoran desert toad	USFWS: CDFW:	none SSC	Creosote bush desert scrub, grasslands up into oak-pine woodlands, thorn scrub and tropical deciduous forest in Mexico.	**Presumed absent.** There is suitable habitat within the Project Areas and within the buffer; however, the population may be extirpated (Jennings and Hayes 1994). One historic (1916), but no recent CNDDB records occur within 5 miles of the Project Areas.
REPTILES				
GEKKONIDAE (geckos)				
Coleonyx switaki barefoot gecko	USFWS: CDFW:	none **THR**	Arid rocky areas on flatlands, canyons, thorn scrub, especially where there are large boulders and rock outcrops, and where vegetation is sparse.	**Presumed absent.** Habitat such as canyons, thorn scrub, large boulders, and rock outcrops is not present within the Project Areas. No CNDDB records occur within 5 miles of the Project Areas.
PHRYNOSOMATIDAE (spiny lizards)				
Phrynosoma mcallii flat-tailed horned lizard	USFWS: CDFW:	none SSC	Desert scrub on sandy flats and valleys with little or no windblown sand, salt flats, and areas with gravelly soils. There are three regional populations of flat-tailed horned lizard in California; two of these (representing the majority of the range in the State) occur in Imperial County. These are on the west side of the Salton Sea/Imperial Valley and on the east side of the Imperial Valley.	**Moderate.** There is suitable habitat within the Project Areas. No CNDDB records occur within 5 miles of the Project Areas.

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TESTUDINDAE (land tortoises)				
Gopherus agassizii Mojave desert tortoise	USFWS: CDFW:	**THR** **THR**	Sandy flats to rocky foothills, including alluvial fans, washes and canyons where suitable soils for den construction might be found.	**Moderate.** There is **m**arginally suitable habitat within the Project Areas and buffer. Desert tortoise critical habitat is approximately 7 miles northeast of the Project Areas. No CNDDB records occur within 5 miles of the Project Areas.
BIRDS				
ACCIPITRIDAE (hawks, kites, harriers, and eagles)				
Circus hudsonius northern harrier	USFWS: CDFW:	none SSC	Undisturbed tracts of grasslands and wetlands with low, thick vegetation. Prefers to breed in dry upland habitats, old fields, grazed meadows, drained marshlands, and high-desert shrubsteppe. Also found in pasturelands, croplands, and open floodplains.	**Moderate.** There is some suitable habitat within the Project Areas. One individual was observed outside of the Survey Area in adjacent habitat to the Project Areas. No CNDDB records occur within 5 miles of the Project Areas.
ALAUDIDAE (larks)				
Eremophila alpestris* ssp. *actia California horned lark	USFWS: CDFW:	none WL	Bare open areas dominated by low vegetation or widely scattered shrubs, includes prairies, deserts, and plowed fields. Nests in a hollow on the ground.	**Moderate.** The open areas within the Project Areas and in buffer provide suitable habitat. No CNDDB records occur within 5 miles of the Project Areas.
CHARADRIIAE (plovers and lapwings)				
Charadrius montanus mountain plover	USFWS: CDFW:	BCC SSC	Shortgrass prairie, especially where blue grama, buffalo grass, and western wheat grass are dominant; and in grassy semidesert with scattered saltbush, sage, prickly pear, and yucca, at elevations ranging from 2,100 to 10,663 feet. Also found in fallow or recently plowed agricultural fields and in overgrazed landscapes that mimic their natural shortgrass habitat.	**Low.** There is limited suitable habitat within the Project Areas. Three recent CNDDB records occur within 5 miles of the Project Areas with the closest approximately 2.8 miles southwest of the Project Areas (2011).
FALCONIDAE (falcons and caracaras)				
Falco columbarius merlin	USFWS CDFW	none WL	Open and semi open areas in fragmented woodlots, near rivers, lakes, or bogs, and on lake islands.	**Moderate.** There is suitable river and wetland habitat within the Project Areas and buffer. One CNDDB record (2007) occurs approximately 3 miles west of the Project Areas.

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LANIIDAE (shrikes)				
Lanius ludovicianus loggerhead shrike (nesting)	USFWS: CDFW:	BCC SSC	Open country with short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns, agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses, and cemeteries.	**Present.** There were 3 sightings of loggerhead shrike on Vega 2 (Study Areas 1 & 2). There is suitable habitat within the Project Areas. One CNDDB record (2007) occurs approximately 0.84 mile south of the Project Areas.
MIMIDAE (mockingbirds and thrashers)				
Toxostoma crissale Crissal thrasher	USFWS: CDFW:	none SSC	Desert scrub and riparian brush with dense mesquite thickets often near streams or washes.	**Moderate.** The bush seepweed scrub habitat provides suitable habitat for this species. No CNDDB records within 5 miles of the Project Areas.
PICIDAE (woodpeckers)				
Melanerpes uropygialis Gila woodpecker	USFWS: CDFW:	BCC **END**	Arid environments, especially deserts and dry forests of the southwestern U.S. and adjacent Mexico, usually below elevations of 3,300 feet. Most common in low swales and arroyos, including riparian corridors with cottonwood, willow, and mesquite. Nests in cacti and other tree species.	**Low.** Unlikely to occur within the Project Areas and buffer due to absence of suitable nesting cavity locations, i.e. large trees and/or large cacti. No recent CNDDB records within 5 miles of the Project Areas.
POLIOPTILIDAE (gnatcatchers)				
Polioptila melanura black-tailed gnatcatcher	USFWS: CDFW:	none WL	Semiarid and desert thorn scrub habitats. This species is well adapted to dry habitats and tend to be most common in areas with less than 8 inches of annual rainfall. They often live far from streams and other bodies of water.	**Present.** There were approximately 20 sightings of black-tailed gnatcatcher on Vega 2 and 3. They were often observed foraging in the tamarisk thickets. Desert scrub habitat within the Project Areas is also suitable for this species. No CNDDB records occur within 5 miles of the Project Areas.
RALLIDAE (rails)				
Laterallus jamaicensis **ssp.** ***coturniculus*** California black rail	USFWS: CDFW:	BCC **THR,** FP	Riparian marshes, coastal prairies, saltmarshes, and impounded wetlands. All of its habitats have stable shallow water, usually just 1.2 inches deep at most.	**Moderate.** The presence of riparian habitat provides suitable habitat. One recent CNDDB record occurs from 2015 approximately 4.8 miles west of the Project Areas. Four historic CNDDB records (1975–1989) occur with two located within the Project Areas.

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Rallus obsoletus* ssp. *yumanensis Yuma Ridgway's rail	USFWS: CDFW:	**END** **THR,** FP	Consistently found in freshwater marshes that are composed of cattail and bulrush. This emergent vegetation averages greater than 6 feet tall. Water depth tends to be around 3.5 inches deep. Range extends from Nevada, California, and Arizona to Baja California and Sonora Mexico.	**Low.** The presence of the canal and freshwater forested/shrub wetland habitat within the Project Areas and buffer could be suitable for this species. Overall, there is a lack of stable, shallow water as well as lack of cattails and bulrush within the Survey Area. No CNDDB records occur within 5 miles of the Project Areas.
STRIGIDAE (owls)				
Athene cunicularia burrowing owl	USFWS: CDFW:	BCC SSC	Open grasslands including prairies, plains, and savannah, or vacant lots and airports. Nests in abandoned dirt burrows.	**High.** The creosote bush scrub provides habitat and soils that are suitable for burrowing owl. There was one sighting of burrowing owl within the Vega 5 Project Area which is adjacent to Vega 2/Study Area 1. Twelve CNDDB records occur within 5 miles of the Project Areas with the closest overlapping the project boundary. Twelve owls were found in the area in 2007.
MAMMALS				
MOLOSSIDAE (free-tailed bats)				
Eumops perotis* ssp. *californicus western mastiff bat	USFWS: CDFW:	none SSC	Roosts high above ground in rock and cliff crevices, shallow caves, and rarely in buildings. Occurs in arid and semiarid regions including rocky canyon habitats.	**Presumed absent.** There is no suitable roosting habitat within the Project Areas or in the buffer. No CNDDB records occur within 5 miles of the Project Areas.
Nyctinomops femorosaccus pocketed free-tailed bat	USFWS: CDFW:	none SSC	Roosts in crevices of outcrops and cliffs, shallow caves, and buildings. Found along rugged canyons, high cliffs, and semiarid rock outcroppings.	**Presumed absent.** There is no suitable roosting habitat within the Project Areas or in the buffer. No CNDDB records occur within 5 miles of the Project Areas.
Nyctinomops macrotis big free-tailed bat	USFWS: CDFW:	none SSC	Roosts in cliff crevices, and less often in buildings, caves, and tree cavities. Occurs in rocky areas of rugged and hilly country including woodlands, evergreen forests, river floodplain-arroyo habitats, and desert scrub.	**Presumed absent.** There is no suitable roosting habitat within the Project Areas or in the buffer. No CNDDB records occur within 5 miles of the Project Areas.

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PHYLLOSTOMIDAE (leaf-nosed bats)				
Choeronycteris mexicana Mexican long-tongued bat	USFWS: CDFW:	none SSC	Roosts in caves, rock fissures, old mines, and rarely in buildings. Found in desert shrublands, tropical deciduous forests, deep mountain canyons with riparian vegetation, oak-conifer woodlands and forests.	**Presumed absent.** There is no suitable roosting habitat within the Project Areas or in the buffer; however, there is suitable foraging habitat. No CNDDB records occur within 5 miles of the Project Areas.
Macrotus californicus California leaf-nosed bat	USFWS: CDFW:	none SSC	Roosts in caves, abandoned mines, or natural rock fissures in canyons during the day. May roost in buildings, under bridges, or in porches during the night. Found in lowland desert scrub. Foraging usually takes place in dry desert washes.	**Low.** There is no suitable roosting habitat within the Project Areas or in the buffer; however, there is suitable foraging habitat. No CNDDB records occur within 5 miles of the Project Areas.
VESPERTILIONIDAE (evening bats)				
Antrozous pallidus pallid bat	USFWS: CDFW:	none SSC	Roosts in rock crevices, caves, mines, buildings, bridges, and in trees. Generally, in mountainous areas, lowland desert scrub, arid grasslands near water and rocky outcrops, and open woodlands.	**Low.** There is no suitable roosting habitat within the Project Areas or in the buffer; desert scrub provides suitable foraging habitat. No CNDDB records occur within 5 miles of the Project Areas.
Corynorhinus townsendii Townsend's big-eared bat	USFWS: CDFW:	none SSC	Roosts in mines, caves, buildings, or other crevices, sometimes trees. Usually requires large crevices. Most common in moist areas or those with access to water.	**Presumed absent.** There is no suitable roosting habitat within the Project Areas and buffer. No CNDDB records occur within 5 miles of the Project Areas.
Lasiurus xanthinus western yellow bat	USFWS: CDFW:	none SSC	Roosts in trees, particularly palms, in desert wash, desert riparian, valley foothill riparian, and palm oasis habitats.	**Low.** There is limited suitable roosting habitat within the Project Areas and buffer. No CNDDB records occur within 5 miles of the Project Areas.
BOVIDAE (sheep and relatives)				
Ovis canadensis* ssp. *nelsoni peninsular bighorn sheep	USFWS: CDFW:	**END** **END,** FP	Dry, rocky, low-elevation desert slopes, canyons, and washes from the San Jacinto and Santa Rosa mountains near Palm Springs, California south into Baja California, Mexico.	**Presumed absent.** There is no suitable habitat such as canyons and mountains within the Project Areas and buffer. No CNDDB records occur within 5 miles of the Project Areas.

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CRICETIDAE (New World rats and mice)				
Sigmodon hispidus* ssp. *eremicus Yuma hisbid cotton rat	USFWS: CDFW:	none SSC	Inhabits a variety of habitats, but generally associated with drainage ditches, canals, and seeps vegetated with plants such as arrow weed, saltgrass, common reed, cattails, sedges, tamarisk, heliotrope, and annual grasses. They utilize runways through dense herbaceous growth and nests are built of woven grass. Noted presence in moist agricultural fields.	**Moderate.** There is suitable habitat in and around Coachella Canal adjacent to the Project Areas. No CNDDB records occur within 5 miles of the Project Areas.
HETEROMYIDAE (kangaroo rats, pocket mice and kangaroo mice)				
Perognathus longimembris bangsi Palm Springs pocket mouse	USFWS: CDFW:	none SSC	Occurs in flat or gently sloping habitats of loose or sandy soils, with relatively sparse vegetation.	**Moderate.** There is suitable habitat for this species within the creosote bush scrub. No CNDDB records occur within 5 miles of the Project Areas.

Federal Designations:
(Federal Endangered Species Act, USFWS)

END: Federally-listed, Endangered
THR: Federally-listed, Threatened
CAN: Federal Candidate Species
FSC: Federal Species of Concern
FPD: Federal Proposed for Delisting
BCC: Bird of Conservation Concern

State Designations:
(California Endangered Species Act, CDFW)

END: State-listed, Endangered
THR: State-listed, Threatened
CAN: State Candidate Species
SSC: California Species of Special Concern
FP: Fully Protected Species
WL: Watch List

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Biological Technical Report

Vega SES 5 Solar Project

Imperial County, California

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ENVIRONMENTAL CONSULTANTS

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LIST OF ACRONYMS AND ABBREVIATIONS

CFR	Code of Federal Regulations
AOU	American Ornithologists' Union
BCC	Bird of Conservation Concern
BUOW	Burrowing owl

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CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CNPSEI	California Native Plant Society's Electronic Inventory
CRPR	California Rare Plant Rank
CWA	Clean Water Act
ESA	Endangered Species Act
gen-tie	generator intertie
GIS	Geographic Information System
GPS	global positioning system
HCP	habitat conservation plan
IID	Imperial Irrigation District
MBTA	Migratory Bird Treaty Act
MW	megawatt
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
Project	Vega SES 5 Solar Project
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SSAR	Society for the Study of Amphibians and Reptiles
SSC	Species of Special Concern
sUAS	small unmanned aircraft system
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey

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1.0 INTRODUCTION

The Vega SES 5 Solar Project (Project) is located on approximately 405 acres, consisting primarily of two parcels and a portion of a third parcel, in Imperial County, California. ECORP Consulting, Inc. conducted a literature review, small unmanned aircraft system (sUAS) survey, and biological reconnaissance survey of the Project to document the existing biological resources, to assess the habitat for its potential to support sensitive plant and wildlife species, and, as required under the California Environmental Quality Act (CEQA), to determine whether Project-related impacts could occur to sensitive biological resources.

1.1 Purpose of the Report

This report was prepared to describe biological resources in the Project Area and to support Project review under CEQA. Assessment of potential occurrences of special-status plants and animals is based on habitat, geographic and elevational range, and data from field surveys conducted by ECORP in 2020. For the purposes of this report, the term *Project Area* refers to the client supplied Project boundary. The term *Impact Area* refers to the areas proposed to be directly affected by implementation of the Project. The term *Survey Area* refers to the areas proposed to be directly impacted by the Project, the 500-foot buffer, and areas potentially subject to temporary impacts.

1.2 Project Location and Description

The proposed Project is a 50-megawatt (MW) alternating current solar photovoltaic energy project with an integrated 50 MW battery storage utility-scale solar project located on approximately 405 acres, including Imperial County Assessor's Parcel Number 025-260-022-000, 025-260-019-000, and a portion of 025-260-011-000. The Project is approximately 10 miles east of the Salton Sea and five miles west of the Chocolate Mountains (Figure 1). The Project Area is bisected by a railroad right-of-way in the northeastern portion of the site and the East Highline Canal intersects the southwest portion of the site (Figure 2). As depicted on the U.S. Geological Survey (USGS) 7.5-minute Iris topographic quadrangle, the Project is located in Sections 8, 16, 17, 18, 19, and 20 of Township 11 South, Range 15 East, San Bernardino Base and Meridian.

The proposed Project will connect to the closest Imperial Irrigation District (IID) substation through a previously established Imperial Irrigation District generator intertie line.

Topography is relatively flat with elevations ranging between -20 meters (-65 feet) and 22 meters (71 feet) above mean sea level. Adjacent land uses include active agricultural land to the west and Open Space/Bureau of Land Management land to the north, east, and south. The East Highline Canal travels through the Project Area from north to south, and a portion of Siphon Five travels through the northeast portion of the Project Area.

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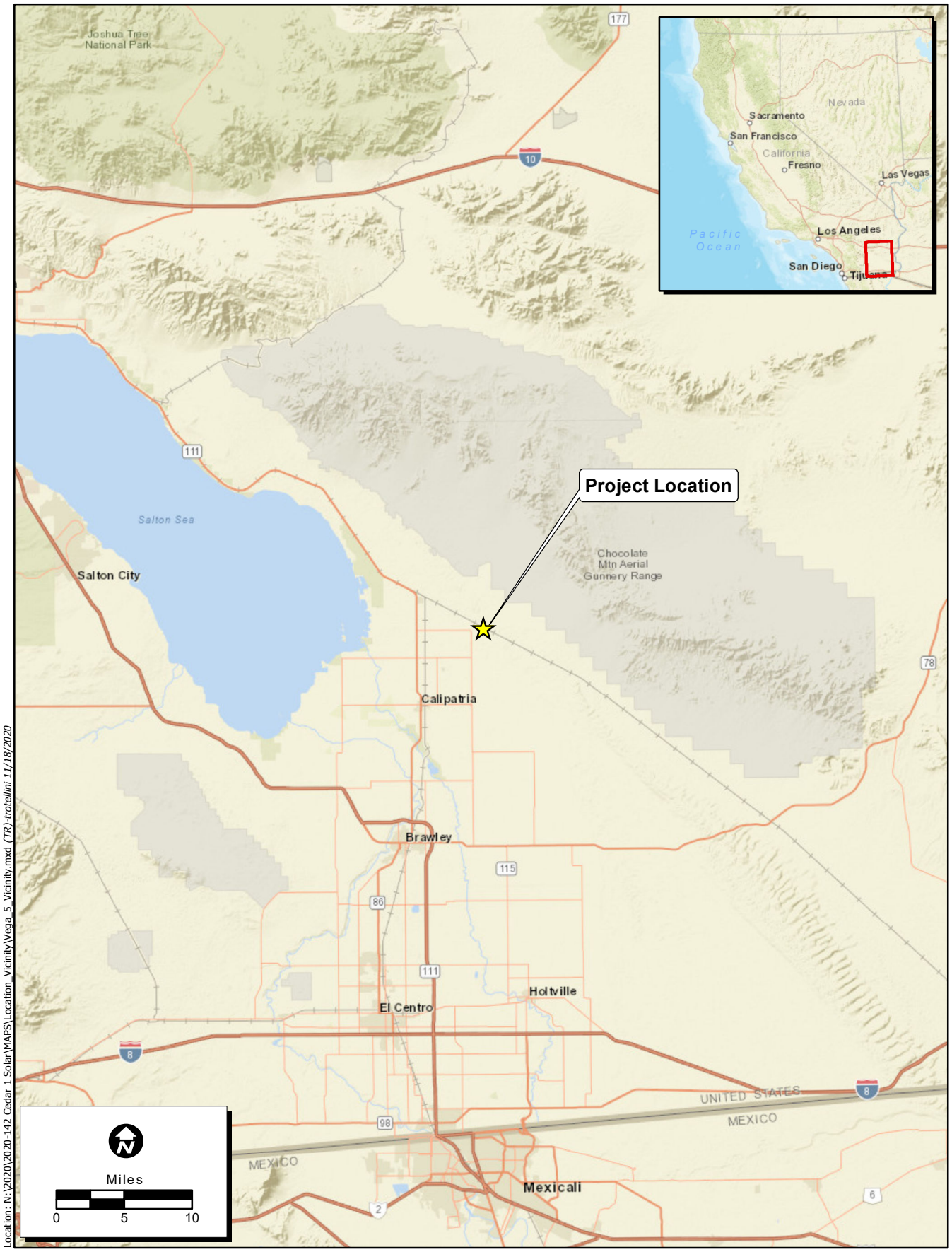

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Sources:

Figure 1. Project Vicinity

2020-144 Vega SES 5

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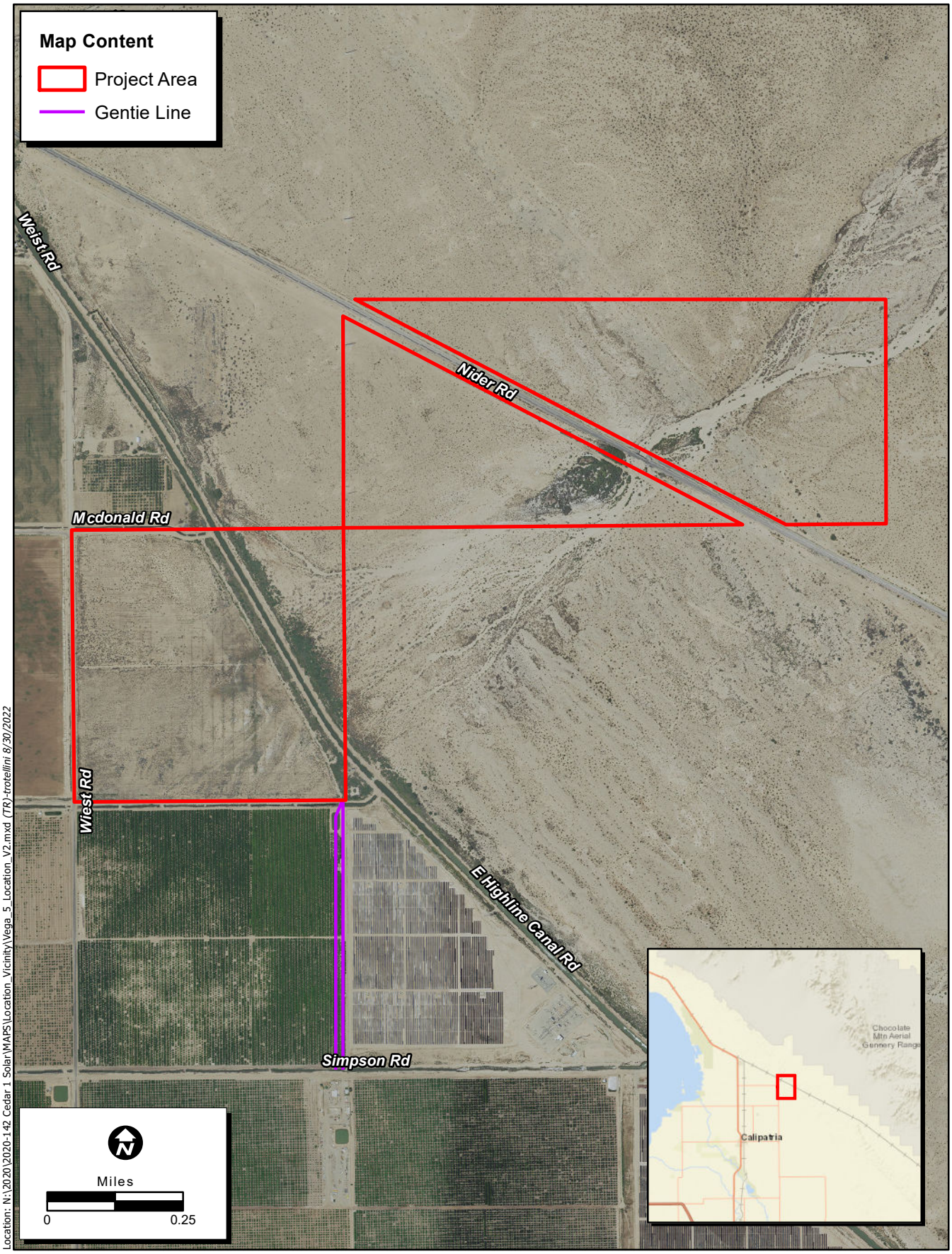

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Map Date: 8/30/2022

*Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community*Photo Source: NAIP

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Figure 2. Project Location

2020-144 Vega SES 5

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2.0 REGULATORY CONSIDERATIONS

The biological reconnaissance survey was conducted to identify potential constraints and to ensure compliance with state and federal regulations regarding listed, protected, and sensitive species could be achieved. The regulations are detailed below.

2.1 Federal Regulations

2.1.1 Endangered Species Act

The federal Endangered Species Act (ESA) protects plants and animals that are listed as endangered or threatened by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service. Section 9 of the ESA prohibits the taking of endangered wildlife, where taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 U.S. Code 1538). Under Section 7 of the ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan (HCP) is developed.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

2.1.3 Clean Water Act

The purpose of the Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into Waters of the U.S. without a permit from the U.S. Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and

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wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The U.S. Environmental Protection Agency (USEPA) acts as a cooperating agency to set policy, guidance and criteria for use in evaluation permit applications and also reviews USACE permit applications.

The USACE regulates "fill" or dredging of fill material within its jurisdictional features. "Fill material" means any material used for the primary purpose of replacing an aquatic area with dry land or changing the bottom elevation of a water body. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the State Water Quality Control Board, administered by each of nine California Regional Water Quality Control Boards (RWQCBs).

2.2 State and Local Regulations

2.2.1 California Endangered Species Act

The California ESA generally parallels the main provisions of the ESA but, unlike its federal counterpart, the California ESA applies the take prohibitions to species proposed for listing (called "candidates" by the State). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California ESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with California Department of Fish and Wildlife (CDFW) to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

2.2.2 Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under federal and/or California ESAs. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code § 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any state agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code §§ 1900-1913) was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW. The Fish and Wildlife Commission has the authority to designate native

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plants as "endangered" or "rare" and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code § 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

2.2.4 Porter Cologne Water Quality Control Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" [Water Code 13260(a)].

Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050[e]). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of Waste Discharge Requirements for these activities.

On April 2, 2019, the SWRCB adopted the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (referred to as the Procedures) for inclusion in the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (Resolution No. 2019-0015). The new Procedures include:

- definition of wetlands and aquatic resources that are Waters of the State,
- description of application requirements for individual orders (not general orders) for water quality certification, or waste discharge requirements,
- description of information required in compensatory mitigation plans, and
- definition of exemptions to application procedures.

The Office of Administrative Law approved the procedures on August 28, 2019, and the rule went into effect May 28, 2020.

2.2.5 Conservation and Open Space Element

Imperial County created the Conservation and Open Space Element plan to provide details and measures for management and preservation of biological resources as well as various other resources (i.e. cultural, soils, minerals). This plan focuses on protecting scarce resources and preventing wasteful exploitation, neglect, and destruction of California's natural resources. The plan outlines areas with sensitive habitat and sensitive species, also labelled "Resource Areas". Open space easements and protection of riparian habitat, rock outcrops, California fan palm oases, and wildlife corridors are also discussed in the plan. As it

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currently stands, the open space element follows CEQA guidelines with special focus on its scarce resources.

2.2.6 California Fish and Game Code

2.2.6.1 Streambed Alteration Agreement

Section 1602 of the California Fish and Game Code requires that a Notification of Lake or Streambed Alteration be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." The CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant is the Streambed Alteration Agreement (SAA). Often, projects that require an SAA also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the SAA may overlap.

2.2.6.2 Migratory Birds

The CDFW enforces the protection of nongame native birds in §§ 3503, 3503.5, and 3800 of the California Fish and Game Code. Section 3513 of the California Fish and Game Code prohibits the possession or take of birds listed under the MBTA. These sections mandate the protection of California nongame native birds' nests and also make it unlawful to take these birds. All raptor species are protected from "take" pursuant to California Fish and Game Code § 3503.5 and are also protected at the federal level by the MBTA of 1918 (USFWS 1918).

2.2.7 CEQA Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;

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- interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional or state HCP.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of an important resource on a population-wide or region-wide basis.

3.0 METHODS

3.1 Literature Review

Prior to conducting the biological reconnaissance survey, ECORP biologists performed a literature review using the CDFW's California Natural Diversity Data Base (CNDDB; CDFW 2020a) and the California Native Plant Society's (CNPS') Electronic Inventory (CNPSEI; CNPS 2020) to determine the special-status plant and wildlife species that have been documented in the vicinity of the Project. The CNDDB and CNPSEI database searches were conducted on September 24, 2020. ECORP searched CNDDB and CNPSEI records within the Project site as depicted on USGS 7.5-minute Iris topographic quadrangle, and the surrounding eight topographic quadrangles: Wister, Iris Wash, Lion Head Mountain, Niland, Tortuga, Westmorland East, Wiest, and Amos. The CNDDB and CNPSEI contain records of reported occurrences of federally or state-listed endangered, threatened, proposed endangered or threatened species, California Species of Special Concern (SSC), and/or other special-status species or habitat that may occur within or in the vicinity of the Project. Additional information was gathered from the following sources and includes, but is not limited to the following:

- U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2020a);
- Special Animals List (CDFW 2020b);
- State and Federally Listed Endangered and Threatened Animals of California (CDFW 2020c);
- The Jepson Manual: Vascular Plants of California (Baldwin et al. 2012);
- The Manual of California Vegetation, 2nd Edition (Sawyer et al. 2009); and

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- various online websites (e.g., CalFlora 2020).

A desktop review of the National Wetlands Inventory (USFWS 2020a) and the corresponding USGS topographic maps was also conducted to determine if there were any blue line streams or drainages that might potentially fall under the jurisdiction of either federal or state agencies were present in the Survey Area.

3.2 Field Survey

3.2.1 sUAS Survey and Vegetation Mapping

Due to the extensive size of the area and limited road access, an initial survey utilizing a small unmanned aircraft system sUAS was conducted to quickly assess current site conditions and gather high resolution imagery. Upon arrival at the site, an initial field reconnaissance was conducted by the drone pilot to obtain an understanding of the site topography, access, vegetation densities, and staging areas for controlling the aerial flights. The drone was programmed to do a systematic flight over the property to collect high-resolution aerial photographs of the entire property. The photos collected were then combined into a single orthomosaic image that was incorporated into mapping files in a Geographic Information System (GIS).

The information gathered from the sUAS/drone survey were then used to assist the biologists with accurate mapping of the vegetation communities. A botanist utilized the high-resolution drone imagery to map vegetation communities. Vegetation classifications were in accordance with *A Manual of California Vegetation* (Sawyer et al. 2009). Vegetation communities that did not fit within the Sawyer classification system were described following Holland or Cowardin (alternative methods). Areas of the site(s) that had already been graded, developed, and/or disturbed were mapped as such. Acreages of each vegetation community were calculated based on GIS data collected during the sUAS survey.

3.2.2 Biological Reconnaissance Survey

The biological reconnaissance survey was conducted by walking the entire Survey Area to determine the vegetation communities and wildlife habitats present within the Survey Area. Private property and inaccessible areas within the buffer were surveyed utilizing 8x42 binoculars. The biologists documented the plant and animal species present in the Survey Area and conditions within the Survey Area were assessed for their potential to provide habitat for special-status plant and wildlife species, including those from the literature review. Data were recorded on global positioning system (GPS) devices, data sheets, and maps. In instances where a special-status species was observed, the date, species, location and habitat, and GPS coordinates were recorded. The locations of special-status species observations were recorded using a handheld GPS in NAD 83, UTM coordinates, Zone 11S. Photographs were also taken during the survey to provide visual representation of the various vegetation communities within the Survey Area. The Survey Area was also examined to assess its potential to facilitate wildlife movement or function as a movement corridor for wildlife moving throughout the region.

Plant and wildlife species, including any special-status species that were observed during the survey, were recorded. Plant nomenclature follows that of *The Jepson Manual: Vascular Plants of California* (Baldwin et

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al. 2012). Wildlife nomenclature follows that of *The American Ornithologists' Union (AOU) Checklist of North American Birds* (AOU 2020), the Society for the Study of Amphibians and Reptiles (SSAR 2017), and the *Revised Checklist of North American Mammals North of Mexico* (Bradley et al. 2014).

3.2.3 Aquatic Resources Delineation

An aquatic resources delineation was conducted by ECORP biologists in conjunction with the biological reconnaissance survey, the results of which are presented under a separate cover (ECORP 2022).

3.3 Potential for Occurrence Determinations

Using information from the literature review and observations in the field, a list of special-status plant and animal species that have potential to occur within the Survey Area was generated. For the purposes of this assessment, special-status species are defined as plants or animals that:

- have been designated as either rare, threatened, or endangered by CDFW, CNPS, or the USFWS, and/or are protected under either the federal or California ESAs;
- are candidate species being considered or proposed for listing under these same acts;
- are fully protected by the California Fish and Game Code, §§ 3511, 4700, 5050, or 5515;
- are of expressed concern to resource and regulatory agencies or local jurisdictions.

Special-status species reported for the region in the literature review or for which suitable habitat occurs on the Survey Area were assessed for their potential to occur within the Survey Area based on the following guidelines:

Present: The species was observed on site during a site visit or focused survey.

High: Habitat (including soils and elevation factors) for the species occurs within the Survey Area and a known occurrence has recently been recorded (within the last 20 years) within five miles of the area.

Moderate: Habitat (including soils and elevation factors) for the species occurs within the Survey Area and a documented observation occurs within the database search, but not within five miles of the area; a historic documented observation (more than 20 years old) was recorded within five miles of the Survey Area; or a recently documented observation occurs within five miles of the area and marginal or limited amounts of habitat occurs in the Survey Area.

Low: Limited or marginal habitat for the species occurs within the Survey Area and a recently documented observation occurs within the database search, but not within five miles of the area; a historic documented observation (more than 20 years old) was recorded within five miles of the Survey Area; or suitable habitat strongly associated with the species occurs on site, but no records or only historic records were found within the database search.

Presumed Absent: Species was not observed during a site visit or focused surveys conducted in accordance with protocol guidelines at an appropriate time for identification; habitat (including soils and

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elevation factors) does not exist on site; or the known geographic range of the species does not include the Survey Area.

Note: Location information on some special-status species may be of questionable accuracy or unavailable. Therefore, for survey purposes, the environmental factors associated with a species' occurrence requirements may be considered sufficient reason to give a species a positive potential for occurrence. In addition, just because a record of a species does not exist in the databases does not mean it does not occur. In many cases, records may not be present in the databases because an area has not been surveyed for that particular species.

4.0 RESULTS

The results of the literature review and field surveys, including site characteristics, vegetation communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors) are summarized below.

4.1 Literature Review

4.1.1 Special-Status Plants and Wildlife

Special-status plants and wildlife species reported for the region in the literature review or for which suitable habitat occurs were evaluated for their potential to occur within the Project Area or in the buffer areas within the Survey Area where indirect impacts could occur. Of all available records, a total of 22 special-status plant species and 23 special-status wildlife species were identified as having the potential for occurrence in the vicinity of the Project site (Attachments B and C).

4.1.2 U.S. Fish and Wildlife Service Designated Critical Habitat

The Project site is not located within any USFWS-designated critical habitat. The closest designated critical habitat is for Peirson's milk-vetch (*Astragalus magdalenae* var. *peirsonii*) located approximately nine miles to the southeast of the Project site, and desert tortoise (*Gopherus agassizii*) critical habitat located approximately 10 miles east of the Project site.

4.2 Biological Reconnaissance Survey

The biological reconnaissance survey was conducted on September 29-30, 2020, by ECORP biologists Christina Congedo and Caroline Garcia. Summarized below are the results of the biological reconnaissance survey, including site characteristics, plants and plant communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors). Weather conditions during the survey are summarized in Table 2.

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Table 1. Weather Conditions During the Survey								
Date	Time		Temperature (˚F)		Cloud Cover (%)		Wind Speed (mph)	
	Start	End	Start	End	Start	End	Start	End
09/29/2020	0630	1400	67	105	0	0	4	3-6
09/30/2020	0640	1200	69	105	0	0	4-5	7

4.2.1 Property Characteristics

The southwestern portion of the Project Area is primarily composed of undeveloped land that was historically used for agriculture. The northeastern section is comprised of an ephemeral drainage and associated wetland and riparian habitats on undeveloped land. The northern border of the Project Area appears to have been graded and/or filled in at several areas near the railroad tracks. The ephemeral drainage system flows southwest under the railroad tracks via a concrete underpass. Riparian habitat lines the banks and bed of the ephemeral drainage system and portions directly north and east of the East Highland canal. Wetlands exist within the riparian habitat directly south of the railroad right-of-way, abutting the ephemeral drainages, connected with Siphon 5. The southwestern portion of the Project Area consists of a fallow agricultural field with ruderal vegetation. The fallow field is bordered to the north and south by two offshoot irrigation channels and a wetland associated with the East Highland canal to the northeast. The Project Area is surrounded to the west, south, and north by agricultural fields and undeveloped land to the east.

Topography throughout the Project Area is relatively flat, but gently slopes from northeast to southwest away from the railroad right-of-way. A soils analysis search was conducted using NRCS soil survey data (NRCS 2020a). Nine soil series occur within the Project Area (Figure 3). These include:

- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 115 - Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes
- 122 - Meloland very fine sandy loam, wet
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 141 - Torriorthents and Orthids, 5 to 30 percent slopes
- 142 - Vint loamy very fine sand, wet
- 144 - Vint and Indio very fine sandy loams, wet
- 145 - Water

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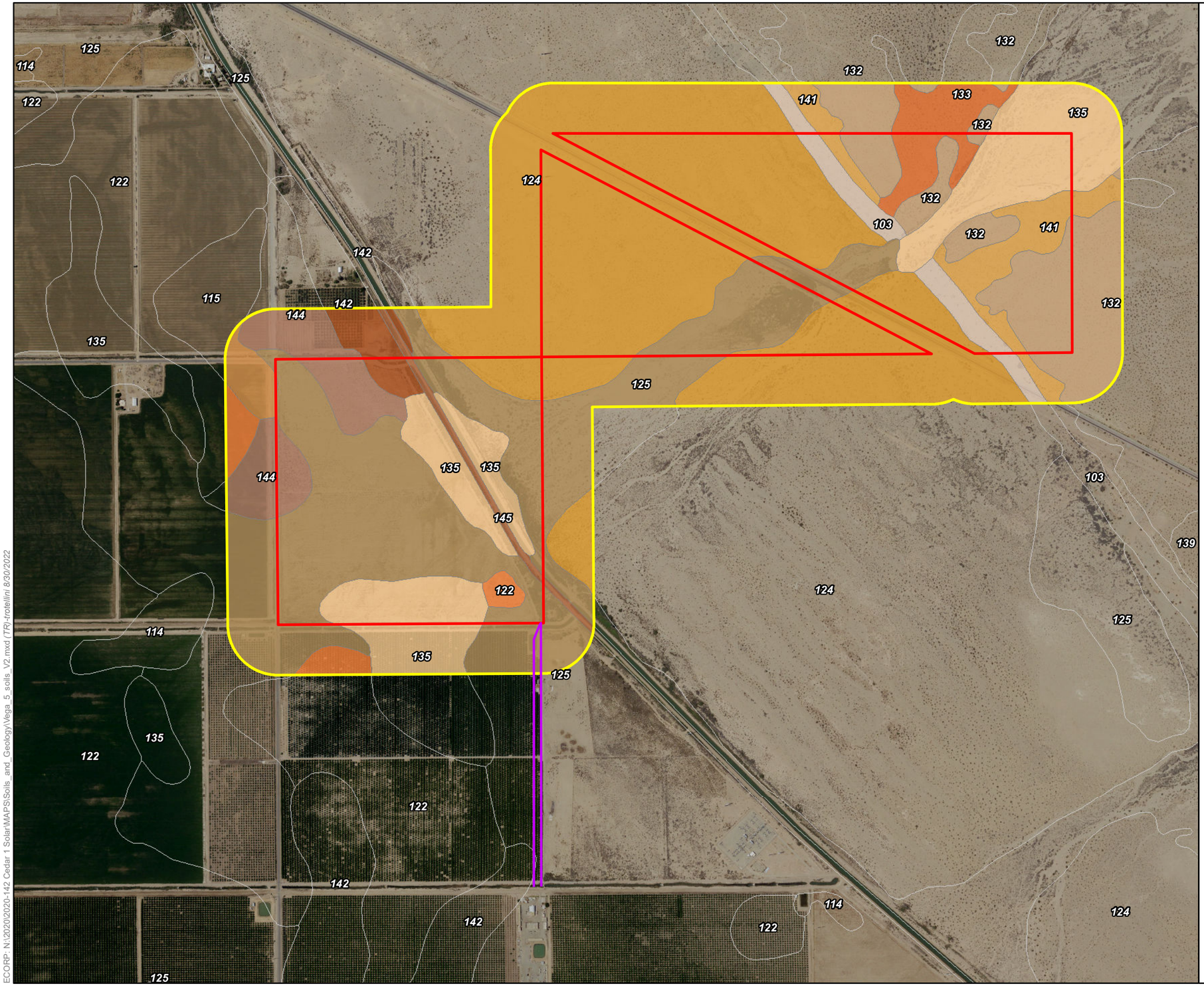


Map Features

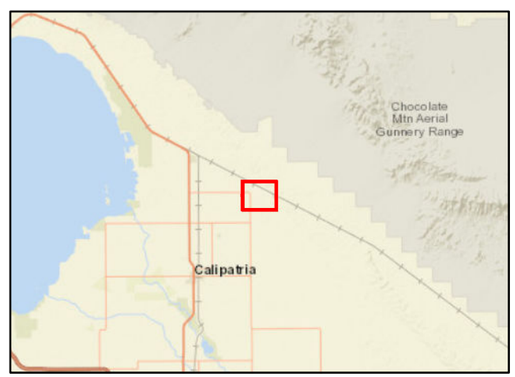
- Project Area
- 500-ft Buffer
- Gentie Line

Series Designation - Series Description

- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 115 - Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes
- 122 - Meloland very fine sandy loam, wet
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 141 - Torriorthents and Orthids, 5 to 30 percent slopes
- 142 - Vint loamy very fine sand, wet
- 144 - Vint and Indio very fine sandy loams, wet
- 145 - Water

Sources: NAIP (2018)

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



ECORP: N:\2020\2020-142 Cedar 1 Solar\MAPS\Soils_and_Geology\Vega_5_soils_V2.mxd (TR) -frotellini 8/30/2022

Map Date: 8/30/2022

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Scale in Feet
0 1,000

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Figure 3. Natural Resources Conservation Service Soil Types

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Both the Niland gravelly sand and Niland gravelly sand, wet soils contain hydric components (NRCS 2020b). The Niland series soils exist on the western and eastern portions of the site and are characterized as well- to moderately well-drained soils with low surface runoff. The Carsitas gravelly sand soil is restricted to the eastern corner of the Project Area and is characterized as deep, excessively drained soil. The Imperial-Glenbar silty clay loam soils are restricted to the northwestern edge of the site and are characterized as moderately well drained soils. The Meloland very fine sandy loam soils are restricted to the southwestern portion of the site and are characterized as moderately well drained with low surface runoff. Vint loamy very fine sand soils exist in the northwestern portion of the site and are characterized as having moderately well-drained soils with very low surface runoff. Vint and Indio very fine sandy loams exist in the northwestern portion of the site and are characterized as having moderately well-drained soils with low surface runoff. The Rositas fine sand soils exist in the western and eastern portions of the site and are characterized as having moderately well-drained with very low surface runoff. The Torriorthents and Orthids soils exist in the northeastern portion of the site and are characterized as having variable permeability and rapid surface runoff.

4.2.2 Vegetation Communities/Land Use

The majority of the Project Area consists of fallow agricultural land and creosote bush scrub. The location of each vegetation community in the Project Area and wider Survey Area are described in detail below and presented in Figure 4. Acreage of each habitat and vegetation community in the Impact Area are shown in Table 2. Representative photographs of the habitats within the Project Area are included within Attachment A.

Table 2. Vegetation Communities and Land Covers in the Impact Area

Vegetation Communities and Land Covers	Acres
Bush seepweed scrub	60.25
Creosote bush scrub	103.26
Fallow agricultural land	101.27
Tamarisk thickets	1.54
Urban/Developed	2.49
Urban/Developed (Roads)	0.30
Impact Area Total	269.11

4.2.2.1 Bush seepweed Scrub (*Suaeda [moquinii] nigra* Shrubland Alliance)

Bush sweepweed scrub is found on flat to gently sloping valley bottoms, bajadas, and toe slopes adjacent to alluvial fans. Bush seepweed scrub is dominated by bush sweepweed, a USFWS Wetland Inventory OBL species (USACE 1996),and can be co-dominant with four-wing saltbush (*Atriplex canescens*) and/or alkali goldenbush (*Isocoma acradenia*). This vegetation community typically has a sparse to intermittent herbaceous layer. On this Project, bush sweepweed dominated the shrub cover with occasional occurrences of four-wing saltbush, arrow weed (*Pluchea sercia*), big saltbush (*Atriplex lentiformis*), alkali goldenbush, and tamarisk (*Tamarix* sp.).

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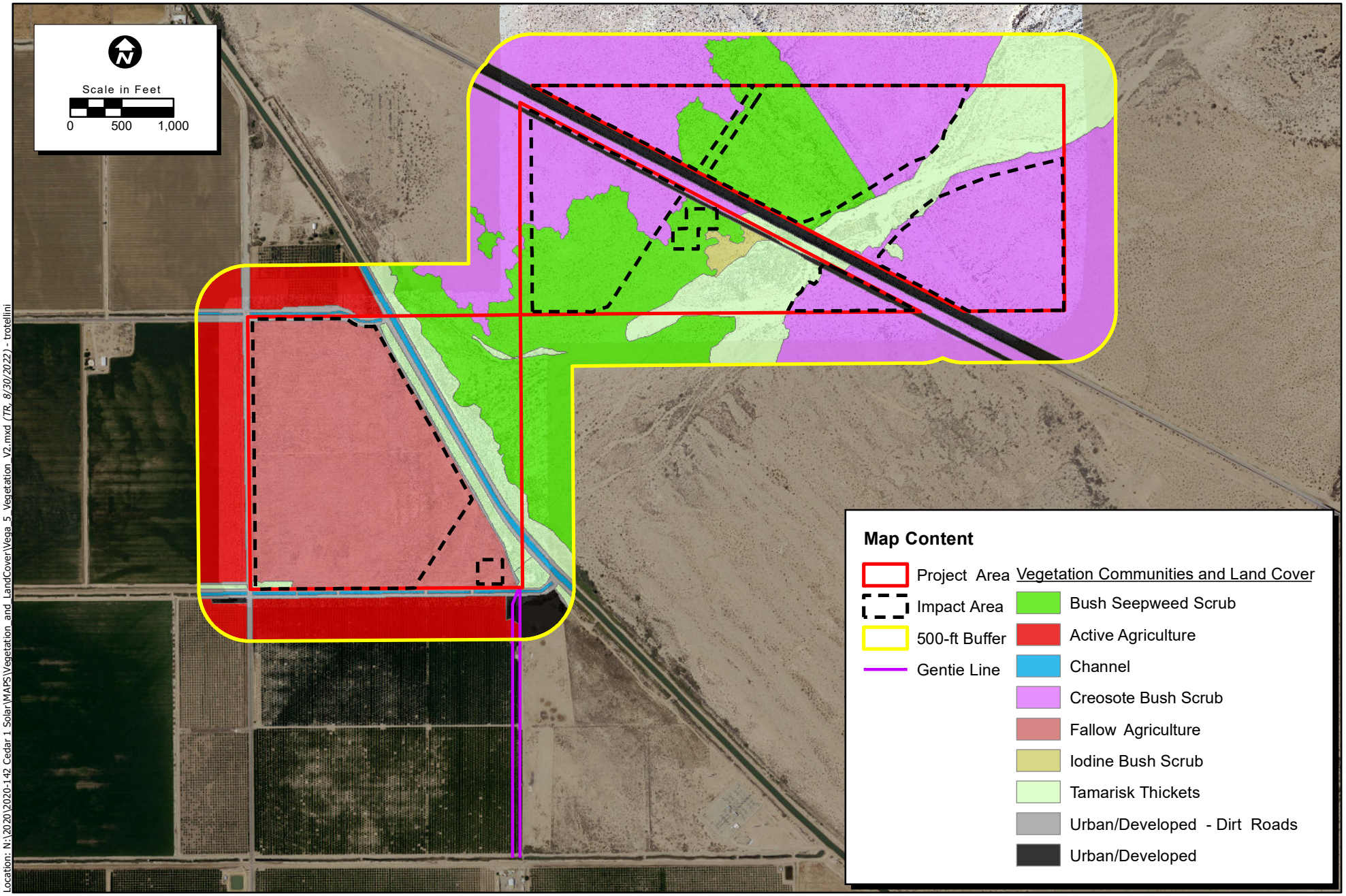

Location: N:\2020\2020-142 Cedar 1 Solar\MAPS\Vegetation_and_LandCover\Vega_5_Vegetation_V2.mxd (TR, 8/30/2022) - trotellini

Map Date: 8/18/2022
Photo Source: NAIP (2018), ECORP UAS Imagery (2020)

Figure 4. Vegetation Communities and Land Covers

4.2.2.2 Creosote Bush Scrub (Disturbed *Larrea tridentata* Shrubland Alliance)

Creosote bush scrub is found on alluvial fans, bajadas, upland slopes, mesas, erosional highlands, basins, and washes. Creosote was typically dominant in the shrub canopy, but occasionally was co-dominant with white bursage, with an absent to intermittent herbaceous layer of seasonal annuals. Other plant species include four-wing saltbush, big saltbush, Mediterranean grass (*Schismus barbatus*) and occasional bush seepweed on the banks of established drainages.

4.2.2.3 Tamarisk Thickets (*Tamarix* spp. Shrubland Semi-Natural Alliance)

Tamarisk thickets are characterized by a weedy monoculture of tamarisk. This habitat is typically in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. On the Project site, tamarisk and arrow weed were often co-dominant in this vegetation community. Other plant species observed include arrow weed, bush seepweed, four-wing saltbush, and big saltbush.

4.2.2.4 Other Land Cover Types

Fallow Agricultural Land

Fallow agricultural lands include remnant signs of row crops with open space between rows. Agricultural lands often occur in upland areas with high soil quality, or floodplains and are almost always artificially irrigated. This land cover was observed in the southern portion of the Project Area. On this Project, the areas consisted primarily of ruderal vegetation including bush seepweed, amaranth (*Amaranthus* sp.), and sudangrass (*Sorghum bicolor* ssp. *drummondii*) and occasional big saltbush.

Urban/Developed

Urban/Developed areas do not constitute a vegetation classification, but rather a land cover type. Areas mapped as developed have been constructed upon or otherwise physically altered to an extent that natural vegetation communities are no longer supported. There may be irrigated landscaped, ornamental species present between the hardscape. On the Project site, this land cover was dominant and consisted primarily of compacted dirt roads, structures, including utility towers.

4.2.2.5 Vegetation Communities and Land Covers within the Survey Area

One additional vegetation community and one additional land cover were observed within the buffer, but not within the Project Area. No impacts are expected as a result of Project-related activities.

Iodine bush scrub (Allenrolfea occidentalis Shrubland Alliance)

Iodine bush scrub is found on playas perched above drainages, seep, and dry lakebed margins. Iodine bush, a USFWS Wetland Inventory FACW+ species (USACE 1996), is dominant in the shrub and herbaceous layers in an open to continuous canopy. Other plant species observed within this community include four-wing saltbush, tamarisk, and bush seepweed.

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Active Agricultural Land

Active agricultural lands include planted, typically monotypic rows of crops of annual and perennial species with open space between rows. Species composition frequently changes by season and year. Agricultural lands often occur in upland areas with high soil quality, or floodplains and are almost always artificially irrigated. This land cover was observed in the southwestern portion of the 500-foot buffer.

4.2.3 Wildlife Observed

Wildlife species and sign observed included bobcat (*Lynx rufus*), burrowing owl (*Athene cunicularia*), American kestrel (*Falco sparverius*), Gambel's quail (*Callipepla gambelii*), turkey vulture (*Cathartes aura),* house finch (*Haemorhous mexicanus*), loggerhead shrike (*Lanius ludovicianus*), black-tailed gnatcatcher (*Polioptila melanura*), desert cottontail (*Sylvilagus audubonii*), black phoebe (*Sayornis nigricans*), white-crowned sparrow (*Zonotrichia leucophrys*), antelope ground squirrel (*Ammospermophilus* sp.*),* coyote (*Canis latrans*), and common side-blotched lizard (*Uta stansburiana*). In addition, potential kangaroo rat (*Dipodomys* sp.) burrows were observed throughout the Survey Area.

4.3 Special-Status Species Assessment

The literature review resulted in 22 special-status plant and 23 special-status wildlife species that historically have been recorded in the vicinity of the Project or that are highly associated with habitat that occurs on the Project site. Special-status plants were evaluated for their potential to occur within the Project limits where impacts could occur. Special-status wildlife were evaluated for their potential to occur within the Survey Area, a broader area which includes the Project Area and buffer, where direct or indirect impacts could occur. Potential for Occurrence tables are included in Attachments B and C.

4.3.1 Plants

Numerous special-status plant species have been recorded within five miles of the Project Area, according to the CNDDB (CDFW 2020a), IPaC (USFWS 2020b), and CNPSEI (CNPS 2020). Of all available records, a total of 22 species were identified as those with the potential for occurrence within the vicinity of the Project Area. Descriptions of the CNPS designations are found in Table 3 and a list of the special-status plant species identified in the literature review is presented following Table 3.

Table 3. CNPS Status Designations

List Designation	Meaning
1A	Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B	Plants Rare, Threatened, or Endangered in California and Elsewhere
2A	Plants Presumed Extirpated in California, But Common Elsewhere
2B	Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3	Plants about which we need more information; a review list
4	Plants of limited distribution; a watch list

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Table 3. CNPS Status Designations	
List Designation	**Meaning**
List 1B, 2, and 4 extension meanings:	
.1	Seriously threatened in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)
.2	Moderately threatened in California (20-80 percent occurrences threatened / moderate degree and immediacy of threat)
.3	Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Note: According to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code (California Department of Fish and Game [CDFG] 1984). This interpretation is inconsistent with other definitions.

4.3.1.1 Plant Species with a High Potential to Occur

Due to the presence of suitable habitat and several known recent occurrences within five miles of the Project Area, the following species were determined to have a high potential to occur:

- Gravel milk-vetch (*Astragalus sabulonum*) is a CNPS California Rare Plant Rank (CRPR) 2B.2 plant species. This species is known to occur at elevations between -60 and 930 meters (-197 and 3,051 feet) and blooms between February and June. Gravel milk-vetch is known to occur in creosote scrub habitat within sandy, sometimes gravelly flats, washes, and roadsides (CNPS 2020). One historic CNDDB record located approximately four miles northwest of the site near the City of Niland. Potential habitat occurs on site for this species in the form of creosote bush scrub habitat.
- Glandular ditaxis (*Ditaxis claryana*) is a CRPR 2B.2 plant species. This species is known to occur at elevations between sea level and 465 meters (sea level and 1,526 feet) and blooms between October and March. Glandular ditaxis is known to occur in creosote scrub habitat within sandy soils (CNPS 2020). One historic CNDDB record located approximately two miles northeast of the site. Potential habitat occurs onsite for this species in the creosote bush scrub habitat.

4.3.1.2 Plant Species with a Moderate Potential to Occur

The following species were found to have moderate potential to occur because habitat (including soils and elevation factors) for the species occurs in the Project Area and a known occurrence exists within the database search, but not within five miles of the Project; or a known occurrence exists within five miles of the site and marginal or limited amounts of habitat occurs in the Project Area:

- Salton milk-vetch (*Astragalus crotalariae*) is a CRPR 4.3 plant species. This species is known to occur at elevations between -60 and 250 meters (197 and 820 feet) and blooms between January and April. Salton milk-vetch is known to occur in creosote scrub habitat within sandy or gravelly soils. Potential habitat occurs onsite for this species in the disturbed creosote bush scrub habitat.
- Borrego milk-vetch (*Astragalus lentiginosus* var. *borreganus*) is a CRPR 4.3 plant species. This species is known to occur at elevations between 30 and 895 meters (98 and 2,936 feet) and

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blooms between February and May. Borrego milk-vetch is known to occur in creosote scrub habitat within sandy soils. Potential habitat occurs on site for this species in the disturbed creosote bush scrub habitat.

- Spiny abrojo (*Condalia globosa* var. *pubescens*) is a CRPR 4.2 plant species. This species is known to occur at elevations between 85 and 100 meters (164 and 279 feet) and blooms between March and May. Spiny abrojo is known to occur in creosote scrub habitat. Potential habitat occurs onsite for this species in the creosote bush scrub habitat.
- Abrams' spurge (*Euphorbia abramsiana*) is a CRPR 2B.2 plant species. This species is known to occur at elevations between -5 and 1,310 meters (16 and 4,298 feet) and blooms between September and November. Abrams' spurge is known to occur in creosote scrub habitat within sandy flats, including playas, fields, disturbed areas, and washes. Potential habitat occurs onsite for this species in the creosote bush scrub habitat.
- Ribbed cryptantha (*Johnstonella costata*) is a CRPR 4.3 plant species. This species is known to occur at elevations between -60 and 500 meters (197 and 1,640 feet) and blooms between February and May. Ribbed cryptantha is known to occur in desert dunes and creosote scrub habitat within sandy soils. Potential habitat occurs onsite for this species in the creosote bush scrub habitat.
- Slender-spined all thorn (*Koeberlinia spinosa* var. *tenuispina*) is a CRPR 2B.2 plant species. This species is known to occur at elevations between 150 and 510 meters (492 and 1,673 feet) and blooms between May and July. Slender-spined all thorn is known to occur in riparian woodland and creosote scrub habitats. Potential habitat occurs onsite for this species in the riparian and creosote bush scrub habitats.
- Slender cottonheads (*Nemacaulis denudata* var. *gracilis*) is a CRPR 2B.2 plant species. This species is known to occur at elevations between -50 and 400 meters (164 and 1,312 feet) and blooms between April and May. Slender cottonheads is known to occur in desert dunes and creosote scrub habitat. Potential habitat occurs onsite for this species in the disturbed creosote bush scrub habitat.
- Sand food (*Pholisma sonorae*) is CRPR 1B.2 plant species. This species is known to occur at elevations between sea level and 200 meters (sea level and 656 feet) and blooms between April and June. Sand food is known to occur in desert dunes and creosote scrub habitat within sandy soils. Potential habitat occurs onsite for this species in the creosote bush scrub habitat.
- Mecca-aster (*Xylorhiza cognata*) is a CRPR 1B.2 plant species. This species is known to occur at elevations between 20 and 400 meters (66 and 1,312 feet) and blooms between January and June. Mecca-aster is known to occur in creosote scrub habitat. Potential habitat occurs onsite for this species in the creosote bush scrub habitat.

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4.3.1.3 Plant Species with Low Potential to Occur

The following species were found to have a low potential to occur on the Project Area because limited habitat for the species occurs on the site and a known occurrence has been reported in the database, but not within five miles of the site, or suitable habitat strongly associated with the species occurs on the site, but no records were found in the database search:

- chaparral sand-verbena (*Abronia villosa* var. *aurita*), CRPR 1B.1
- Harwood's milk-vetch (*Astragalus insularis* var. *harwoodii*), CRPR 2B.2
- Peirson's milk-vetch (*Astragalus magdalenae* var. *peirsonii*), CRPR 1B.2
- pink fairy-duster (Calliandra eriophylla), CRPR 2B.3
- sand evening-primrose (*Chylismia arenaria*), CRPR 2B.2
- Wiggins' croton (*Croton wigginsii*), CRPR 2B.2
- Munz's cholla (Cylindropuntia munzii), CRPR 1B.3
- Algodones Dunes sunflower (*Helianthus niveus* var. *tephrodes*), CRPR 1B.2
- giant Spanish-needle (*Palafoxia arida* var. *gigantea*), CRPR 1B.3
- roughstalk witch grass (*Panicum hirticaule* var. *hirticaule*), CRPR 2B.1
- Coves' cassia (*Senna covesii*), CRPR 2B.1

4.3.2 Wildlife

The literature search documented 23 special-status wildlife species in the vicinity of the Project Area, six of which are federally and/or state listed. Of the 23 special-status wildlife species identified in the literature review, three were present within the Project Area, one was found to have a high potential to occur, three were found to have a moderate potential to occur, and seven were found to have a low potential to occur; the remaining nine species are presumed absent from the Project Area. Descriptions of the federal and state wildlife designations are found in Table 4, and a brief natural history and discussion of the special-status wildlife species found onsite that have a high or moderate potential to occur on the Project Area are provided below. Special-status wildlife species observed during the reconnaissance survey are depicted on Figure 5.

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Table 4. Wildlife Status Designations	
List Designation	**Meaning**
Federal Designation	**Jurisdiction under United States Fish and Wildlife Service (USFWS)**
END	Federally listed as Endangered
THR	Federally listed as Threatened
CAN	Federal Candidate Species
FSC	Federal Species of Concern
FPD	Federal Proposed for Delisting
BBC	Bird of Conservation Concern
State Designation	**Jurisdiction under California Fish and Wildlife Service (CDFW)**
END	State listed as Endangered
THR	State listed as Threatened
SSC	California Species of Special Concern
FP	Fully Protected Species
WL	Watch List

4.3.2.1 Special-Status Wildlife Species Present

The following species were either observed during the reconnaissance survey:

- Black-tailed gnatcatcher is a CDFW WL species. This species is remains in pairs all year, defending permanent territories. Black-tailed gnatcatchers prefer dry washes or desert brush with varied growth of mesquite, acacias, and paloverdes, but are also known to inhabit tamarisk scrub. One individual was observed foraging within the bush seepweed scrub along the railroad right-of-way and another individual was observed foraging within the tamarisk thickets of the Project Area (Figure 5).
- Loggerhead strike is a USFWS Bird of Conservation Concern (BCC) and a CDFW SSC. This species prefers open country with scattered shrubs and trees. They frequent agricultural fields, abandoned orchards, desert scrublands, and riparian areas. One individual was observed perched in the bush seepweed scrub in the center of the Project Area and another individual was observed foraging in the creosote bush scrub in the northwestern portion of the Project Area (Figure 5).

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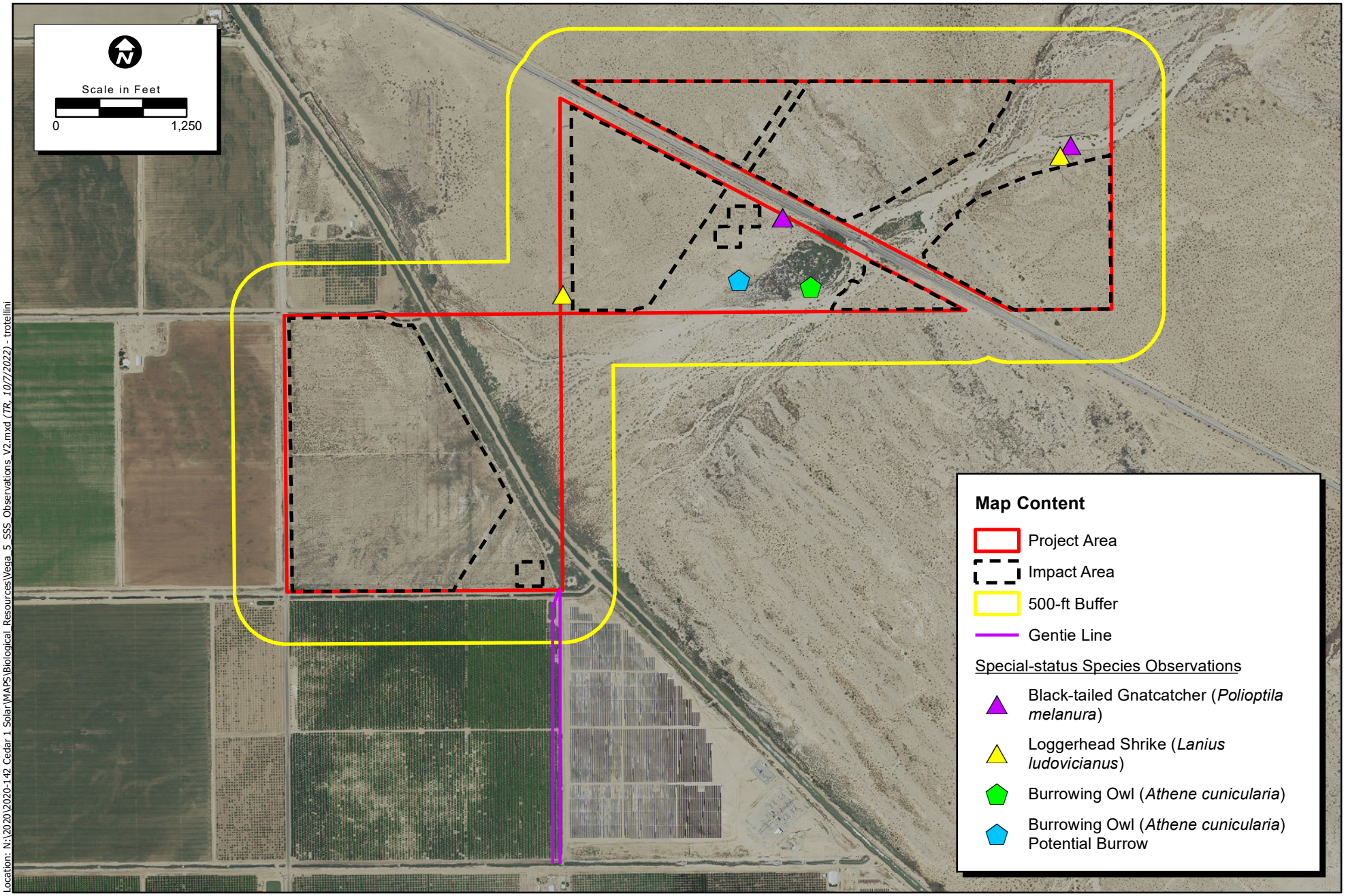

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Map Date: 10/7/2022
Photo Source: NAIP (2020), ECORP UAS Imagery (2020)

Figure 5. Special-status Species Observations

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- Burrowing owl (BUOW) is a USFWS BBC and CDFW SSC. It is typically found in dry open areas with few trees and short grasses; it is also found in vacant lots near human habitation. It uses uninhabited mammal burrows for roosts and nests, often times in close proximity to California ground squirrel colonies. It primarily feeds on large insects and small mammals but will also eat birds and amphibians. The creosote scrub and portions of the riparian habitats provides potential habitat throughout the Project Area and buffer. Ground squirrel burrows that could be utilized by owls were detected within the Project Area. One burrowing owl was observed during the survey and potential burrows were detected within the Project Area. Twelve CNDDB records (2007) occur within five miles of the Project Area, with the closest record overlapping the Project boundary.

4.3.2.2 Special-Status Wildlife Species with a High Potential to Occur

One species was found to have high potential to occur within the Project Area due to the presence of suitable habitat for the species occurring onsite and a known occurrence has been recorded within five miles of the Project Area:

- Mountain plover (*Charadrius montanus*) is a USFWS BCC and a CDFW SSC. This species is most commonly found in grassy semidesert with scattered saltbush, sage, prickly pear, and yucca. It is also found in fallow or recently plowed agricultural fields and in overgrazed landscapes that mimic their natural shortgrass habitat. Three recent CNDDB observations have been recorded within five miles of the Project, the closest observation being approximately two miles away. The old agricultural land west and south of the East Highline Canal provides suitable habitat for the mountain plover.

4.3.2.3 Special-Status Wildlife Species with a Moderate Potential to Occur

Three species were found to have moderate potential to occur within the Project Area because habitat (including soils and elevation factors) for the species occurs onsite and a known occurrence exists within the database search, but not within five miles of the Project Area; or a known occurrence exists within five miles of the site and marginal or limited amounts of habitat occurs within the Project Area:

- California black rail (*Laterallus jamaicensis* ssp. *coturniculus*) is a USFWS BBC, state threatened, and CDFW fully protected species. California black rail are typically found in marsh habitat, including riparian marshes, saltmarshes, and wetlands. This species prefers consistent shallow water within the habitats. There is suitable habitat during the rainy season and shortly after for the California black rail within the wetlands in the Survey Area. There is one recent CNNDB record from 2015 approximately three miles from the Project Area and four historic CNDDB records, two of which are located within the Project Area.

- Merlin (*Falco columbarius*) is a CDFW WL species. This species prefers open and semi-open areas within woodlands near water bodies including rivers, lakes, and wetlands. There are suitable open areas within the upland habitats adjacent to the tamarisk thickets that provide suitable habitat for the merlin. Therefore, wintering individuals have a moderate potential to occur within the Project Area. There is a CNDDB record from 2007 located approximately three miles from the Project Area.

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- Yuma hispid cotton rat (*Sigmodon hispidus eremicus*) is a CDFW SSC. This species occurs in open fields or on the borders of open fields where there is dense grass habitat and/or agricultural fields. There is potential for this species to occur near the East Highline Canal and creosote bush scrub habitat of the Survey Area.

4.3.2.4 Wildlife Species with Low Potential to Occur

Seven species were found to have a low potential to occur within the Project Area because limited habitat for the species occurs onsite and a known occurrence has been reported in the database, but not within five miles of the Project Area, or suitable habitat strongly associated with the species occurs onsite, but no records were found in the database search:

- desert tortoise, federally listed threatened and state listed threatened,
- flat-tailed horned lizard (*Phrynosoma mcallii*), CDFW SSC,
- northern harrier (*Circus hudsonius*), CDFW SSC,
- Yuma Ridgway's rail (*Rallus obsoletus* ssp. *yumanensis*), federally listed endangered, state listed threatened, and CDFW FP,
- California leaf-nosed bat (*Macrotus californicus*), CDFW SSC,
- pallid bat (*Antrozous pallidus*), CDFW SSC, and
- western yellow bat (*Lasiurus xanthinus*), CDFW SSC.

4.3.2.5 Wildlife Species Presumed Absent

The following nine species are presumed absent from the Project due to the lack of suitable habitat within the Project Area:

- razorback sucker (*Xyrauchen texanus*), federally listed endangered, state listed endangered, and CDFW FP,
- Sonoran desert toad (*Incilius alvarius*), CDFW SSC,
- barefoot gecko (*Coleonyx switaki*), state listed threatened,
- western mastiff bat (*Eumops perotis* ssp. *californicus*), CDFW SSC,
- pocketed free-tailed bat (*Nyctinomops femorosaccus*), CDFW SSC,
- Mexican long-tongued bat (*Choeronycteris mexicana*), CDFW SSC,
- big free-tailed bat (*Nyctinomops macrotis*), CDFW SSC,
- Townsend's big-eared bat (*Corynorhinus townsendii*), CDFW SSC, and
- peninsular bighorn sheep (*Ovis canadensis* ssp. *nelson*), federally listed endangered, state listed endangered, and CDFW FP.

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4.4 Wildlife Movement Corridors, Linkages, and Significant Ecological Areas

The concept of habitat corridors addresses the linkage between large blocks of habitat that allow the safe movement of mammals and other wildlife species from one habitat area to another. The definition of a corridor is varied, but corridors may include such areas as greenbelts, refuge systems, underpasses, and biogeographic land bridges, for example. In general, a corridor is described as a linear habitat, embedded in a dissimilar matrix, which connects two or more large blocks of habitat. Wildlife movement corridors are critical for the survivorship of ecological systems for several reasons. Corridors can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas provides for the potential of genetic exchange between wildlife species populations, thereby maintaining genetic variability and adaptability to maximize the success of wildlife responses to changing environmental conditions. This is especially critical for small populations subject to loss of variability from genetic drift and effects of inbreeding. Naturally, the nature of corridor use and wildlife movement patterns varies greatly among species.

The Project Area was assessed for its ability to function as a wildlife corridor. The Project Area has an ephemeral drainage braided system with an associated riparian corridor in the eastern section of the Project that provides cover for migrating and nesting birds. It also provides foraging habitat for raptors and small and large mammals, including rodents and canids. The tamarisk thicket-dominated wetlands located near the canal boundaries are likely utilized by wildlife moving through the area. Therefore, these features and associated riparian habitat would be considered necessary linkages between natural habitat areas to the north and east. The southwestern portion is restricted by the East Highland canal, off-shoot channels, roads, and agricultural fields. Although the canals, roads, and agricultural fields inhibit or deter large mammal movement, avian species and small mammals may forage and pass through these features.

The bush seepweed scrub, iodine scrub, and creosote bush scrub habitats offer little shelter, but moderate-quality foraging habitat. This natural pocket of habitat is semi-open with barriers to the north and south, leaving the terrain accessibility constrained for wildlife access. The eastern portion of the Project Area currently provides wildlife movement opportunities to the northwest and southeast because it consists of open and relatively unimpeded land. However, this portion of the Project would not be considered a wildlife movement corridor that would need to be preserved to allow wildlife to move between important natural habitat areas due to the lack of conserved natural lands in the immediate vicinity and the Project's proximity to farming lands. The Project is surrounded to the north, west, and south by agriculture. The scrub habitat within the Project boundaries is exposed and does not contain any major features that would be considered critical movement corridors for wildlife. Therefore, the scrub habitat acts as more of a buffer between agricultural lands and wildlands to the northeast, but not as a corridor for mammals.

5.0 PROJECT IMPACTS

Implementation of the Project has potential to impact creosote bush scrub habitat, bush seepweed scrub, and tamarisk thickets. These communities may provide suitable nesting and foraging habitat for passerines, including California black rail, BUOW, mountain plover, loggerhead strike, black-tailed

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gnatcatcher, raptor foraging habitat, and habitat for Salton milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster. The following recommendations would be required to determine if the Project would result in significant impacts to vegetation communities, special-status plant and wildlife species, jurisdictional waters, and wildlife movement corridors.

5.1.1 Special-Status Species

5.1.1.1 Special-Status Plants

The literature review identified 22 special-status plant species that have the potential to occur within the Project Area. However, 11 of these plant species have a low potential to occur due to limited suitable habitat. These species include chaparral sand-verbena, Hardwood's milk-vetch, Peirson's milk-vetch, Munz's cholla, pink fairy-duster, sand evening-primrose, Wiggins' croton, Algodones Dunes sunflower, giant Spanish-needle, roughstalk witch grass, and Coves' cassia.

There is moderate or high potential for 11 rare plant species (i.e. Salton's milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster) to be present within the Project Area. Suitable habitat for these species is present within the washes and creosote bush scrub habitats. Impacts that may occur to the species includes loss of individuals, habitat, and seedbank. Depending on the size of the population, this impact may be significant. Implementation of **BIO-1** and **BIO-2** is recommended to decrease the chances of a significant impact.

5.1.1.2 Special-Status Wildlife

The literature review identified 23 special-status wildlife species that have the potential to occur within the Project Area. However, 16 of these species have a low or no potential to occur due to the lack of suitable and limited habitat within the Project site. Wildlife species that are presumed absent from the Project Area include: Sonoran desert toad, barefoot gecko, western mastiff bat, pocketed free-tailed bat, Mexican long-tongued bat, Townsend's big-eared bat, big free-tailed bat, and peninsular bighorn sheep. Wildlife species with a low potential to occur include desert tortoise, razorback sucker, flat-tailed horned lizard, northern harrier, Yuma's ridgeway rail, California leaf-nosed bat, pallid bat, and western yellow bat.

Four species have a moderate or high potential to occur within the Project Area, these species are mountain plover, merlin, California black rail, and Yuma hispid cotton rat. Additionally, three special-status wildlife species were observed onsite during the habitat assessment. Black-tailed gnatcatchers, BUOW, and loggerhead strikes were observed in the tamarisk thickets and creosote bush scrub in the northern portion of the Project Site. Direct impacts to these species that could occur include injury, mortality, nest failures, and loss of young. Indirect impacts include loss of nesting and foraging habitat, increase in anthropogenic effects (i.e. noise levels, introduction of invasive/nonnative species, increase in human activity, increase in dust). Impacts to these species could be considered significant; therefore, implementation of **BIO-2**, **BIO-3**, **BIO-4**, **BIO-5**, and **BIO-7** is recommended.

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Foraging habitat for a number of raptor species and breeding habitat for numerous passerine species that are protected by the MBTA occurs throughout the Project Area. The site provides nesting habitat for ground-nesting species as well as species that nest in creosote scrub and riparian scrub habitats. Due to the lack of large trees within the Survey Area, there is no suitable nesting habitat for tree-nesting raptor species. Direct impacts to nesting avian species include injury, mortality, loss of young, and nest failure. Indirect impacts include loss of foraging and nesting habitat for passerine and raptors species, increase in noise and human activities, potential introduction of invasive/nonnative species. Implementation of **BIO-4**, **BIO-5**, and **BIO-7** are recommended to mitigate for potential impacts.

5.1.2 Sensitive Natural Communities

The approximately 405-acre site is comprised of fallow agricultural, creosote bush scrub, bush seepweed scrub, tamarisk thickets, and urban/developed land, that would be directly impacted by the Project. Active agricultural land, creosote bush scrub, iodine bush scrub, and tamarisk thickets occur within the Project buffer. In-kind mitigation, up to 3:1 ratio, may be required by CDFW to offset impacts to bush seepweed scrub and tamarisk thickets in order to reduce impacts to less than significant. Implementation of **BIO-7** and **BIO-8** is recommended to reduce potential impacts to a less than significant threshold.

5.1.3 State- and/or Federally Protected Wetlands and Waters

The results of the Aquatic Resources Delineation and discussion of potential impacts on state or federally protected wetlands or Waters of the U.S are discussed in the Aquatic Resources Delineation Report (ECORP 2020), prepared under a separate cover. Implementation of **BIO-6** and **BIO-8** is recommended to mitigate for potential significant impacts.

5.1.4 Wildlife Corridors and Nursery Sites

The Project Area is located adjacent to areas containing existing disturbances (i.e., roads, railroad tracks, and active agricultural land). The majority of the Project site does not contain suitable vegetation or cover to support wildlife movement and is nestled between agricultural and development; therefore, wildlife movement opportunities connecting the Project Site to large, undeveloped natural areas is limited. However, the riparian corridor could act as a potential corridor and nursey site for migrating wildlife species. Therefore, implementation of **BIO-2**, **BIO-4**, **BIO-5**, **BIO-6**, and **BIO-7** are recommended to mitigate for potential significant impacts.

5.1.5 Habitat and Conservation Plans and Natural Community Conservation

The Project will follow the guidelines in Imperial County's Conservation and Open Space Element and meet the requirements outlined in the plan. Consultation with County of Imperial - Department of Planning and Development, USFWS, and CDFW would be required should listed plant and/or wildlife species be found to occur.

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6.0 RECOMMENDATIONS AND MITIGATION MEASURES

The following recommendations have been developed in accordance with the CEQA impacts analysis for the Project (see Section 5) but should not be considered mitigation measures at this point in the Project planning process. These actions are recommended prior to Project implementation:

BIO-1 **Rare Plant Surveys:** Rare plant surveys should be conducted within suitable habitat on the Project Area during the appropriate blooming period for the Salton milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster. The surveys should be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If Project-related impacts to rare plants on the Project site are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements.

BIO-2 **Biological Monitoring:** A qualified biologist should be present to monitor all ground-disturbing and vegetation-clearing activities conducted for the Project. During each monitoring day, the biological monitor should perform clearance survey "sweeps" at the start of each work day that vegetation clearing takes place to minimize impacts on special-status species with potential to occur (including, but not limited to, special-status (i.e. Yuma hispid cotton rat and/or nesting bird species). The monitor will be responsible for ensuring that impacts to special-status species, nesting birds, and active nests will be avoided to the greatest extent possible. Biological monitoring should take place until the Project Site has been completely cleared of any vegetation. If an active nest is identified, the biological monitor should establish an appropriate disturbance limit buffer around the nest using flagging or staking. Construction activities should not occur within any disturbance limit buffer zones until the nest is deemed no longer active by the biologist. If special-status wildlife species are detected during biological monitoring activities, consultation with the USFWS and/or CDFW should be conducted and a mitigation plan should be developed to avoid and offset impacts to these species. Mitigation measures may consist of work restrictions or additional biological monitoring activities after ground-disturbing activities are complete.

BIO-3 **Pre-Construction Surveys for Burrowing Owl:** Pre-construction surveys for burrowing owl should be conducted within the Project Area and adjacent areas prior to the start of ground-

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disturbing activities. The surveys should follow the methods described in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). Two surveys should be conducted, with the first survey being conducted between 30 and 14 days before initial ground disturbance (grading, grubbing, and construction), and the second survey being conducted no more than 24 hours prior to initial ground disturbance. If burrowing owls and/or suitable burrowing owl burrows with sign (e.g., whitewash, pellets, feathers, prey remains) are identified on the Project site during the survey and impacts to those features are unavoidable, consultation with the CDFW should be conducted and the methods described in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFW 2012) for avoidance and/or passive relocation should be followed.

BIO-4 **Pre-Construction Nesting Bird Survey:** If construction or other project activities are scheduled to occur during the bird breeding season (Typically February 1 through August 31 for raptors and March 15 through August 31 for the majority of migratory bird species), a pre-construction nesting-bird survey should be conducted by a qualified avian biologist to ensure that active bird nests, including those for the black-tailed gnatcatcher, BUOW, and loggerhead strike, will not be disturbed or destroyed. The survey should be completed no more than three days prior to initial ground disturbance. The nesting-bird survey should include the Project Area and adjacent areas where Project activities have the potential to affect active nests, either directly or indirectly due to construction activity or noise. If an active nest is identified, the biologist should establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities should not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist.

BIO-5 **Pre-Construction Survey for Special-Status Species:** A pre-construction survey should be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey should take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys should take place regardless of breeding season timing and should focus on identifying the presence of special-status wildlife species present within the Project Area or that were identified as having a high potential to occur within the Project Area. These species include, but are not limited to, mountain plover, California black rail, merlin, Yuma hispid cotton rat, BUOW, black-tailed gnatcatcher, and loggerhead strike. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.

BIO-6 **Aquatic Resources Regulatory Permitting:** If Project-related impacts will occur to areas under the jurisdiction of the USACE, CDFW or RWRCB, a regulatory permit with those agencies is needed prior to the impact occurring. Permitting includes preparation and submittal of a Pre-Construction Notification under Section 404 of the federal Clean Water Act, an Application for Water Quality Certification under Section 401 of the federal Clean

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Water Act and a Notification of Lake or Streambed Alteration under Section 1600 of the California Fish and Game Code. Other items such as finalized project plans, quantities of fill material, supporting technical studies and so on are also submitted along with the applications. As a part of this process, the Project must also identify and approve mitigation through the respective agencies. Mitigation can include onsite or offsite options or could include payment of an in-lieu fee to a conservation organization. Types of mitigation can include restoration, creation, rehabilitation, enhancement or other types of habitat improvement. Typically, the type of mitigation and acreage of mitigation is negotiated with the regulatory agencies during the permitting process.

BIO-7 **Sensitive Habitat Avoidance:** To the greatest extent possible, plans should avoid impacts to bush seepweed scrub and tamarisk thicket habitats to minimize potential impacts to special-status species. Excluding these habitats from the Project should also minimize mitigation and permitting requirements to meet the less than significance threshold.

BIO-8 **Minimization of Impacts to Wetland/Riparian Habitat:** Solar panels, structures, and new access roads should not be placed within 50 feet of wetland and riparian habitat boundaries. A construction buffer of 300 feet should be established around the wetlands and riparian habitat during bird breading season (February 1 – August 31). Prior to construction, fencing should be installed approximately 10 feet from the wetland and riparian habitat boundaries within 50 feet of the Project. Fencing should be easily visible to construction. Plans should clearly delineate access roads and staging areas. The extensive alluvial fan system should not be used as an access road between Project Areas.

The following best management practices are not mitigation measures pursuant to CEQA but are recommended to further reduce impacts to special-status species that have potential to occur on the property:

- Confine all work activities to a pre-determined work area. Prior to the initiation of ground disturbing activities, the project footprint, including laydown and staging areas, will be clearly delineated using fencing. All equipment and materials shall use existing roads and parking areas for equipment staging and laydown.
- To prevent inadvertent entrapment of wildlife during the construction phase of the Project, all excavated, steep-walled holes or trenches more than two feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen fill or wooden planks should be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals.
- Wildlife are often attracted to burrow- or den-like structures, such as pipes and may enter stored pipes and become trapped or injured. To prevent wildlife use of these structures, all construction pipes, culverts, or similar structures with a diameter of four inches or greater should be capped while stored onsite.

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- All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or Project site.
- Use of rodenticides and herbicides on Project site should be restricted. This is necessary to prevent primary or secondary poisoning of wildlife, including burrowing owl and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and federal legislation. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to BUOW.

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LIST OF ATTACHMENTS

Attachment A - Representative Site Photographs

Attachment B - Special-Status Plant Potential for Occurrence Table

Attachment C - Special-Status Wildlife Potential for Occurrence Table

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ATTACHMENT A

Representative Site Photographs

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Photo 1. Cross-section of the ephemeral drainage braided system in the eastern section of the Survey Area, facing east.

Photo 2. Creosote bush scrub within the Project Area, facing east.

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Photo 3. One of the main channels of the ephemeral drainage system in the eastern section of the Project Area, surrounded by tamarisk thickets, with the bridge underpass in the background, facing north.

Photo 4. Bush seepweed scrub in the southwestern section of the Project Area with an ephemeral drainage in the center, facing north.

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Photo 5. Iodine bush scrub of the Project Area with tamarisk thickets in the background, facing southeast.

Photo 6. Fallow agricultural field in southwest section of Project Area, facing south.

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Photo 7. View of the East Highland canal within the Project Area lined with common reed and arrow weed, facing north.

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ATTACHMENT B

Special-Status Plant Potential for Occurrence Table

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Special-Status Plant Species with Potential to Occur within the Project site				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project**
Abronia villosa var. *aurita* chaparral sand-verbena	**USFWS**: None **CDFW**: None **CRPR**: 1B.1 **BLM**: Sensitive	Mar-Sep (75 - 1600)	Chaparral Coastal scrub Desert dunes	**Low:** Limited habitat occurs within the Project site; known occurrence exists within the CNPS nine quadrant search.
Astragalus crotalariae Salton milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 4.3 **BLM**: None	Jan-Apr (-60 - 250)	Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Astragalus insularis var. *harwoodii* Harwood's milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Jan-May (0 – 710)	Desert dunes Mojavean desert scrub	**Low:** Limited habitat occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Astragalus lentiginosus var. *borreganus* Borrego milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 4.3 **BLM**: None	Feb-May (30 – 895)	Mojavean desert scrub Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Astragalus magdalenae var. *peirsonii* Peirson's milk-vetch	**USFWS**: Threatened **CDFW**: Endangered **CRPR**: 1B.2 **BLM**: Federal Threatened	Dec-Apr (60 - 225)	Desert dunes	**Low:** Limited habitat occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Astragalus sabulonum gravel milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Feb-Jun (-60 - 930)	Desert dunes Mojavean desert scrub Sonoran desert scrub	**High:** Habitat for this species occurs within the Project site; historic CNNDB record (1906) approximately 3 miles from the Project.
Calliandra eriophylla pink fairy-duster	**USFWS**: None **CDFW**: None **CRPR**: 2B.3 **BLM**: None	Jan-Mar (120 – 1500)	Sonoran desert scrub	**Low:** Limited habitat occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Chylismia arenaria sand evening-primrose	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Nov-May (-70 – 915)	Sonoran desert scrub	**Low:** Limited habitat occurs within the Project site; known occurrence exists within database.

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Special-Status Plant Species with Potential to Occur within the Project site				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project**
Condalia globosa var. *pubescens* spiny abrojo	**USFWS**: None **CDFW**: None **CRPR**: 4.2 **BLM**: None	Mar-May (85 – 1000)	Sonoran desert scrub	**Moderate:** Habitat occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Croton wigginsii Wiggins' croton	**USFWS**: None **CDFW**: Rare **CRPR**: 2B.2 **BLM**: Sensitive	Mar-May (50 - 100)	Desert dunes Sonoran desert scrub	**Low:** Limited habitat for this species occurs within the Project site; known CNDDB occurrence (1986) approximately 4 miles from the Project.
Cylindropuntia munzii Munz's cholla	**USFWS**: None **CDFW**: None **CRPR**: 1B.3 **BLM**: Sensitive	May (150 – 600)	Sonoran desert scrub	**Low:** Limited habitat for this species occurs within the Project site; known CNDDB occurrence (2017) exists within 1 mile of the Project. This species was not observed during the reconnaissance survey.
Ditaxis claryana glandular ditaxis	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Oct, Dec, Jan, Feb, Mar (0 – 465)	Mojavean desert scrub Sonoran desert scrub	**High:** Habitat for the species occurs in the Project site and a known CNNDB occurrence (1978) has been recorded within one mile of the Project.
Euphorbia abramsiana Abrams' spurge	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Sep-Nov (-5 - 1310)	Mojavean desert scrub Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Helianthus niveus var. tephrodes Algodones Dunes sunflower	**USFWS**: None **CDFW**: Endangered **CRPR**: 1B.2 **BLM**: None	Sep-May (50 - 100)	Desert dunes	**Low:** Limited habitat occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Johnstonella costata ribbed cryptantha	**USFWS**: None **CDFW**: None **CRPR**: 4.3 **BLM**: None	Feb-May (-60 - 500)	Desert dunes Mojavean desert scrub Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Koeberlinia spinosa var. *tenuispina* slender-spined all thorn	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	May-Jul (150 - 510)	Riparian woodland Sonoran desert scrub	**Moderate:** Habitat occurs within the Project site; known occurrence exists within CNPS nine quadrat search.

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Special-Status Plant Species with Potential to Occur within the Project site				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project**
Nemacaulis denudata var. *gracilis* slender cottonheads	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Apr-May (-50 - 400)	Coastal dunes Desert dunes Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Palafoxia arida var. *gigantea* giant Spanish-needle	**USFWS**: None **CDFW**: None **CRPR**: 1B.3 **BLM**: Sensitive	Jan-May (15 - 100)	Desert dunes	**Low:** Limited habitat occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Panicum hirticaule var. *hirticaule* roughstalk witch grass	**USFWS**: None **CDFW**: None **CRPR**: 2B.1 **BLM**: None	Aug-Dec (45 – 315)	Desert dunes Joshua tree woodland Mojavean desert scrub Sonoran desert scrub	**Low:** Limited habitat occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Pholisma sonorae sand food	**USFWS**: None **CDFW**: None **CRPR**: 1B.2 **BLM**: Sensitive	Apr-Jun (0 - 200)	Desert dunes Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Senna covesii Coves' cassia	**USFWS**: None **CDFW**: None **CRPR**: 2B.1 **BLM**: None	Aug-Dec (45 – 1315)	Desert dunes Joshua tree woodland Mojavean desert scrub Sonoran desert scrub	**Low:** Limited habitat occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Xylorhiza cognata Mecca-aster	**USFWS**: None **CDFW**: None **CRPR**: 1B.2 **BLM**: Sensitive	Jan-Jun (20 – 400)	Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project site; known occurrence exists within CNPS nine quadrat search.

California Native Plant Society (CNPS) Rare Plant Ranks:
1B: Plants rare, threatened, and endangered in California and elsewhere.
2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
4: Plants of limited distribution; a watch list.

CNPS Threat Ranks:
0.1: Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2: Fairly threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat)
0.3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Sources:
California Natural Diversity Data Base (CNDDB) (CDFW 2020)
CNPS Rare and Endangered Plant Inventory (CNPS 2020)
Calflora Information on California Plants (Calflora 2020)
IPaC (USFWS 2020)
Special Status Plants (BLM 2015)

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ATTACHMENT C

Special-Status Wildlife Potential for Occurrence Table

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Special-Status Wildlife Species Potential For Occurrence				
Scientific Name Common Name	**Status**		**Habitat Requirements**	**Potential for Occurrence**
VERTEBRATES				
OSTEICHTHYES (BONY FISH)				
CATOSTOMIDAE (suckers)				
Xyrauchen texanus razorback sucker	USFWS: CDFW:	**END** **END,** FP	Rivers and lakes in the southwestern United States	**Presumed absent.** No suitable habitat on site. Perennial canal present in buffer. One historic (1974), but no recent CNDDB record within 5 miles of the site.
AMPHIBIANS				
BUFONIDAE (true toads)				
Incilius alvarius Sonoran Desert toad	USFWS: CDFW:	none SSC	Creosote bush desert scrub, grasslands up into oak-pine woodlands, thorn scrub and tropical deciduous forest in Mexico.	**Presumed absent.** Suitable habitat on site and within the buffer; however, population may be extirpated (Jennings and Hayes 1994). One historic (1916), but no recent CNDDB record within 5 miles of the site.
REPTILES				
GEKKONIDAE (geckos)				
Coleonyx switaki barefoot gecko	USFWS: CDFW:	none **THR**	Arid rocky areas on flatlands, canyons, thorn scrub, especially where there are large boulders and rock outcrops, and where vegetation is sparse.	**Presumed absent.** Habitat such as canyons, thorn scrub, large boulders, and rock outcrops not present on site. No CNDDB records occur within 5 miles of the site.
PHRYNOSOMATIDAE (spiny lizards)				
Phrynosoma mcallii flat-tailed horned lizard	USFWS: CDFW:	none SSC	Desert scrub on sandy flats and valleys with little or no windblown sand, salt flats, and areas with gravelly soils. There are three regional populations of flat-tailed horned lizard in California; two of these (representing the majority of the range in the State) occur in Imperial County. These are on the west side of the Salton Sea/Imperial Valley and on the east side of the Imperial Valley.	**Low.** Suitable habitat on site. No CNDDB records occur within 5 miles of the site.
TESTUDINDAE (land tortoises)				
Gopherus agassizii Mojave desert tortoise	USFWS: CDFW:	**THR** **THR**	Sandy flats to rocky foothills, including alluvial fans, washes and canyons where suitable soils for den construction might be found.	**Low.** Suitable habitat within the site and buffer. Desert tortoise critical habitat is approximately 10 miles northeast of the site. No CNDDB records occur within 5 miles of the site.

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BIRDS				
ACCIPITRIDAE (hawks, kites, harriers, and eagles)				
Circus hudsonius northern harrier	USFWS: CDFW:	none SSC	Undisturbed tracts of grasslands and wetlands with low, thick vegetation. Prefers to breed in dry upland habitats, old fields, grazed meadows, drained marshlands, and high-desert shrubsteppe. Also found in pasturelands, croplands, and open floodplains.	**Low.** Marginally suitable habitat onsite. No nesting habitat onsite. No CNDDB records occur within 5 miles of the site.
CHARADRIIAE (plovers and lapwings)				
Charadrius montanus mountain plover	USFWS: CDFW:	BCC SSC	Shortgrass prairie, especially where blue grama, buffalo grass, and western wheat grass are dominant; and in grassy semidesert with scattered saltbush, sage, prickly pear, and yucca, at elevations ranging from 2,100 to 10,663 feet. Also found in fallow or recently plowed agricultural fields and in overgrazed landscapes that mimic their natural shortgrass habitat.	**High**. Suitable habitat such as agricultural fields onsite. Three CNDDB records occur within 5 miles of the project site with the closest one being two miles away (2011).
FALCONIDAE (falcons and caracaras)				
Falco columbarius merlin	USFWS: CDFW:	none WL	Open and semi-open areas in fragmented woodlots, near rivers, lakes, or bogs, and on lake islands.	**Moderate.** Suitable river and wetland habitat within the site and buffer. One recent CNDDB record (2007) occurs within 3 miles of the site.
LANIIDAE (shrikes)				
Lanius ludovicianus loggerhead shrike (nesting)	USFWS: CDFW:	BCC SSC	Open country with short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns, agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses, and cemeteries.	**Present.** One adult was observed in the southwestern corner of the Project. Suitable habitat such as agricultural fields onsite. One CNDDB record (2007) within 1/10 of a mile of the site.

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POLIOPTILIDAE (gnatcatchers)				
Polioptila melanura black-tailed gnatcatcher	USFWS: CDFW:	none WL	Semiarid and desert thorn scrub habitats. This species is well adapted to dry habitats and tend to be most common in areas with less than 8 inches of annual rainfall. They often live far from streams and other bodies of water.	**Present.** A pair was observed foraging in the tamarisk thickets within the northeastern corner of the Project. Desert scrub habitat within the site is suitable for this species. No CNDDB records occur within 5 miles of the site.
RALLIDAE (rails)				
Laterallus jamaicensis* ssp. *coturniculus California black rail	USFWS: CDFW:	BCC **THR,** FP	Riparian marshes, coastal prairies, saltmarshes, and impounded wetlands. All of its habitats have stable shallow water, usually just 1.2 inches deep at most.	**Moderate.** The presence of riparian habitat and wetlands onsite provides suitable habitat. One recent CNDDB record occurs from 2015. Four historic CNDDB records occur with two being less than 1 mile from the site.
Rallus obsoletus* spp. *yumanensis Yuma Ridgway's rail	USFWS: CDFW:	**END THR,** FP	Consistently found in freshwater marshes that are composed of cattail and bulrush. This emergent vegetation averages greater than 6 feet tall. Water depth tends to be around 3.5 inches deep. Range extends from Nevada, California, and Arizona to Baja California and Sonora Mexico.	**Low.** Presence of the canal and freshwater forested/shrub wetland habitat within the site and buffer could be suitable. No CNDDB records within 5 miles of the site.
STRIGIDAE (owls)				
Athene cunicularia burrowing owl	USFWS: CDFW:	BCC SSC	Open grasslands including prairies, plains, and savannah, or vacant lots and airports. Nests in abandoned dirt burrows.	**Present.** An adult was observed perched on a mound on the border of the tamarisk thickets in the eastern portion of the Project. Twelve CNDDB records occur within 5 miles of the site with the closest overlapping the project boundary. Twelve owls were found in the area in 2007.
MAMMALS				
MOLOSSIDAE (free-tailed bats)				
Eumops perotis* ssp. *californicus western mastiff bat	USFWS: CDFW:	none SSC	Roosts high above ground in rock and cliff crevices, shallow caves, and rarely in buildings. Occurs in arid and semiarid regions including rocky canyon habitats.	**Presumed absent.** No suitable roosting habitat within site or in buffer. No CNDDB records within 5 miles of the site.

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Nyctinomops femorosaccus pocketed free-tailed bat	USFWS: CDFW:	none SSC	Roosts in crevices of outcrops and cliffs, shallow caves, and buildings. Found along rugged canyons, high cliffs, and semiarid rock outcroppings.	**Presumed absent.** No suitable roosting habitat within site or in buffer. No CNDDB records within 5 miles of the site.
Nyctinomops macrotis big free-tailed bat	USFWS: CDFW:	none SSC	Roosts in cliff crevices, and less often in buildings, caves, and tree cavities. Occurs in rocky areas of rugged and hilly country including woodlands, evergreen forests, river floodplain-arroyo habitats, and desert scrub.	**Presumed absent.** No suitable roosting habitat within site or in buffer. No CNDDB records within 5 miles of the site.
PHYLLOSTOMIDAE (leaf-nosed bats)				
Choeronycteris mexicana Mexican long-tongued bat	USFWS: CDFW:	none SSC	Roosts in caves, rock fissures, old mines, and rarely in buildings. Found in desert shrublands, tropical deciduous forests, deep mountain canyons with riparian vegetation, oak-conifer woodlands and forests.	**Presumed absent.** No suitable roosting habitat within site or in buffer; however, there is suitable foraging habitat. No CNDDB records within 5 miles of the site.
Macrotus californicus California leaf-nosed bat	USFWS: CDFW:	none SSC	Roosts in caves, abandoned mines, or natural rock fissures in canyons during the day. May roost in buildings, under bridges, or in porches during the night. Found in lowland desert scrub. Foraging usually takes place in dry desert washes.	**Low.** No suitable roosting habitat within site or in buffer; however, there is suitable foraging habitat. No CNDDB records within 5 miles of the site.
VESPERTILIONIDAE (evening bats)				
Antrozous pallidus pallid bat	USFWS: CDFW:	none SSC	Roosts in rock crevices, caves, mines, buildings, bridges, and in trees. Generally, in mountainous areas, lowland desert scrub, arid grasslands near water and rocky outcrops, and open woodlands.	**Low.** There is a bridge spanning the river in the northeast corner of the Project; however, there was no bat sign observed during the habitat assessment. Desert scrub provides suitable foraging habitat. No CNDDB records within 5 miles of the site.
Corynorhinus townsendii Townsend's big-eared bat	USFWS: CDFW:	none SSC	Roosts in mines, caves, buildings, or other crevices, sometimes trees. Usually requires large crevices. Most common in moist areas or those with access to water.	**Presumed absent.** There is no suitable roosting habitat within the site and buffer. No CNDDB records occur within 5 miles of the site.

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Lasiurus xanthinus western yellow bat	USFWS: CDFW:	none SSC	Roosts in trees, particularly palms, in desert wash, desert riparian, valley foothill riparian, and palm oasis habitats.	**Low.** There is limited suitable roosting habitat within the site and buffer. No CNDDB records occur within 5 miles of the site.
BOVIDAE (sheep and relatives)				
Ovis canadensis* ssp. *nelsoni peninsular bighorn sheep	USFWS: CDFW:	**END** **END,** FP	Dry, rocky, low-elevation desert slopes, canyons, and washes from the San Jacinto and Santa Rosa mountains near Palm Springs, California south into Baja California, Mexico.	**Presumed absent.** There is no suitable habitat such as canyons and mountains within the project site and buffer. No CNDDB records occur within 5 miles of the site.
CRICETIDAE (New World rats and mice)				
Sigmodon hispidus* ssp. *eremicus Yuma hisbid cotton rat	USFWS: CDFW:	none SSC	Inhabits a variety of habitats, but generally associated with drainage ditches, canals, and seeps vegetated with plants such as arrow weed, saltgrass, common reed, cattails, sedges, tamarisk, heliotrope, and annual grasses. They utilize runways through dense herbaceous growth and nests are built of woven grass. Noted presence in moist agricultural fields.	**Moderate.** There is marginally suitable habitat within the site and buffer. No CNDDB records within 5 miles of the Project.

Federal Designations:
(Federal Endangered Species Act, USFWS)

END: Federally-listed, Endangered
THR: Federally-listed, Threatened
CAN: Federal Candidate Species
FSC: Federal Species of Concern
FPD: Federal Proposed for Delisting
BCC: Bird of Conservation Concern

State Designations:
(California Endangered Species Act, CDFW)

END: State-listed, Endangered
THR: State-listed, Threatened
CAN: State Candidate Species
SSC: California Species of Special Concern
FP: Fully Protected Species
WL: Watch List

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Aquatic Resources Delineation

Vega SES 2 and 3 Solar Projects

Imperial County, California

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LIST OF ACRONYMS AND ABBREVIATIONS

°F	Degrees Fahrenheit
APN	Assessor's Parcel Number
APT	Antecedent Precipitation Tool
BLM	Bureau of Land Management
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CWA	Clean Water Act
FACW	Facultative wetland
Gen-tie	Generator inter-tie
GIS	Geographic Information System
GPS	Global Positioning System
MW	Megawatt
MWH	Megawatt hour
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NWPR	Navigable Waters Protection Rule
OHWM	Ordinary high-water mark
ORM	OMBIL Regulatory Module
Projects	Vega SES 2 and SES 3 Solar Projects
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
Study Area	Solar Field, Gen-tie lines, and Substations
sUAS	Small unmanned aircraft system
SWQB	Surface Water Quality Bureau
SWRCB	State Water Resources Control Board
TNW	Traditional navigable waters
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency

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LIST OF ACRONYMS AND ABBREVIATIONS

USGS	U.S. Geological Survey
WDR	Waste discharge regulation

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1.0 INTRODUCTION

This aquatic resources delineation report was prepared to describe the aquatic resources at the Vega SES 2 and SES 3 Solar Projects (Projects) in Imperial County, California. The proposed Projects are 100-Megawatt (MW) direct current and 400 MW-hour (MWH) battery storage utility-scale solar projects located on approximately 1,712 acres of vacant land on three parcels in Imperial County, California (Assessor Parcel Numbers [APNs] 025-260-011, 025-010-006, and 025-270-023). As depicted on the U.S. Geological Survey (USGS) 7.5-minute "Iris, California" topographic quadrangle (USGS 1992), the Projects are located within Sections 3, 4, 7, 8, 9, 10, 14, 15, 16, 17, and 18 of Township 11 South, Range 15 East, San Bernardino Base and Meridian.

For the purposes of this report, the Vega 2 and 3 Projects were divided into three Study Areas. The term *Study Area* refers to the Project footprint plus a 500-foot buffer. The term *Impact Area* refers to the areas proposed to be directly affected by implementation of the Projects and corresponds to the client-supplied Project impact boundary. A complete summary of geographic information for each Study Area is provided in Table 1.

The original areas surveyed in 2020 included a larger footprint. The Project Impact Areas were refined in 2022. Therefore, the original 2020 Study Area, including features mapped and sample points collected outside of the updated Impact Areas are shown on the figures to provide context. However, this report is intended to provide information to support USACE review and verification for features within the Impact Area only.

Table 1. Geographic Information Summary

Study Area	Project Name	Accessor's Parcel Number (APN)	Sections	Approximate Center of Study Area
1	SES 2	025-260-011	8, 16, 17	33.212810, -115.432084
2	SES 2 and 3	025-010-006	3, 4, 7, 8, 9, 10, 15, 16, 17, 18	33.224760, -115.414804
3	SES 2	025-270-023	10, 14, 15	33.211691, -115.395183

Study Area 1 includes a battery storage utility-scale solar project located on approximately 448 acres of vacant land within one private parcel in Imperial County.

Study Area 2, also known as the Mesa Grande parcel, includes a battery storage utility-scale solar project located on approximately 640 acres of vacant land within one private parcel in Imperial County. Study Area 3, also known as the Li Tong parcel, includes a battery storage utility-scale solar project located on approximately 624 acres of vacant land within one private parcel in Imperial County. The proposed Projects will connect to previously established Imperial Irrigation District generator intertie lines adjacent to Study Area 1 and 2.

All three Study Areas are approximately 10 miles east of the Salton Sea and four miles west of the Chocolate Mountains (Figure 1. *Project Location and Vicinity*). Driving directions to the Study Areas are included as Attachment A.

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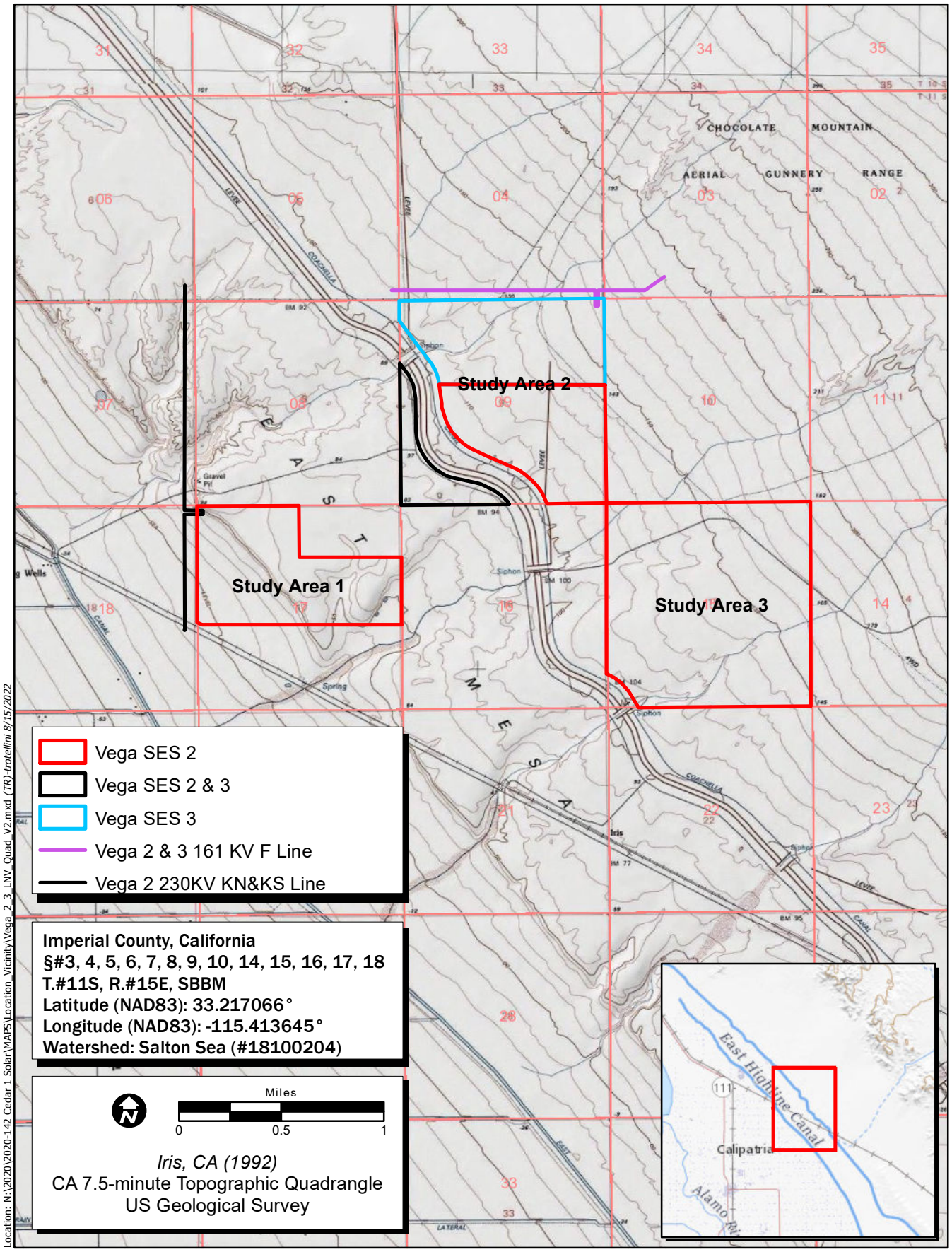

Location: N:\2020\2020-142 Cedar 1 Solar\MAPS\Location_Vicinity\Vega_2_3_LNV_Quad_V2.mxd (TR)-trotellini 8/15/2022

Map Date: 2/23/2021

Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed
Compiled by the Bureau of Land Management (BLM), National Operations Center (NOC), OC-530.

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Figure 1. Project Location and Vicinity

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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This report describes aquatic resources identified within the Impact Areas that may be regulated by the Porter-Cologne Water Quality Act, California Fish and Game Code Sections 1600 and 1602, and the U.S. Army Corps of Engineers (USACE) pursuant to Sections 401 and 404 of the federal Clean Water Act (CWA). The information presented in this report provides data required by the USACE Los Angeles District's *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (USACE 2016). The aquatic resource boundaries depicted in this report represent a calculated estimation of the potentially jurisdictional area within the Impact Areas and are subject to modification following a verification process by each regulating agency.

2.0 REGULATORY SETTING

2.1 Clean Water Act

The USACE regulates discharge of dredged or fill material into waters of the U.S. under Section 404 of the CWA. "Discharges of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to, the following: placement of fill necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes, and subaqueous utility lines [33 CFR § 328.2(f)]. In addition, Section 401 of the CWA (33 U.S. Code 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Substantial impacts to wetlands, over 0.5 acre of impact, may require an individual permit. Projects that only minimally affect wetlands, less than 0.5 acre of impact, may meet the conditions of one of the existing Nationwide Permits. A RWQCB Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for USACE Section 404 permit actions.

Pursuant to the USEPA and USACE memorandum regarding CWA jurisdiction, issued following the U.S. Supreme Court's decision in the consolidated cases Rapanos v. United States and Carabell v. United States (herein referred to as Rapanos), the agencies will assert jurisdiction over the following waters: "Traditional Navigable Waters" (TNW), all wetlands adjacent to TNWs, non-navigable tributaries of TNWs that are "relatively permanent" waters (RPW) (i.e., tributaries that typically flow year-round or have continuous flow at least seasonally), and wetlands that directly abut such tributaries (USEPA and USACE 2007).

Waters requiring a significant nexus determination by the USACE and USEPA to establish jurisdiction include non-navigable tributaries that are not relatively permanent, wetlands adjacent to non-navigable tributaries that are not relatively permanent, and wetlands adjacent to but do not directly abut a relatively permanent non-navigable tributary (USEPA and USACE 2007). The jurisdictional determination is a fact-based evaluation to establish whether a water has a significant nexus with a TNW. The significant nexus analysis will assess the flow characteristics and functions of the non-navigable tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream TNWs (USEPA and USACE 2007).

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2.2 Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Control Act (hereafter referred to as Porter-Cologne Act) provides a framework to protect water quality in California. The Porter-Cologne Act was enacted in 1969 as Division 7 of the Water Code and is the primary water quality law in California. The Porter-Cologne Act addresses two primary functions: water quality control planning and waste discharge regulation (WDR). The State Legislature, in adopting the Porter-Cologne Act, directed that California's waters "shall be regulated to attain the highest water quality which is reasonable" and charges the Water Boards with protecting all waters of California, defined as "any surface water or groundwater, including saline waters, within the boundaries of the State." This encompasses all Waters of the State, including those not under federal jurisdiction.

The Porter-Cologne Act regulates discharges that could affect the quality of water of surface or ground waters, wherever those discharges may occur. Under the Porter-Cologne Act, the Water Board regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" [Water Code 13260(a)]. Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" [Water Code 13050 (e)]. The Porter Cologne Act defines *Waters of the State* very broadly, with no physical descriptors, and no interstate commerce limitation.

The Porter-Cologne Act further requires that anyone who plans to discharge waste where it might affect Waters of the State must first notify the Water Boards. The Water Boards identify the sources of pollutants that threaten water quality under the Porter-Cologne Act and regulate waste discharges that could affect water quality by issuing WDRs. The State Water Resources Control Board (SWRCB) adopted the *State Wetland Definition and Procedures for Discharge of Dredged or Fill Material into Waters of the U.S.* in April 2019. The Water Board regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by USACE due to a lack of connectivity with a navigable water body. The Water Board may require issuance of a WDR for these activities. If a project impacts Waters of the State that do not fall under federal jurisdiction, the applicant need not obtain a section 404 permit or a 401 certification, but instead must receive approval from the Water Boards through the adoption of WDRs.

2.3 California Fish and Game Code Section 1602

Pursuant to Section 1602 of the California Fish and Game Code, a Streambed Alteration Agreement (SAA) application must be submitted for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake" (California Department of Fish and Wildlife [CDFW] 2020). In Title 14 of the California Code of Regulations, Section 1.72, the CDFW defines a *stream* (including creeks and rivers) as:

> "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

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The CDFW's jurisdiction includes drainages with a definable bed, bank, or channel with the jurisdictional limit being the top-of-bank. It also includes areas that support intermittent, perennial, or subsurface flows; supports fish or other aquatic life; or supports riparian or hydrophytic vegetation. It also includes areas that have a hydrologic source.

The CDFW will determine if the proposed actions will result in diversion, obstruction, or change of the natural flow, bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. The CDFW will submit an SAA that includes measures to protect affected fish and wildlife resources; this SAA is the final proposal agreed upon by the CDFW and the applicant.

A summary of federal, state, and local regulations and corresponding regulating agencies are summarized in Table 2.

Table 2. Summary of Federal, State, and Local Regulations

Regulation	Resource	Regulating Agency
Federal Regulations		
Federal Clean Water Act	Aquatic features meeting the definition of Waters of the US	USACE
State Regulations		
California Fish and Game Code Section 1602	River, stream, or lake and associated riparian habitat	CDFW
Porter-Cologne Water Quality Act	Aquatic features meeting the definition of Waters of the State	SWRCB/RWQCB

3.0 METHODS

3.1 Pre-Survey Investigation

Due to the size of the area and limited road access, an initial survey utilizing a small Unmanned Aircraft System (sUAS) was conducted to assess current site conditions and gather high-resolution imagery. The sUAS surveys were conducted on September 9, November 11, and November 17, 2020. Photos collected during the sUAS survey were then combined into a single orthomosaic image that was incorporated into mapping files in a Geographic Information System (GIS). Potential aquatic resources, specifically drainages, within the Impact Area were digitized prior to the field survey using the sUAS imagery. Prior to conducting the field delineations, the following resources were reviewed to identify potential aquatic resources: sUAS imagery, satellite aerial imagery (ESRI 2020; Google Earth 2015; U.S. Department of Agriculture [USDA] 2018), the National Wetlands Database, the online web soil survey (Natural Resources Conservation Service [NRCS] 2020a), and a hydric soils list for the area.

3.2 Field Survey Investigation

This aquatic resources delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a), *A Field Guide to the Identification of the*

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Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008b), the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2010), and the State of New Mexico's *Hydrology Protocol for the Determination of Ephemeral, Intermittent, and Perennial Waters* (Surface Water Quality Bureau [SWQB] 2010). Field data was recorded on Wetland Determination Data Forms - Arid West Region and Arid West OHWM Datasheets. ESRI© and sUAS aerial imagery were used to assist with mapping and ground-truthing. *Munsell Soil Color Charts* (Kollmorgen Instruments Co. 1990) and the Web Soil Survey (Natural Resources Conservation Service [NRCS] 2020a) were used to aid in identifying hydric soils in the field. The Jepson Manual, 2nd Edition (Baldwin et al. 2012) and the USACE National Wetland Plant List (USACE 2018) were used for plant nomenclature and identification.

Digitized feature boundaries identified during the pre-survey investigation were then verified in the field. Feature boundary modifications, if necessary, were made in the field using a post-processing capable global positioning system unit with sub-meter accuracy (EOS Arrow 100 GNSS). Where aquatic features were present, the extent of potential Waters of the U.S. and CDFW-regulated streambed and top-of-bank limits were determined using the OHWM in accordance with USACE requirements and guidelines, as well as SWRCB and CDFW delineation guidance. Streambed widths were based on evidence of OHWM as observed during the field survey, and streambed widths and other lateral limits of jurisdiction were calculated and recorded. Bank-to-bank width measures were also recorded and used as a measure of CDFW jurisdictional boundary where features lacked riparian vegetation. The extent of associated riparian habitat was based on the canopy of the riparian community within or directly adjacent to the streambed that is likely influenced by the hydrology of the streambed. In addition, stream conditions were assessed based on the SWQB protocol to classify features as ephemeral, intermittent, or perennial waters. A combination of hydrological, geomorphic and biological indicators was used to determine the hydrologic nature of each drainage. Each channel was also evaluated for the presence or absence of OHWM field indicators such as bed and bank, a natural line impressed in the bank, sediment deposits, changes in the character of soil, destruction of terrestrial vegetation, litter/debris, leaf litter disturbance, water stains, soil shelving, and exposed roots indicating active hydrology within the channel.

Due to the alluvial fan system within the Impact Areas, ephemeral channels identified during the pre-survey investigation were assessed in the field to determine if active hydrology occurred within the channel. Ephemeral features were assessed on a case-by-case basis and determined to be active or inactive based on the number of OHWM features present and the presence of riparian vegetation. In general, ephemeral features were considered active if the feature exhibited at least two OHWM indicators and supported riparian vegetation. These active ephemeral drainages were mapped upstream of existing riparian vegetation to the extent that two or more OHWM indicators were present. Whereas channels mapped during the pre-survey that only exhibited one OHWM indicator were classified as inactive erosional channels, or rills. Channels classified as active are those that are presumed to regularly transport water during rain events, and channels classified as inactive do not regularly transport water during rain events and are relic remains of large rain events.

The boundaries of the aquatic resources were delineated through standard field methods (e.g., paired sample set analyses) and aerial photograph interpretation. Paired locations were sampled to evaluate

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whether the vegetation, hydrology, and soils data supported an aquatic resource determination. At each paired location, one point was located such that it was within the estimated aquatic resource area, and the other point was situated outside the limits of the estimated aquatic resource area. Additional non-paired locations were sampled to confirm boundaries. All aquatic features observed within the Study Areas were recorded in the field using a post-processing capable Global Positioning System (GPS) unit with sub-meter accuracy (e.g., Juniper Geode™). Feature characteristics and measurements were recorded directly into the data dictionary in the GPS unit. Characteristics of mapped features were also documented in photographs.

Two separate field survey efforts were conducted for the Project by ECORP delineation specialists in 2020 and 2021; the first being a general field reconnaissance of the Study Areas to identify areas supporting potential state and federal jurisdictional waters. The subsequent field surveys and formal delineations were conducted to verify preliminary results observed in the initial survey and to collect additional data and photographs. The Study Areas were visually surveyed to determine the location and extent of aquatic resources, and special attention was given to the features identified during the preliminary survey described above. The initial survey for Study Area 1 was conducted in conjunction with the biological reconnaissance survey on September 29-30, 2020, by Christina Congedo and Caroline Garcia; the subsequent survey was conducted on January 25, 2021, by Christina Congedo and Jessie Beckman. The initial survey for Study Area 2 was conducted in conjunction with the biological reconnaissance survey on November 9-10, 2020 by Greg Hampton and Christina Torres; the subsequent survey was conducted on January 25-27, 2021 by Greg Hampton, Jessie Beckman, and Christina Torres. The initial survey for Study Area 3 was conducted in conjunction with the biological reconnaissance survey on November 11-13, 2020, by Greg Hampton, Caroline Garcia, Jennifer Kendrick, and Christina Torres; the subsequent survey was conducted on January 26-27, 2021, by Christina Congedo, Christina Torres, and Jessie Beckman.

3.3 Post-Processing

The data collected in the field utilized ArcGIS™ Collector on a device (smartphone or tablet) connected to a submeter external receiver. The submeter receiver applies differential correction instantaneously in the field using the Satellite Based Augmentation System. The data were then viewed and analyzed for verification, edited, and compiled in GIS format at the time of download. ArcGIS™ software was used to develop the geodatabase and the shapefiles depicted on the figures included in this report.

4.0 RESULTS

4.1 Existing Site Conditions

Topography for the Study Areas generally consists of gentle slopes with a gradual increase in elevation from the western extent to the eastern extent. The southwest portion of Study Area 1 is slightly below sea level at an elevation of -2 meters (-7 feet), and the eastern extent of Study Area 3 is at an elevation of 55 meters (182 feet) above mean sea level in the Sonoran Desert Region of the Desert Province (Baldwin et. al. 2012). The average winter low temperature in the vicinity of the three Study Areas is 41.7 degrees Fahrenheit (˚F) and the average summer high temperature is 104.7˚F. Average annual precipitation for Imperial, California is approximately 2.90 inches, which falls as rain (National Oceanic and Atmospheric

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Administration [NOAA] 2020a). During the 2019-2020 rain year prior to the field surveys, approximately 4.74 inches of precipitation were recorded at the Imperial, CA weather station located approximately 26 miles southwest of the Study Areas (NOAA 2020b). The most recent significant precipitation event prior to the surveys occurred April 8-11, 2020, with a total of 0.80 inch of rainfall accumulating over four days.

A typical year analysis of the Study Areas via a single point method was conducted using the USACE Antecedent Precipitation Tool (APT, USACE 2021). The APT is an automation tool that utilizes standardized methodology to calculate precipitation normalcy at a given location using publicly available data sources. The APT analysis determines whether precipitation, drought, and other climatic conditions from the previous three months are *wet*, *normal*, or *dry* for the geographic area based on a rolling 30-year period (USEPA 2021). The APT was run for the dates the wetland delineation data were collected between September 29, 2020 and January 27, 2021. The APT demonstrated the site conditions on these dates represent a time of year referenced as the dry season, that the general region and site were in a moderate to severe drought, and that site conditions were normal to drier than normal in climatic conditions.

Study Area 1 is primarily composed of undeveloped land. A railroad right-of-way borders the southwestern portion of the site, and an ephemeral drainage system flows southwest under the railroad via a concrete underpass. A ridgeline that runs northwest-southeast splits the Impact Area, with either side of the ridge descending into lowlands. There is a manmade berm on the north side of the railroad tracks that prevents flow from the western ridgeline from emptying into the ephemeral drainage to the east. The base of the southern side of the ridgeline appears to have been previously graded based on remnant machine tracks, flat terrain, and disconnected drainage features. The ephemeral drainage system (ED-3001) associated with Siphon Five runs northeast-southwest through the southeast corner of Study Area 1. A majority of ED-3001 is located outside of the Impact Area. The East Highline Canal is located approximately 1,070 feet southwest of the Impact Area. Study Area 1 is surrounded to the west by agricultural fields and undeveloped Bureau of Land Management (BLM) land to the north, east, and south.

Study Areas 2 and 3 are primarily composed of undeveloped land. Braided, ephemeral drainage systems associated with Siphon Five and Siphon Six run northeast-southwest through Study Area 2, and braided, ephemeral drainage systems associated with Siphon Four and Siphon Five run northeast-southwest through Study Area 3. An additional berm runs north-south within Study Area 2 and obstructs water flow from continuing southwest, eventually diverting flow into the Siphon Five system. The siphons allow the drainage systems to flow over the Coachella Canal and continue southwest of the Study Areas. The Coachella Canal bisects the western portion of Study Areas 2 and 3, and a manmade berm is situated along the entire east side of the canal. Unlined manmade retention basins are located directly west of and run parallel to the Coachella Canal, and a manmade berm lines the east side of the basins. The basins are enclosed on all sides and therefore have no connectivity to the canal or adjacent siphons. Study Areas 2 and 3 are surrounded by undeveloped BLM to the north, east, west, and south.

4.1.1 Vegetation Communities and Land Cover

The Project supports five vegetation communities: blue palo verde-ironwood (*Parkinsonia florida - Olneya tesota)* woodland, bush seepweed (*Suaeda nigra*) scrub, creosote bush

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(*Larrea tridentata)* scrub, disturbed creosote bush scrub, and tamarisk (*Tamarix* spp.) thickets. One land cover type also occurs within the Impact Area: urban/developed.

Vegetation Communities within the Impact Area

Blue palo verde-ironwood woodland is characterized by blue palo verde or ironwood as a dominant or co-dominant plant species in the tree or tall shrub canopy that is open to continuous. Blue palo verde-ironwood woodland is present throughout large portions of the Impact Area for Study Areas 2 and 3. Other plant species observed within this community included creosote bush, cheesebush (*Ambrosia salsola*), and burrobush (*Ambrosia dumosa*).

Bush seepweed scrub is found on flat to gently sloping valley bottoms, bajadas, and toe slopes adjacent to alluvial fans. Bush seepweed scrub is dominated by bush seepweed, a USFWS Wetland Inventory OBL species (USACE 2018), and can be co-dominant with fourwing saltbush and/or alkali goldenbush (*Isocoma acradenia*). This community was only observed in Study Area 1. Bush seepweed dominated the shrub cover with occasional occurrences of fourwing saltbush and creosote bush.

Creosote bush scrub is dominated by a nearly monotypic stand of creosote bush with an open canopy and an herbaceous layer of seasonal annuals and perennials. This community was dominant in all three Study Areas. Other species that were observed within this community included burrobush, narrow-leaved cryptantha (*Cryptantha angustifolia*), and desert plantain (*Plantago ovata*).

Disturbed creosote bush scrub consists of creosote bush that are co-dominant in the shrub canopy with an absent to intermittent herbaceous layer of seasonal annuals. Within Study Areas 2 and 3, this vegetation cover is characterized as sparser with a high percentage of nonnative plant species including common Mediterranean grass (*Schismus barbatus*) and Saharan mustard (*Brassica tournefortii*). Other plant species observed within this community include desert plantain and fanleaf crinklemat (*Tiquilia plicata*).

Tamarisk thickets are characterized by a weedy monoculture of tamarisk. This habitat is typically in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. Within the Study Areas, tamarisk was often the dominant, with arrow weed (*Pluchea sericea*) occasionally as a co-dominant plant species. Other species observed within this community included popcorn flowers (*Cryptantha* spp.), screw bean mesquite (*Prosopis pubescens*), and Mediterranean grass.

Land Cover Types within the Impact Area

Urban/Developed areas do not constitute a vegetation classification, but rather a land cover type. Areas mapped as developed have been constructed upon or otherwise physically altered to an extent that natural vegetation communities are no longer supported. In the Impact Areas, this land cover consisted primarily of compacted dirt roads and structures. In Study Area 1, an area consisting of bare ground surrounding native scrub was classified as "urban/developed – dirt roads" as this area functioned as a vehicle turnaround.

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4.1.2 Soils

A soils analysis search was conducted using the Web Soil Survey data (NRCS 2020a). The eastern portions of Study Areas 2 and 3 fall within the Colorado Desert Area soil survey; therefore, soil survey data was not available for these portions. According to the Web Soil Survey, 10 soil units, or types, have been mapped within the Study Areas (Figure 2. *Natural Resources Conservation Service Soil Types*). These include:

- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 129 – Pits
- 130 - Rositas sand, 0 to 2 percent slopes
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 139 - Superstition loamy fine sand
- 141 - Torriorthents and Orthids, 5 to 30 percent slopes

The Niland gravelly sand (124), Niland gravelly sand, wet (125), and Pits (129) map units contain hydric minor components (NRCS 2020b). Three water state classes (dry, moist, and wet) are used as soil moisture status entries for map unit components and designate a mean monthly soil water state at a specified depth. A summary of characteristics based on official series descriptions for each of the soil series mapped within the alignments are provided below (NRCS 2020c).

Carsitas Series

The Carsitas series consists of very deep, somewhat excessively drained soils that formed in alluvium from granitoid and/or gneissic rocks. The Carsitas soils are on alluvial fans, fan aprons, valley fills, dissected remnants of alluvial fans and in drainageways. Slopes range from 0 to 30 percent. The mean annual precipitation is about three inches and the mean annual air temperature is about 77°F.

Niland Series

The Niland series is a member of the sandy over clayey, mixed (calcareous), hyperthermic family of Typic Torrifluvents. These soils consist of well and moderately well-drained soils with slopes that formed in coarse mixed alluvium overlying fine alluvium at depths of less than 36 inches. Niland soils typically have stratified gravelly sand and sand overlying silty clay at a depth of 23 inches. Niland soils are on basin and floodplain edges and have slopes that are typically less than one percent, but can range up to five percent.

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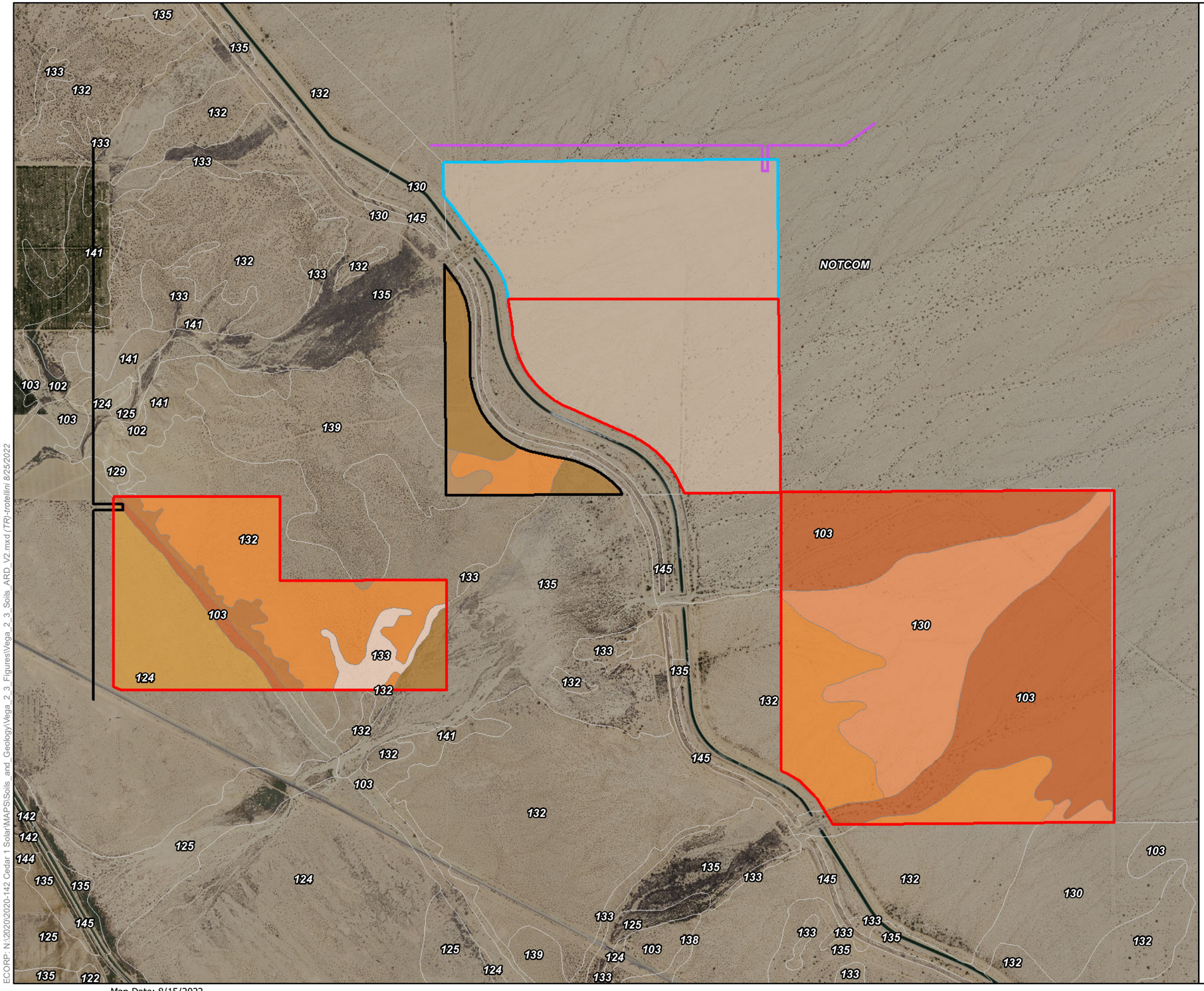


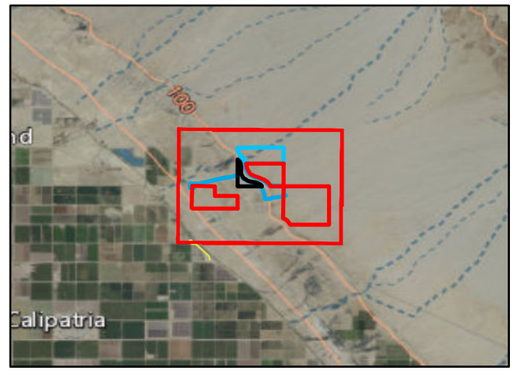
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Series Designation - Series Description

- 102 - Badland
- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 129 - Pits
- 130 - Rositas sand, 0 to 2 percent slopes
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 139 - Superstition loamy fine sand
- 141 - Torriorthents and Orthids, 5 to 30 percent slopes
- 145 - Water
- NOTCOM - No Digital Data Available

Sources: NAIP (2018)
Other Related Info if Needed



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Map Date: 8/15/2022

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Scale in Feet
0 500 1,000 1,500

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Figure 2. Natural Resources Conservation Service Soil Types
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

Rositas Series

The Rositas series is a member of the mixed, hyperthermic family of Typic Torripsamments. These soils consist of very deep, somewhat excessively drained soils. These soils are formed in sandy eolian material and have less than 15 percent coarse and very coarse sand. Rositas soils are on dunes and sand sheets and have slopes that range from 0 to 30 percent. The mean annual precipitation is about four inches and the mean annual air temperature is about 72°F.

Superstition Series

The Superstition series consists of very deep, somewhat excessively drained soils with very low to low runoff and rapid permeability. Superstition soils have slopes of 0 to 10 percent; they are formed in sandy eolian deposits and exist on dunes. The mean annual precipitation is about three inches and the mean annual air temperature is about 74°F.

4.1.3 National Wetland Inventory

According to the National Wetland Inventory (USFWS 2020a), there are several Riverine features mapped within the Impact Areas (Figure 3. *National Wetland Inventory*).

4.1.4 Hydrology

All three Study Areas are within the Salton Sea Watershed (Hydrologic Unit Code #18100204, NRCS et al. 2016). The Study Areas and Chocolate Mountains are part of an alluvial fan drainage system. Alluvial fans occur when stream flow feeds into a system of distributary channels. Infrequent yet intense rainfall causes sheetflood across the fan surface, in which sediment-laden water overflows from the confines of its channel and eventually results in gravel deposits that have the appearance of a network of braided channels (Blatt et. al 1980). A number of these braided channels are fluid in nature and are relic scars that do not actively transport water during rain events. These relic channels would therefore be considered inactive, whereas channels that actively transport water during rain events would be considered active. The alluvial fan drainage system produces ephemeral conditions within the Study Areas following large rain events and contains a network of inactive and active braided channels. In addition, this interconnected drainage system has associated riparian corridors that occur throughout all three Study Areas.

Within the Study Areas, the alluvial fan system directs surface flow from the Chocolate Mountains through the Study Areas to the southwest. Surface flow eventually feeds into the ephemeral drainage features associated with Siphon Four, Siphon Five, and Siphon Six. The siphons direct flow over the Coachella Canal and eventually under the railroad right-of-way in Study Area 1 before ultimately draining into the East Highline Canal and/or associated wetlands. Both the Coachella Canal and East Highline Canal divert water from the All American Canal, which brings water from the Colorado River at the Imperial Dam. The Coachella Canal supplies water to the Coachella Valley north of the Salton Sea, and eventually drains into a manmade storage reservoir known as Lake Cahuilla. Lake Cahuilla is not traditional navigable waters (TNW) per Section 404 of the CWA. The East Highline Canal supplies water to the Imperial Valley via

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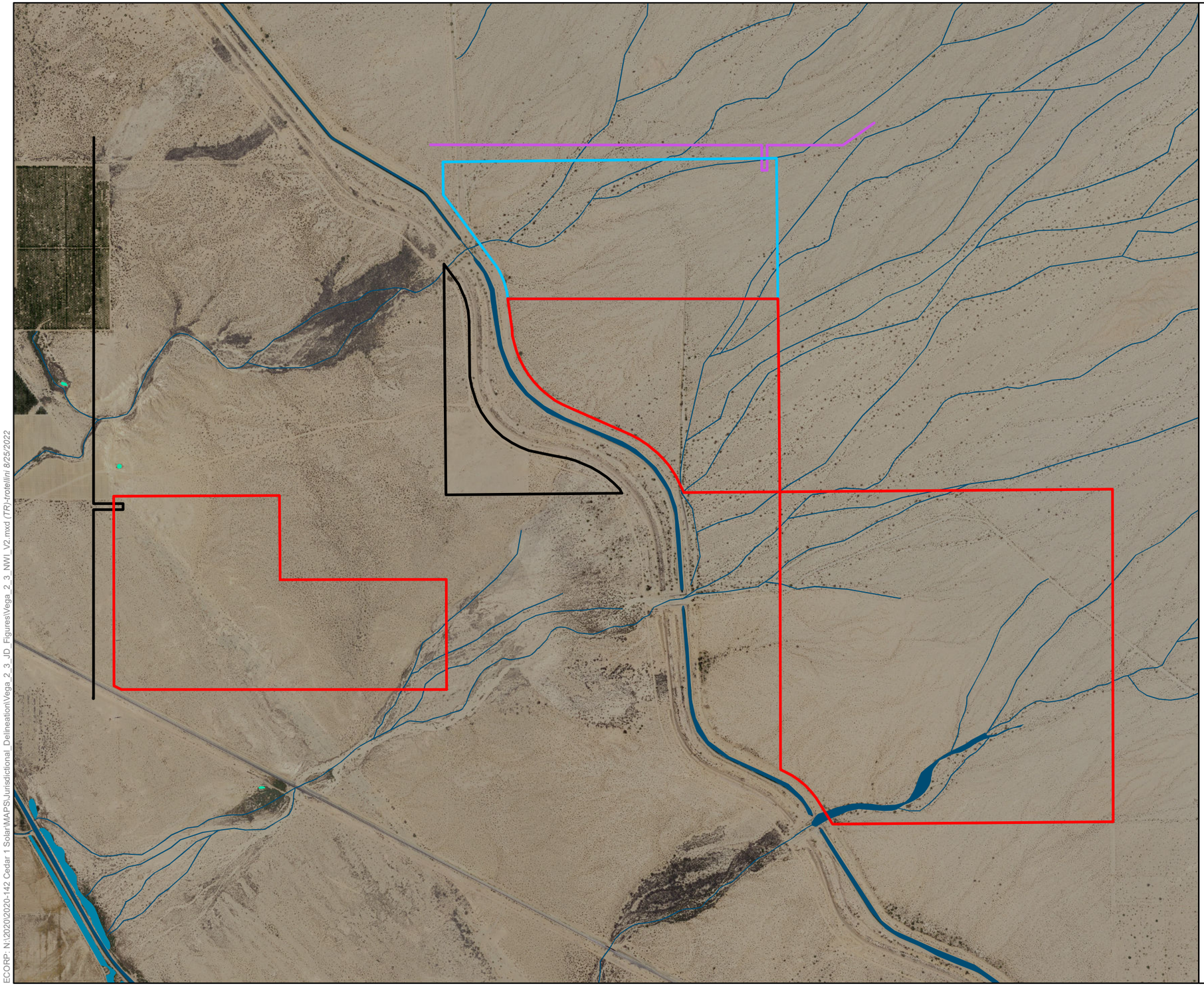


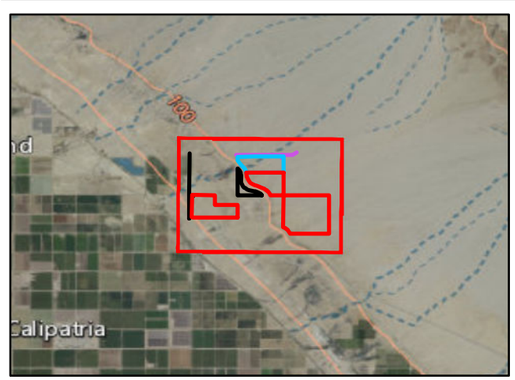
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

NWI Feature Type

- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

Sources: NAIP (2018)
Other Related Info if Needed



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Map Date: 8/15/2022

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Scale in Feet
0 500 1,000 1,500

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Figure 3. National Wetland Inventory

2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

smaller lateral canals and drains that ultimately drain to the Salton Sea. The Salton Sea is TNW per Section 404 of the CWA.

4.2 Aquatic Resources

Aquatic resources have been mapped within the Impact Areas; each resource is summarized by feature in Attachment B and depicted on Figure 4. *Aquatic Resources Delineation*. The regulated limits that are presented in Attachment B serve as an estimate and are subject to agency verification. Features identified as an aquatic resource had wetland indicators present and/or physical evidence of flow including OHWM, presence of riparian vegetation or direct surface connection into features with riparian vegetation, defined bed and bank, scour, presence of a clear and natural line impressed on the bank, disturbance of leaf litter, the presence or absence of sediment deposits, changes in the character of soil, destruction of terrestrial vegetation, and/or exposed roots indicating active hydrology within the channel.

Contiguous riparian habitat associated with nearby aquatic features was mapped, and the associated aquatic feature was also recorded. There were periodic mesquite and blue palo verde individuals scattered across Survey Areas 2 and 3. They were not mapped during this effort as they were part of contiguous riparian habitat. OHWM and Wetland Determination Data Forms are included as Attachment C, representative site photographs are included as Attachment D, the USACE OMBIL Regulatory Module (ORM) aquatic resources table is included as Attachment E, and digital data are provided as Attachment F.

4.2.1 Wetlands

No wetlands were delineated within the Impact Areas.

4.2.2 Other Aquatic Resources (Non-Wetland Waters)

Ephemeral Drainage

Ephemeral drainages are linear features that exhibit a bed and bank and an OHWM. These features typically convey runoff for short periods of time, during and immediately following rain events, and are not influenced by groundwater sources at any time during the year. As previously described, the Impact Areas and adjacent upslope areas are within an alluvial fan drainage system that produces ephemeral conditions with surface waters flowing in direct response to large rain events for short durations. Drainages determined to be active transport surface flow water from the direction of the Chocolate Mountains to the southwest and have connectivity to downstream ephemeral drainages within the Impact Areas. These ephemeral drainages follow the riparian vegetation within the landscape as discussed in Section 4.2.4.

Some of the ephemeral drainages are associated with the Siphons: Siphon 4 (ED-3005), Siphon 5 (ED-3001, ED-3003, ED-3004), and Siphon 6 (ED-3002). These features are documented by OHWM Transects 100, 101, 102, and 200 (Attachment C). These features contained no surface flow at the time of the field assessment and had sparse vegetation within the bed. The OHWM was delineated in the field primarily by changes in sediment texture, vegetation, a natural scour line, bank erosion, and the presence of litter and

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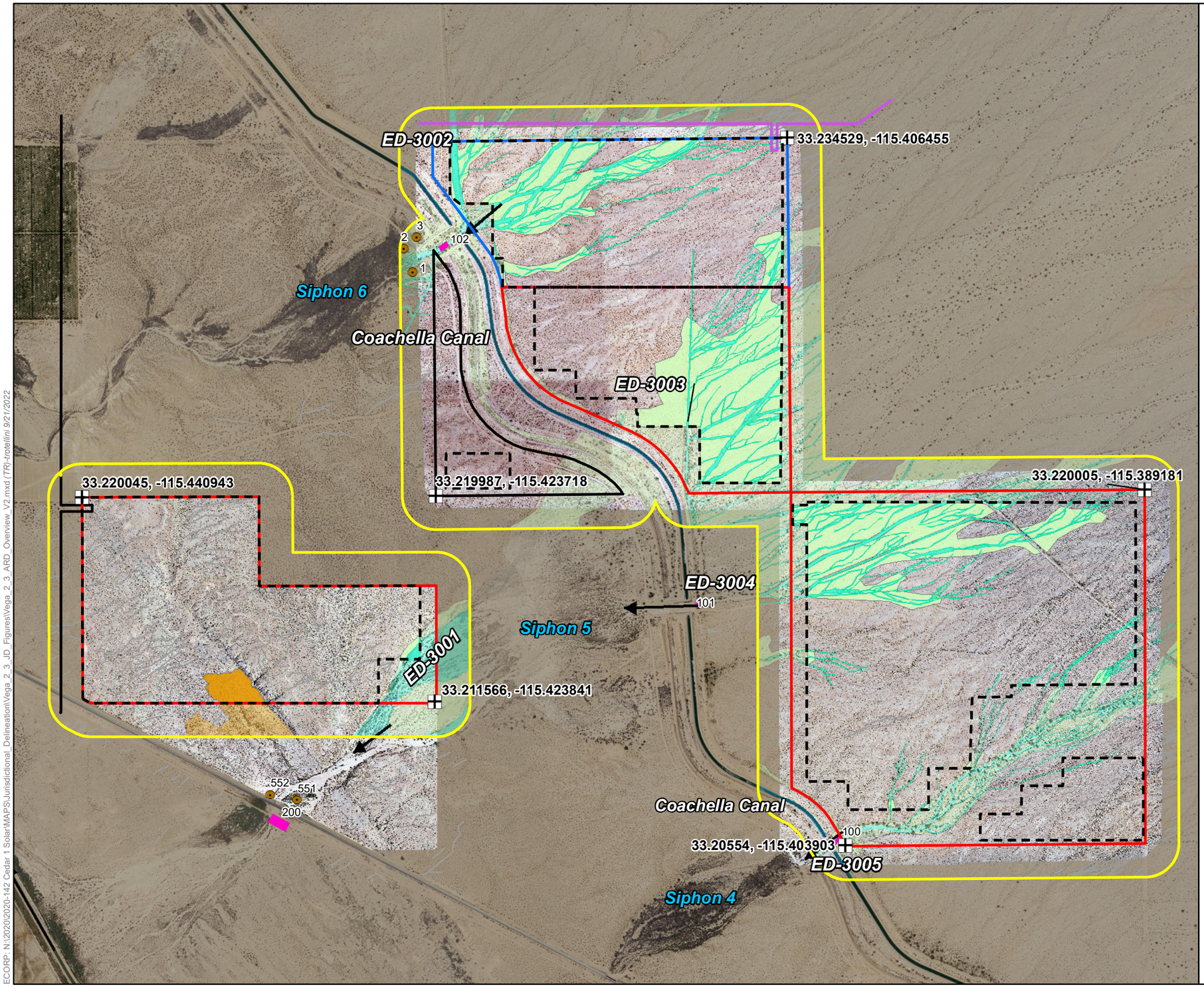


Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 2020 Survey Area
- Impact Area
- Vega 2 & 3 161 KV F Line Vega 2
- 230KV KN&KS Line
- Reference Point
- Flow to TNW
- OHWM Cross Section

Sampling Points

- Other
- Upland Point
- Waters Point

CDFW-Regulated Habitat

- Riparian Habitat
- Alkali Sink

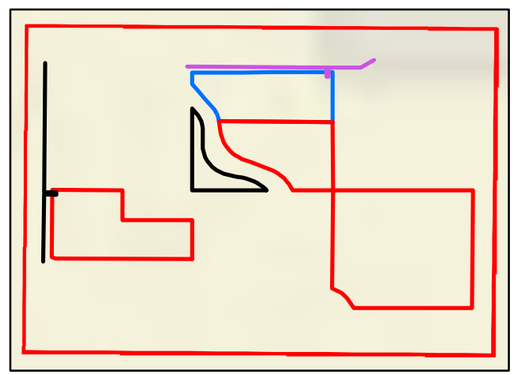
Aquatic Resources

- Ephemeral Drainage *
- Canal

*Ephemeral drainage features within the buffer are displayed to show connectivity; therefore not all features that exist within the buffer are displayed in the figure.

Sources: NAIP (2018), ECORP Dreone Imagery (2020)

Other Related Info if Needed



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Map Date: 9/21/2022

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Scale in Feet
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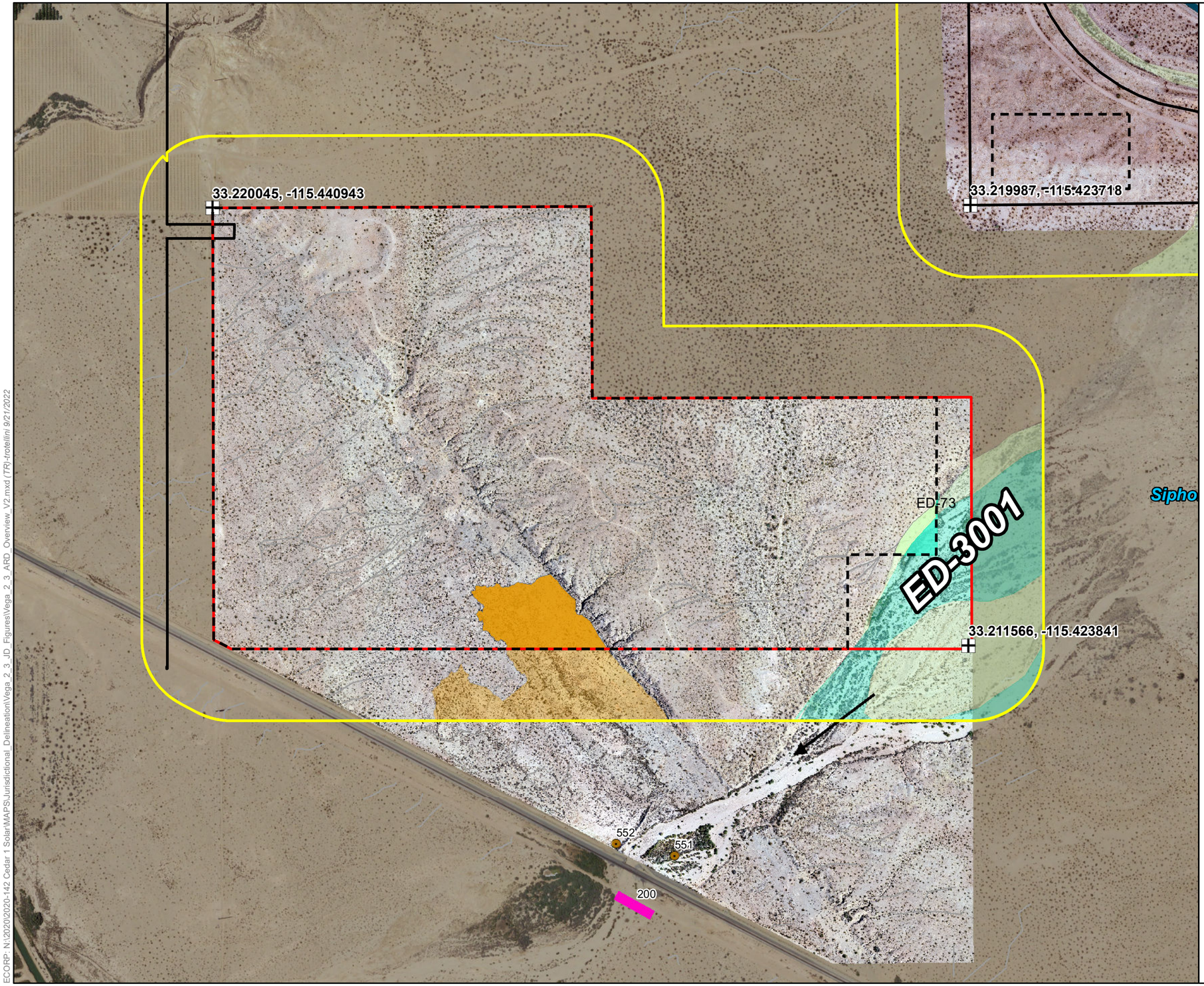
Figure 4. Aquatic Resources Delineation Overview

2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 2020 Survey Area
- Impact Area
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line
- Reference Point
- Flow to TNW
- OHWM Cross Section

Sampling Points

- Other
- Upland Point
- Waters Point

CDFW-Regulated Habitat

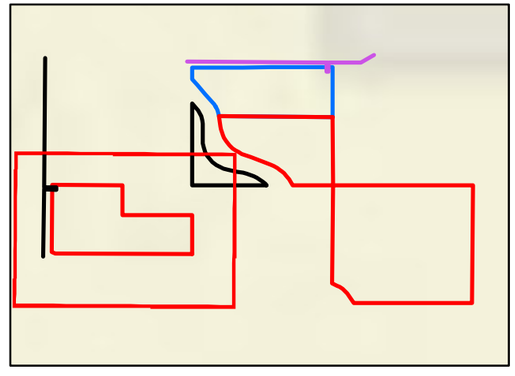
- Riparian Habitat
- Alkali Sink

Aquatic Resources

- Ephemeral Drainage *

*Ephemeral drainage features within the buffer are displayed to show connectivity; therefore not all features that exist within the buffer are displayed in the figure.

Sources: NAIP (2018), ECORP Dreone Imagery (2020)
Other Related Info if Needed



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Map Date: 9/21/2022

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Scale in Feet
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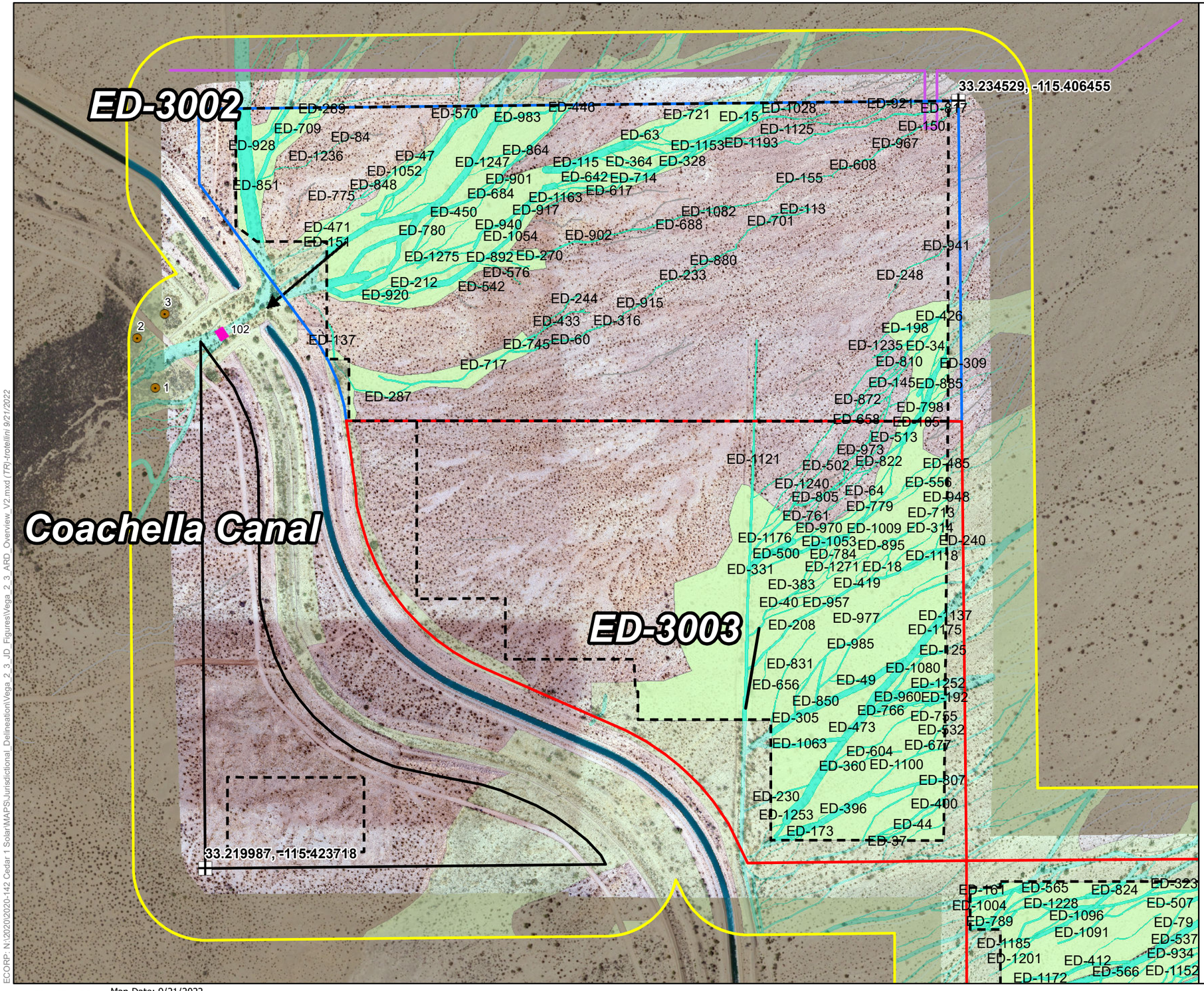
Figure 4. Aquatic Resources Delineation
Study Area 1
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



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Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 2020 Survey Area
- Impact Area
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line
- Reference Point
- Flow to TNW
- OHWM Cross Section

Sampling Points

- Other
- Upland Point
- Waters Point

CDFW-Regulated Habitat

- Riparian Habitat

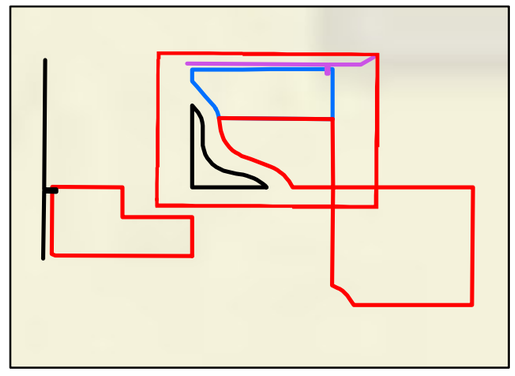
Aquatic Resources

- Ephemeral Drainage *
- Canal

*Ephemeral drainage features within the buffer are displayed to show connectivity; therefore not all features that exist within the buffer are displayed in the figure.

Sources: NAIP (2018), ECORP Dreone Imagery (2020)

Other Related Info if Needed



Map Date: 9/21/2022

ECORP Consulting, Inc.
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Scale in Feet
0 350 700

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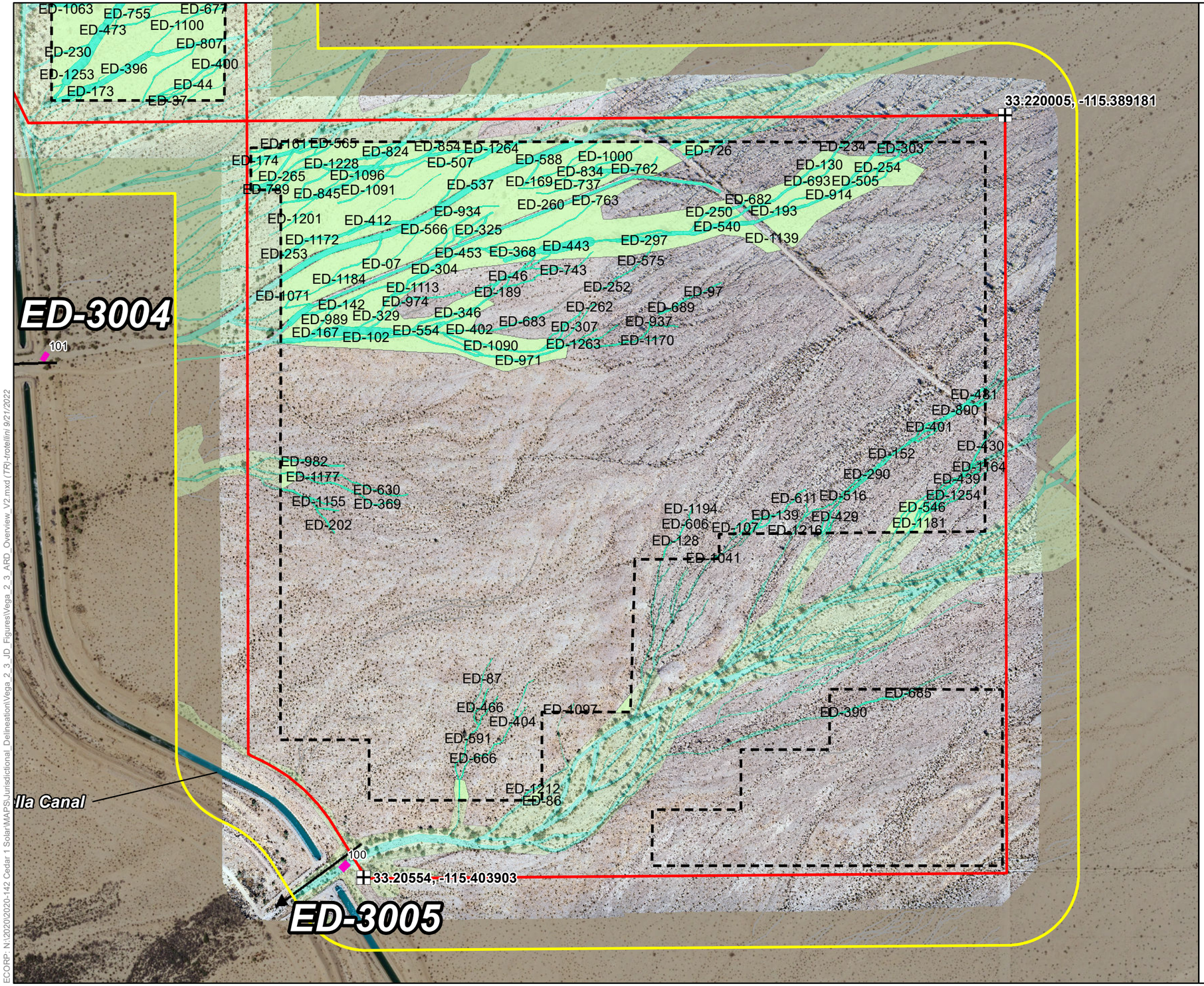
Figure 4. Aquatic Resources Delineation
Study Area 2
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 2020 Survey Area
- Impact Area
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line
- Reference Point
- Flow to TNW
- OHWM Cross Section

Sampling Points

- Other
- Upland Point
- Waters Point

CDFW-Regulated Habitat

- Riparian Habitat

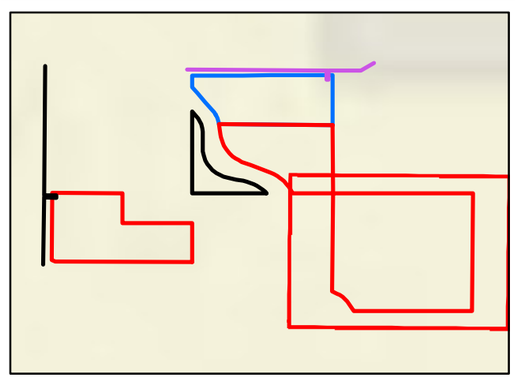
Aquatic Resources

- Ephemeral Drainage *
- Canal

*Ephemeral drainage features within the buffer are displayed to show connectivity; therefore not all features that exist within the buffer are displayed in the figure.

Sources: NAIP (2018), ECORP Dreone Imagery (2020)

Other Related Info if Needed



ECORP: N:\2020\2020-142 Cedar 1 Solar\MAPS\Jurisdictional_Delineation\Vega_2_3_JD_Figures\Vega_2_3_ARD_Overview_V2.mxd (TR)-trotellini 9/21/2022

Map Date: 9/21/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 350 700

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Figure 4. Aquatic Resources Delineation
Study Area 3
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

debris. These ephemeral drainage systems divert surface flow from the direction of the Chocolate Mountains to the southwest, bypassing the Coachella Canal and railroad right-of-way and ultimately connecting to the East Highline Canal and/or associated wetlands. The East Highline Canal supplies water to the Imperial Valley via smaller lateral canals and drains that ultimately drain to the Salton Sea. At the time of the field delineation in 2020, these OHWM Transects were located inside the Project limits, as previously provided by the Applicant. The Impact Area limits were revised in 2022 and these OHWM Transects were no longer located within the revised Impact Area. However, these OHWM Transect data sheets have been included in this report because the field conditions documented are representative of the ephemeral drainages mapped within the revised Impact Area limits.

4.2.3 Manmade Features

Canal

The Coachella Canal is adjacent to and outside of the Impact Areas of Study Area 2 and 3. This concrete-lined canal is used for the purpose of year-round water transport throughout the Coachella Valley. It is maintained by the Coachella Valley Water District to be free of vegetation for water conveyance efficiency and ultimately flows into the Lake Cahuilla storage reservoir. Lake Cahuilla is an artificial soil-cement-lined temporal reservoir that is not connected to TNW.

4.2.4 Potential CDFW Regulated Habitats

The following describes vegetation communities or habitat features that could be regulated by CDFW but are not expected to be regulated by the USACE under Section 404 of the CWA because they do not appear to meet the current definition of waters of the U.S.

Alkali Sink

Alkali sinks are composed of poorly drained soils with high salinity and/or alkalinity from evaporation of water that accumulates in closed drainages. These sinks are often seasonally inundated and lose water through evaporation. Alkali sink habitat occurs within the southern portion of the Impact Area of Study Area 1.

Sampling Point 552 was collected within the alkali sink habitat south of Study Area 1. At the time of the aquatic resource delineation in 2020, this sampling point was inside the Impact Area limits. The Impact Area was revised in 2022 and it now no longer includes the location of Sampling Point 552. However, alkali sink habitat is still present within the revised Impact Area and is subject to direct impacts. Sampling Point 552 is representative of the alkali sink habitat of the Study Area as a whole. Plant species observed included bush seepweed. The soil matrix color at a depth of 0 to 4 inches was 7.5YR 4/4 with no redox features; at a depth of 4 to 7 inches the soil matrix color was 7.5YR 5/4 with no redox features; and at a depth of 7 to 10 inches the soil matrix color was 7.5YR 4/4 with 3 percent redox features colored 5YR 5/8. Hydric soil indicators were determined to be absent at this sampling point. Wetland hydrology indicators observed included the surface soil cracks (B6) primary indicator.

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Riparian Habitat

Riparian habitat associated with the drainage systems throughout the Impact Areas consists of blue palo verde-ironwood woodland and tamarisk thickets. Blue palo verde-ironwood woodland is characterized by blue palo verde or ironwood as a dominant or co-dominant plant species in the tree or tall shrub canopy that is open to continuous. Tamarisk thickets are characterized by a weedy, monoculture of tamarisk. This habitat is typically in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. There were scattered riparian trees associated with ephemeral drainages within the creosote scrub habitat due to the alluvial nature of the sites.

A total of three sampling points were collected within the riparian habitat in the northwestern portion of Study Area 2 and included Sampling Points 1, 2, and 3. At the time of the aquatic resource delineation in 2020, these sampling points were inside the Impact Area limits. The Impact Area was revised in 2022 and it now no longer includes the location of these Sampling Points. However, riparian habitat is still present within the revised Impact Area and is subject to direct impacts. Therefore, the data from Sampling Points 1, 2, and 3 have been included in this report because the field conditions documented are representative of the riparian habitat found within the revised Impact Area. Plant species observed within the riparian habitat at all three points included tamarisk, common Mediterranean grass, and narrow leaved cryptantha. Hydric soil and wetland hydrology indicators were determined to be absent at all but Sampling Point 1, which met the drift deposits (B3) primary indicator.

Sampling Point 551 was collected within the riparian habitat associated with ED-3001 south of Study Area 1. At the time of the aquatic resource delineation in 2020, this sampling point was inside the Project limits. The Impact Area was revised in 2022 and it now no longer includes the location of Sampling Point 551. Sampling Point 551 is representative of the riparian habitat of the Study Area as a whole. Plant species observed included tamarisk and bush seepweed. The soil matrix color at a depth of 0 to 6 inches was 10YR 5/4 with no redox features; and at a depth of 6 to 8 inches the soil matrix color was 10YR 5/4 with 3 percent gley features colored 2.5/N. Hydric soil indicators were determined to be absent at this sampling point. Wetland hydrology indicators observed included the surface soil cracks (B6) primary indicator and the sediment deposits (B2), drift deposits (B3), and drainage patterns (B10) secondary indicators.

5.0 JURISDICTIONAL ASSESSMENT

Aquatic resources that are potentially regulated under the CWA, the Porter-Cologne Act, and California Fish and Game Code Section 1602 are summarized below. These results are subject to modification following agency verification.

5.1 Clean Water Act

Per Regulatory Guidance Letter 16-01, an applicant may request a PJD "in order to move ahead expeditiously to obtain a Corps permit authorization where the requestor determin*es that it is in his or her best interest to do so … even where initial indications are that the aquatic resources on a parcel may not be jurisdictional*" (USACE 2016b). The following information on connectivity of wetlands and other waters in the Survey Area to TNW is provided should an Approved Jurisdictional Determination (AJD) be necessary.

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The ephemeral drainages within the Impact Area are tributary to the Salton Sea, which is a TNW. Under the current definition of waters of the U.S., the *Rapanos* guidance, the ephemeral drainages onsite would be considered non-navigable tributaries that are not relatively permanent. In which, case, a significant nexus evaluation of the ephemeral drainages would be necessary to determine jurisdiction if seeking an AJD.

5.2 Porter-Cologne Water Quality Control Act

The following categories meet the definition of Waters of the State and are regulated pursuant to the Porter-Cologne Act. The Porter-Cologne Act defines Waters of the State as "any surface water or groundwater, including saline waters, within the boundaries of the state" [Water Code 13050 (e)]. The Porter Cologne Act defines "Waters of the State" very broadly, with no physical descriptors, and no interstate commerce limitation. The categories are:

- Ephemeral Drainages

The remaining features are excluded from the definition of Waters of the State pursuant to current guidance from the SWRCB. Impacts to features that fall under the definition of Waters of the State would trigger the need for permits through the WDR process.

5.3 California Fish and Game Code Section 1600-1602

The following categories meet the criteria for resources that are regulated under section 1600 of the California Fish and Game Code. This includes all resources with surface or subsurface flow, and a body of water that "flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life." Areas with associated riparian vegetation that is supported by the surface and subsurface flow through these streambeds are also added to CDFW's jurisdiction under 1600. The categories are:

- Ephemeral Drainages
- Riparian Habitat
- Alkali Sinks

The remaining features are excluded from Section 1600-1602 pursuant to current guidance from CDFW. Impacts to features that fall under the definition of streambed and associated riparian habitat would trigger the need for Streambed Alteration Notification and the Project may need to enter into formal Agreements with CDFW.

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LIST OF ATTACHMENTS

Attachment A – Driving Directions to the Study Area

Attachment B – Aquatic Resources within the Project Impact Areas

Attachment C – OHWM and Wetland Determination Data Forms - Arid West

Attachment D – Representative Site Photographs

Attachment E – USACE ORM Aquatic Resources Table

Attachment F – Digital Data

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ATTACHMENT A

Driving Directions to the Study Area

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Google Maps San Diego, CA to Calipatria, CA (33.220933, -115.440940) Drive 146 miles, 2 hr 20 min

San Diego
San Diego, CA 92108

Take I-8 E to CA-78 E in Imperial County
1 hr 51 min (125 mi)

1. Head east on I-8 E
9.8 mi
2. Keep left to stay on I-8 E
101 mi
3. Take exit 118B for CA-111 N toward Brawley
0.2 mi
4. Continue onto CA-111 N
14.4 mi

Follow CA-78 E, CA-115 N and Wiest Rd to Flowing Wells Rd
29 min (20.7 mi)

5. Turn right onto CA-78 E
3.1 mi
6. Turn left onto CA-115 N
10.3 mi
7. Turn right onto Wiest Rd
5.7 mi
8. Continue onto Weist Rd
0.5 mi
9. Turn left to stay on Weist Rd
0.3 mi
10. Turn right onto Noffsinger Rd
135 ft
11. Turn left onto Weist Rd
299 ft
12. Turn right onto Flowing Wells Rd
Destination will be on the right
0.8 mi

33.220933, -115.440940
1101-1175 Flowing Wells Rd, Calipatria, CA 92233

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

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ATTACHMENT B

Aquatic Resources within the Project Impact Areas

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-3001	R6	33.21068479, -115.42657864	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.761	197.039	300	9.014
ED-3002	R6	33.23209453, -115.42095459	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	6.404	6957.086	90	55.408
ED-3003	R6	33.2239284, -115.41138649	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.921	2625.091	20	126.726
ED-3004[5]	R6	33.21570012, -115.41058806	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	N/A	N/A	N/A	46.665
ED-3005[5]	R6	33.2082725, -115.39774861	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	N/A	N/A	N/A	1.935
ED-02	R6	33.23296261, -115.41577415	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.092	97.329	40	N/A
ED-03	R6	33.21946702, -115.40611243	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	11.138	8	N/A
ED-07	R6	33.21738955, -115.40319783	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.047	506.125	4	N/A
ED-15	R6	33.23404969, -115.41195268	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.225	639.673	15	N/A
ED-16	R6	33.2331326, -115.41424492	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.062	172.362	15	N/A
ED-18	R6	33.22573947, -115.40827081	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.053	375.613	6	N/A
ED-20	R6	33.23293777, -115.41733943	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	216.802	5	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-22	R6	33.23122452, -115.41658744	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.0055	117.512	2	N/A
ED-25	R6	33.21929067, -115.39668177	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.380	574.459	30	N/A
ED-28	R6	33.23112609, -115.41927782	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	247.341	1	N/A
ED-32	R6	33.21222482, -115.39510645	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.012	53.774	9	N/A
ED-34	R6	33.22964229, -115.40702573	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.012	265.092	2	N/A
ED-37	R6	33.22016266, -115.40833876	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.005	24.904	6	N/A
ED-40	R6	33.22480534, -115.41081603	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.114	482.009	10	N/A
ED-41	R6	33.21478555, -115.38967864	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	28.677	10	N/A
ED-44	R6	33.22083808, -115.40750889	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.119	571.605	9	N/A
ED-45	R6	33.21319291, -115.39016463	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.022	89.676	10	N/A
ED-46	R6	33.2169882, -115.40056944	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.084	173.632	20	N/A
ED-47	R6	33.2335412, -115.41883457	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	227.864	3	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-49	R6	33.2235069, -115.40897534	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.050	352.559	6	N/A
ED-60	R6	33.23013521, -115.41513576	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.077	472.775	7	N/A
ED-61	R6	33.21482134, -115.38955099	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.028	112.529	10	N/A
ED-63	R6	33.23394408, -115.41367106	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.043	183.667	10	N/A
ED-64	R6	33.22686025, -115.40941772	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	763.281	2	N/A
ED-68	R6	33.22553014, -115.40953001	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	81.954	3	N/A
ED-73	R6	33.21427455, -115.42455028	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.024	98.902	10	N/A
ED-74	R6	33.23078385, -115.41928227	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.024	202.181	5	N/A
ED-75	R6	33.23451303, -115.40708376	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	18.354	3	N/A
ED-76	R6	33.21767352, -115.4020727	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.059	312.784	8	N/A
ED-79	R6	33.2187328, -115.4018099	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.100	423.075	10	N/A
ED-81	R6	33.21599118, -115.40361445	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.318	263.113	50	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-84	R6	33.23385571, -115.4204747	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	175.026	1	N/A
ED-85	R6	33.21604257, -115.39699721	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.019	204.987	4	N/A
ED-86	R6	33.20703737, -115.39984438	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	16.647	10	N/A
ED-87	R6	33.20918838, -115.4012214	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	431.057	2	N/A
ED-89	R6	33.23443728, -115.41572912	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.037	111.775	15	N/A
ED-94	R6	33.21225561, -115.39471511	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.024	143.293	7	N/A
ED-95	R6	33.21910964, -115.40387004	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.165	226.825	30	N/A
ED-97	R6	33.21670002, -115.39607173	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	270.836	4	N/A
ED-100	R6	33.21290258, -115.39061847	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	107.738	6	N/A
ED-101	R6	33.21607967, -115.40210628	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.058	145.462	15	N/A
ED-102	R6	33.2158706, -115.40345272	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.096	342.436	12	N/A
ED-105	R6	33.22855355, -115.40743905	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.444	470.088	40	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-107	R6	33.21225796, -115.39528812	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.017	95.754	7	N/A
ED-113	R6	33.23244031, -115.41037491	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.032	338.790	4	N/A
ED-115	R6	33.23350753, -115.41489818	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.753	644.688	50	N/A
ED-125	R6	33.22403551, -115.40703382	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.088	257.342	15	N/A
ED-124	R6	33.23321453, -115.41760717	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.000	6.316	50	N/A
ED-128	R6	33.2117248, -115.39693349	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.037	316.126	5	N/A
ED-130	R6	33.21928522, -115.39318101	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.126	453.273	12	N/A
ED-137	R6	33.23026618, -115.4208946	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.061	254.070	10	N/A
ED-139	R6	33.21243329, -115.39442618	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.009	53.611	7	N/A
ED-140	R6	33.2271996, -115.40838369	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.029	307.127	4	N/A
ED-142	R6	33.21645224, -115.40455225	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.164	455.284	15	N/A
ED-144	R6	33.22970483, -115.40828105	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.005	107.967	2	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-145	R6	33.22900378, -115.40830172	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.053	457.312	5	N/A
ED-146	R6	33.22766263, -115.40849572	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	95.891	3	N/A
ED-150	R6	33.23409624, -115.40714207	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.045	389.582	5	N/A
ED-151	R6	33.23178466, -115.42130152	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	119.249	7	N/A
ED-152	R6	33.2136404, -115.39166265	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.029	121.143	10	N/A
ED-155	R6	33.23293565, -115.41045004	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.044	320.151	6	N/A
ED-157	R6	33.23269218, -115.41776498	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.218	447.117	20	N/A
ED-158	R6	33.23393532, -115.4133222	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	164.248	5	N/A
ED-160	R6	33.23163526, -115.41542086	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	66.509	2	N/A
ED-161	R6	33.21950501, -115.40593977	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.030	137.728	8	N/A
ED-163	R6	33.2158751, -115.39873938	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	161.053	4	N/A
ED-164	R6	33.21394515, -115.39125961	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.038	232.515	7	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-167	R6	33.21598858, -115.40440854	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.396	299.492	40	N/A
ED-168	R6	33.23292949, -115.41548751	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	120.806	2	N/A
ED-169	R6	33.21894757, -115.39956587	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.072	389.461	8	N/A
ED-170	R6	33.2232665, -115.40719179	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.038	226.906	7	N/A
ED-171	R6	33.23359053, -115.41631714	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	169.166	4	N/A
ED-173	R6	33.22044013, -115.41035656	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.049	504.710	4	N/A
ED-174	R6	33.21937788, -115.40589825	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.243	389.061	25	N/A
ED-178	R6	33.23361942, -115.41286686	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.028	166.324	7	N/A
ED-185	R6	33.21390314, -115.38961991	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	21.466	10	N/A
ED-186	R6	33.23084118, -115.41979985	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	126.191	5	N/A
ED-187	R6	33.21292867, -115.40409178	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.034	180.774	8	N/A
ED-189	R6	33.21669254, -115.40083181	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.077	321.786	10	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-192	R6	33.22318187, -115.4068546	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.158	124.625	50	N/A
ED-193	R6	33.21834209, -115.39414056	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.054	283.929	8	N/A
ED-195	R6	33.22759267, -115.40987781	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	320.856	1	N/A
ED-198	R6	33.23019757, -115.40770158	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.072	208.718	15	N/A
ED-201	R6	33.22920752, -115.40792848	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.030	80.527	15	N/A
ED-202	R6	33.2124755, -115.40479601	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.042	298.271	6	N/A
ED-204	R6	33.22561288, -115.40876071	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.005	202.654	1	N/A
ED-207	R6	33.22849304, -115.40826701	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.057	493.023	5	N/A
ED-208	R6	33.22508136, -115.40903133	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.572	1655.130	15	N/A
ED-211	R6	33.22738534, -115.40807818	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	126.937	5	N/A
ED-212	R6	33.23113226, -115.41902106	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.133	715.282	8	N/A
ED-214	R6	33.2163067, -115.40527782	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.188	185.567	40	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-215	R6	33.2124975, -115.39109023	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.011	93.845	5	N/A
ED-219	R6	33.21235878, -115.39478676	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.034	179.471	8	N/A
ED-221	R6	33.21347311, -115.39197531	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	106.891	6	N/A
ED-222	R6	33.23066349, -115.40658211	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.000	0.947	15	N/A
ED-223	R6	33.22581936, -115.40976981	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	302.052	5	N/A
ED-226	R6	33.22671006, -115.40987441	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	354.570	1	N/A
ED-227	R6	33.21937915, -115.39110525	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.048	198.505	10	N/A
ED-228	R6	33.21777478, -115.40163268	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	60.902	4	N/A
ED-229	R6	33.22337983, -115.4101718	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.012	172.120	3	N/A
ED-230	R6	33.22128416, -115.41069794	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.072	298.782	10	N/A
ED-233	R6	33.23128522, -115.41276926	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.029	310.840	4	N/A
ED-234	R6	33.21964424, -115.39251601	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	77.308	8	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-237	R6	33.22883018, -115.40686254	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	171.330	4	N/A
ED-238	R6	33.21244235, -115.39144406	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.021	175.086	5	N/A
ED-240	R6	33.22647391, -115.40678156	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.014	198.054	3	N/A
ED-242	R6	33.22913498, -115.40727541	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.138	187.654	30	N/A
ED-244	R6	33.23062958, -115.41550807	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	302.305	5	N/A
ED-248	R6	33.23131523, -115.4075313	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.026	552.100	2	N/A
ED-250	R6	33.2181379, -115.39589365	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.150	429.257	15	N/A
ED-251	R6	33.23172613, -115.41768759	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.021	139.283	6	N/A
ED-252	R6	33.21685331, -115.39821666	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.017	182.368	4	N/A
ED-253	R6	33.21751703, -115.40549715	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.125	200.605	25	N/A
ED-254	R6	33.21892587, -115.39221536	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.127	548.890	10	N/A
ED-256	R6	33.21570041, -115.39811313	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.034	202.796	7	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-260	R6	33.21790925, -115.40041399	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	1.052	3029.445	15	N/A
ED-262	R6	33.21643241, -115.39862666	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.011	69.640	6	N/A
ED-265	R6	33.21892072, -115.40563739	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.056	296.797	8	N/A
ED-268	R6	33.22319686, -115.40816533	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.115	225.942	20	N/A
ED-269	R6	33.21209362, -115.3952571	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.011	64.956	7	N/A
ED-270	R6	33.23166781, -115.4164782	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.137	381.338	15	N/A
ED-271	R6	33.22278753, -115.41082669	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.028	138.780	8	N/A
ED-274	R6	33.23031918, -115.40716035	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.097	157.479	25	N/A
ED-276	R6	33.22975406, -115.40821334	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.021	175.197	5	N/A
ED-278	R6	33.21219184, -115.39496062	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	176.372	5	N/A
ED-283	R6	33.22938161, -115.40800311	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	127.653	2	N/A
ED-286	R6	33.21402496, -115.39090548	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	88.802	7	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-287	R6	33.22915027, -115.4198217	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.059	514.377	5	N/A
ED-289	R6	33.23449166, -115.42092556	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	2.286	10	N/A
ED-290	R6	33.21327883, -115.39225669	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	116.064	9	N/A
ED-294	R6	33.23359458, -115.41849041	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.000	0.113	50	N/A
ED-297	R6	33.2177463, -115.39727719	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.287	487.312	25	N/A
ED-303	R6	33.21935943, -115.39173153	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.069	295.416	10	N/A
ED-304	R6	33.21714592, -115.40230027	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.198	329.800	25	N/A
ED-305	R6	33.22307354, -115.40956716	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	1.017	1104.062	30	N/A
ED-306	R6	33.21240875, -115.39147968	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.056	410.974	6	N/A
ED-307	R6	33.21600089, -115.39906018	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.038	320.309	5	N/A
ED-309	R6	33.2295793, -115.40699242	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	111.359	3	N/A
ED-313	R6	33.22680128, -115.40941029	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	86.505	2	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-314	R6	33.22649266, -115.40697029	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.022	309.600	3	N/A
ED-316	R6	33.23037684, -115.41431684	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.005	71.000	3	N/A
ED-322	R6	33.22534831, -115.41013683	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	102.533	3	N/A
ED-323	R6	33.21940372, -115.40161248	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.166	464.172	15	N/A
ED-325	R6	33.21787877, -115.40128957	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.080	280.286	12	N/A
ED-327	R6	33.2132268, -115.39018748	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.013	140.382	4	N/A
ED-328	R6	33.23348727, -115.41273712	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.090	261.766	14	N/A
ED-329	R6	33.21630728, -115.40354956	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.085	363.428	10	N/A
ED-331	R6	33.22594479, -115.41079161	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.338	377.991	40	N/A
ED-346	R6	33.21624527, -115.40200691	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.129	466.762	12	N/A
ED-352	R6	33.21735651, -115.39995182	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.017	97.397	7	N/A
ED-354	R6	33.22509481, -115.41017365	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.022	467.985	2	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-360	R6	33.22186211, -115.40917166	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	164.882	9	N/A
ED-363	R6	33.21197237, -115.39157088	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.021	49.153	15	N/A
ED-364	R6	33.23350544, -115.41380937	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.050	424.521	5	N/A
ED-368	R6	33.21751031, -115.40053921	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.034	241.888	6	N/A
ED-369	R6	33.2127104, -115.4034897	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.034	236.898	6	N/A
ED-371	R6	33.23005738, -115.40754204	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.060	168.797	15	N/A
ED-379	R6	33.21843911, -115.39455265	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.145	411.973	15	N/A
ED-383	R6	33.22524619, -115.40992429	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.011	231.591	2	N/A
ED-390	R6	33.20875572, -115.39252009	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.124	592.211	9	N/A
ED-394	R6	33.23264009, -115.41569525	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.030	211.849	6	N/A
ED-395	R6	33.23160712, -115.41882764	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	96.959	1	N/A
ED-396	R6	33.22079602, -115.40977849	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.669	764.850	40	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-398	R6	33.22027534, -115.41110516	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.010	38.228	10	N/A
ED-400	R6	33.22041859, -115.40894971	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.171	610.860	12	N/A
ED-401	R6	33.21405076, -115.39098197	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.051	316.919	7	N/A
ED-402	R6	33.21605707, -115.40128443	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.005	103.416	2	N/A
ED-404	R6	33.20849641, -115.40046305	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.026	275.572	4	N/A
ED-405	R6	33.22965565, -115.40665678	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	44.354	3	N/A
ED-406	R6	33.23194043, -115.41747453	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	42.534	3	N/A
ED-408	R6	33.21399857, -115.39088075	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.045	280.823	7	N/A
ED-411	R6	33.21955666, -115.4002461	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.028	63.376	12	N/A
ED-412	R6	33.21842842, -115.4030915	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.054	781.275	3	N/A
ED-415	R6	33.22735112, -115.40904823	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.061	326.491	8	N/A
ED-419	R6	33.22560498, -115.40854689	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	329.881	1	N/A

PC ORIGINAL PKG

Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-420	R6	33.2327383, -115.40759803	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	215.075	4	N/A
ED-422	R6	33.23085413, -115.41934588	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	187.393	1	N/A
ED-424	R6	33.21807972, -115.39541938	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.055	191.034	12	N/A
ED-426	R6	33.23040491, -115.40692629	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	167.382	5	N/A
ED-427	R6	33.20872573, -115.40106761	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.023	242.275	4	N/A
ED-428	R6	33.2296259, -115.40755651	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.023	198.249	5	N/A
ED-429	R6	33.21223197, -115.39322523	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.023	190.364	5	N/A
ED-430	R6	33.21356398, -115.3898884	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.033	172.572	8	N/A
ED-432	R6	33.21378005, -115.39137505	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	100.043	7	N/A
ED-433	R6	33.23046687, -115.41544832	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.049	297.601	7	N/A
ED-435	R6	33.21850246, -115.4052222	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.062	221.553	12	N/A
ED-437	R6	33.23264355, -115.41102226	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	107.471	3	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-439	R6	33.21297391, -115.39062199	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.036	216.748	7	N/A
ED-440	R6	33.21196807, -115.39516845	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	24.001	4	N/A
ED-441	R6	33.21557725, -115.40001417	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.036	151.665	10	N/A
ED-443	R6	33.21758204, -115.3991817	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.526	351.147	60	N/A
ED-446	R6	33.23425722, -115.41553996	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.037	269.613	6	N/A
ED-448	R6	33.22738698, -115.40683387	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.010	141.177	3	N/A
ED-450	R6	33.23269162, -115.4174553	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.054	578.203	4	N/A
ED-451	R6	33.23218648, -115.41812277	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	327.573	1	N/A
ED-453	R6	33.21748839, -115.40135622	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.114	314.558	15	N/A
ED-466	R6	33.20878370, -115.40123181	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.028	296.794	4	N/A
ED-471	R6	33.23248041, -115.42047828	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.052	756.235	3	N/A
ED-472	R6	33.21296092, -115.38995081	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.017	179.364	4	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-473	R6	33.22288082, -115.40869738	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	1.155	992.787	30	N/A
ED-475	R6	33.22599469, -115.41021811	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.117	218.786	20	N/A
ED-478	R6	33.22663457, -115.40926043	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	170.550	1	N/A
ED-479	R6	33.23433642, -115.41563842	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.031	131.352	10	N/A
ED-481	R6	33.21465851, -115.38995131	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.071	158.079	20	N/A
ED-483	R6	33.23309806, -115.40966148	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	214.862	4	N/A
ED-485	R6	33.2277435, -115.40664272	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	21.896	3	N/A
ED-491	R6	33.22566134, -115.4090268	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.017	368.661	2	N/A
ED-492	R6	33.22778809, -115.4079126	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.045	188.133	10	N/A
ED-494	R6	33.21635316, -115.4058554	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	31.763	4	N/A
ED-500	R6	33.22590363, -115.41046037	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.052	206.593	10	N/A
ED-502	R6	33.22762953, -115.40959469	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.066	711.570	4	N/A

PC ORIGINAL PKG

Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-504	R6	33.23179837, -115.4187545	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.011	158.555	3	N/A
ED-505	R6	33.21881975, -115.39254268	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.071	305.251	10	N/A
ED-507	R6	33.21914145, -115.40237719	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.100	614.755	7	N/A
ED-510	R6	33.23102745, -115.41947769	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.005	219.311	1	N/A
ED-513	R6	33.22784029, -115.40847199	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.062	530.845	5	N/A
ED-516	R6	33.21310239, -115.39242347	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.115	495.318	10	N/A
ED-518	R6	33.21886626, -115.39869295	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.066	351.776	8	N/A
ED-519	R6	33.21199259, -115.39343098	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.001	2.555	7	N/A
ED-524	R6	33.23161556, -115.41837808	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.083	288.688	12	N/A
ED-528	R6	33.21299936, -115.40574765	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	146.312	10	N/A
ED-530	R6	33.21800336, -115.40129588	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.074	311.739	10	N/A
ED-532	R6	33.22253579, -115.40690528	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	210.236	7	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-533	R6	33.23434739, -115.41678089	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	140.959	10	N/A
ED-535	R6	33.23257897, -115.41131506	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	88.473	1.5	N/A
ED-537	R6	33.21843666, -115.40191123	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	2.087	2333.797	40	N/A
ED-538	R6	33.2286758, -115.40803511	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	440.584	2	N/A
ED-540	R6	33.21791934, -115.39571849	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.296	498.662	25	N/A
ED-542	R6	33.23109496, -115.41743899	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	263.752	4	N/A
ED-544	R6	33.21595540, -115.39930731	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.073	387.942	8	N/A
ED-546	R6	33.21251012, -115.39108518	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.043	311.160	6	N/A
ED-548	R6	33.22597917, -115.40765017	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.013	184.849	3	N/A
ED-554	R6	33.21599674, -115.40268053	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.065	280.731	10	N/A
ED-556	R6	33.22735396, -115.40719019	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.030	426.352	3	N/A
ED-557	R6	33.21334225, -115.38989648	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.013	108.890	5	N/A

PC ORIGINAL PKG

Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-559	R6	33.2207062, -115.41006806	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	315.131	2	N/A
ED-560	R6	33.21958517, -115.39124311	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.031	135.736	10	N/A
ED-563	R6	33.22696045, -115.40782212	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	339.319	2	N/A
ED-565	R6	33.21939440, -115.40488684	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.097	412.205	10	N/A
ED-568	R6	33.22627707, -115.40779931	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.048	202.226	10	N/A
ED-570	R6	33.23436599, -115.41792708	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.012	101.915	5	N/A
ED-572	R6	33.23404775, -115.42174133	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	129.960	2	N/A
ED-575	R6	33.21727227, -115.39754322	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.032	339.051	4	N/A
ED-576	R6	33.23143911, -115.41706544	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.022	228.083	4	N/A
ED-578	R6	33.23155331, -115.41212903	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	132.855	8	N/A
ED-581	R6	33.21216487, -115.39494033	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.009	72.182	5	N/A
ED-583	R6	33.22788194, -115.40803013	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.061	164.592	15	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-588	R6	33.21901428, -115.39993318	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.067	228.015	12	N/A
ED-591	R6	33.2074041, -115.40168216	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.068	588.434	5	N/A
ED-593	R6	33.21595155, -115.39941082	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.043	231.248	8	N/A
ED-598	R6	33.23101528, -115.41870191	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.051	130.682	15	N/A
ED-599	R6	33.21948263, -115.40334984	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.052	269.705	8	N/A
ED-600	R6	33.23034587, -115.40921323	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.065	947.139	3	N/A
ED-602	R6	33.21338014, -115.38990671	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	83.120	4	N/A
ED-604	R6	33.22211534, -115.40860944	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.018	109.952	7	N/A
ED-606	R6	33.21227426, -115.39653106	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.001	11.092	3	N/A
ED-607	R6	33.22878018, -115.41009189	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.068	729.987	4	N/A
ED-608	R6	33.23341324, -115.40869769	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.044	471.226	4	N/A
ED-609	R6	33.21262145, -115.39323093	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	172.619	5	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-611	R6	33.21269108, -115.39408033	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.033	236.740	6	N/A
ED-612	R6	33.21767718, -115.39833887	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.050	171.865	12	N/A
ED-614	R6	33.21316163, -115.39004456	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.018	123.968	6	N/A
ED-617	R6	33.23290547, -115.4144761	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	247.597	6	N/A
ED-626	R6	33.22095983, -115.40825275	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.090	553.644	7	N/A
ED-628	R6	33.21206809, -115.39544538	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	40.063	6	N/A
ED-630	R6	33.21297564, -115.40359159	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.056	479.203	5	N/A
ED-631	R6	33.22059702, -115.40805862	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	221.477	3	N/A
ED-635	R6	33.21779239, -115.39742774	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.090	381.624	10	N/A
ED-637	R6	33.21501561, -115.38946769	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	14.277	10	N/A
ED-640	R6	33.21879673, -115.4063567	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.014	143.762	4	N/A
ED-642	R6	33.23312731, -115.415006	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.042	302.991	6	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-649	R6	33.23281543, -115.41527127	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.014	101.474	6	N/A
ED-655	R6	33.227361288, -115.407339658	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.021	307.882	8	N/A
ED-656	R6	33.22368805, -115.41101315	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	292.274	1	N/A
ED-657	R6	33.22999813, -115.40734768	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	129.099	5	N/A
ED-658	R6	33.22868451, -115.40851949	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.045	323.353	6	N/A
ED-659	R6	33.22972102, -115.40768594	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.041	167.192	10	N/A
ED-664	R6	33.23367731, -115.41373911	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.091	386.411	10	N/A
ED-665	R6	33.23434674, -115.42110313	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	172.349	2	N/A
ED-666	R6	33.20782649, -115.40126172	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.053	451.347	5	N/A
ED-669	R6	33.23330758, -115.41715183	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	304.086	1	N/A
ED-672	R6	33.2194086, -115.39631231	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	154.516	7	N/A
ED-677	R6	33.22218706, -115.40739403	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.021	147.817	6	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-678	R6	33.21624633, -115.40159849	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.051	235.826	9	N/A
ED-682	R6	33.21841053, -115.39509222	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.029	134.462	9	N/A
ED-683	R6	33.21608126, -115.4007214	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.142	758.621	8	N/A
ED-684	R6	33.23289364, -115.41699637	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.048	285.411	7	N/A
ED-685	R6	33.20910323, -115.39127528	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	27.531	8	N/A
ED-688	R6	33.23246131, -115.41224714	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.058	499.156	5	N/A
ED-689	R6	33.21639549, -115.3967876	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.060	214.456	12	N/A
ED-693	R6	33.21889962, -115.39347609	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.081	179.355	10	N/A
ED-694	R6	33.21225422, -115.39338544	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	179.355	6	N/A
ED-695	R6	33.22568768, -115.40971029	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.017	359.695	2	N/A
ED-698	R6	33.22725573, -115.41034694	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.036	512.121	3	N/A
ED-701	R6	33.23221437, -115.41079203	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.072	624.466	5	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-702	R6	33.21819769, -115.40516265	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	137.354	6	N/A
ED-705	R6	33.21729163, -115.39983465	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.052	275.734	8	N/A
ED-708	R6	33.21867388, -115.40454552	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.132	223.865	25	N/A
ED-709	R6	33.23411574, -115.42154967	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.130	360.553	15	N/A
ED-710	R6	33.23217693, -115.41785952	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	437.866	2	N/A
ED-713	R6	33.22675294, -115.40701401	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.027	296.126	4	N/A
ED-714	R6	33.23319968, -115.4135393	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.214	310.020	30	N/A
ED-715	R6	33.21901514, -115.40362684	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.044	187.191	10	N/A
ED-717	R6	33.22949216, -115.41775973	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.288	1250.082	10	N/A
ED-718	R6	33.21619236, -115.39251661	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	1.695	2440.638	30	N/A
ED-721	R6	33.23427131, -115.41274726	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.097	406.181	10	N/A
ED-722	R6	33.23342301, -115.41438426	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.049	253.763	8	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-723	R6	33.21464223, -115.38963717	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.050	136.546	15	N/A
ED-726	R6	33.21941224, -115.39594497	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.090	289.374	14	N/A
ED-731	R6	33.21676746, -115.4029419	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.049	166.564	12	N/A
ED-733	R6	33.21968431, -115.39608941	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.040	60.781	20	N/A
ED-734	R6	33.22938487, -115.40700775	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.164	218.575	30	N/A
ED-735	R6	33.21738215, -115.40070908	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.013	89.948	6	N/A
ED-737	R6	33.21867393, -115.39928022	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.042	359.787	5	N/A
ED-740	R6	33.2206619, -115.41063387	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.071	128.865	20	N/A
ED-741	R6	33.21957208, -115.39105077	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	23.576	12	N/A
ED-743	R6	33.21720507, -115.39923637	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.045	484.837	4	N/A
ED-744	R6	33.22566542, -115.41090997	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.049	257.277	8	N/A
ED-745	R6	33.23002223, -115.41627768	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.038	320.825	5	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-748	R6	33.21277215, -115.3906986	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	60.380	6	N/A
ED-753	R6	33.21304242, -115.39037957	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.026	90.976	12	N/A
ED-755	R6	33.22237251, -115.40844644	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.129	922.438	6	N/A
ED-756	R6	33.22786434, -115.40663554	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.001	21.793	2	N/A
ED-759	R6	33.21260399, -115.39082735	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.030	212.012	6	N/A
ED-761	R6	33.22646303, -115.41030564	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.042	613.446	3	N/A
ED-762	R6	33.21903137, -115.398068	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.184	313.970	25	N/A
ED-763	R6	33.21790061, -115.39969384	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.144	886.836	7	N/A
ED-766	R6	33.22297454, -115.40798073	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.221	453.421	20	N/A
ED-768	R6	33.21203431, -115.39331225	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	48.884	6	N/A
ED-772	R6	33.21246649, -115.39366476	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.012	132.449	4	N/A
ED-775	R6	33.23299955, -115.41994125	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.014	298.704	2	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-777	R6	33.21597351, -115.40572952	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.032	78.557	15	N/A
ED-779	R6	33.22672643, -115.40860361	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.115	494.685	10	N/A
ED-780	R6	33.23214631, -115.41861869	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.113	325.961	15	N/A
ED-781	R6	33.21257848, -115.39311129	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.010	78.946	5	N/A
ED-784	R6	33.2259214, -115.40937082	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.010	222.910	2	N/A
ED-786	R6	33.22925071, -115.40816053	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.043	260.674	7	N/A
ED-787	R6	33.23002018, -115.40670091	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	129.293	5	N/A
ED-788	R6	33.21568724, -115.40188926	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.119	514.056	10	N/A
ED-789	R6	33.2190629, -115.40570263	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.120	347.444	15	N/A
ED-790	R6	33.21959618, -115.39188783	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	101.691	8	N/A
ED-792	R6	33.21262093, -115.39088411	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.019	132.722	6	N/A
ED-794	R6	33.2297728, -115.4079939	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.037	191.569	8	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-798	R6	33.22880673, -115.40737351	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	179.432	8	N/A
ED-805	R6	33.22704802, -115.40967025	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.092	397.641	10	N/A
ED-807	R6	33.2214809, -115.40753789	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.253	535.269	20	N/A
ED-808	R6	33.22012652, -115.410466	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	62.453	2	N/A
ED-810	R6	33.22937522, -115.40816506	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.043	308.596	6	N/A
ED-812	R6	33.21745471, -115.4036635	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.076	319.631	10	N/A
ED-813	R6	33.23171107, -115.41854462	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.024	198.773	5	N/A
ED-814	R6	33.22735466, -115.41058803	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.022	473.557	2	N/A
ED-817	R6	33.23436781, -115.40697397	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.046	251.071	8	N/A
ED-822	R6	33.22754568, -115.40856577	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.029	242.713	5	N/A
ED-824	R6	33.21956823, -115.40301662	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.207	269.927	30	N/A
ED-825	R6	33.23168189, -115.41174598	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	123.050	5	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-826	R6	33.23031699, -115.41591847	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	44.527	4	N/A
ED-829	R6	33.23275919, -115.41579848	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.011	245.630	2	N/A
ED-830	R6	33.2190763, -115.39177897	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.054	230.383	10	N/A
ED-831	R6	33.22382266, -115.41035598	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.063	541.409	5	N/A
ED-834	R6	33.21884616, -115.3994056	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.063	542.517	5	N/A
ED-836	R6	33.21352298, -115.38951945	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	13.870	8	N/A
ED-841	R6	33.23307252, -115.41682315	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	56.169	2	N/A
ED-843	R6	33.21595176, -115.39822848	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.013	140.784	4	N/A
ED-845	R6	33.21880797, -115.40444738	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.051	365.452	6	N/A
ED-848	R6	33.23302058, -115.41973794	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	280.490	3	N/A
ED-850	R6	33.22345549, -115.4097374	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.099	344.874	12	N/A
ED-851	R6	33.23360382, -115.4221469	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.284	505.686	25	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-854	R6	33.21931411, -115.40263509	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.177	488.574	15	N/A
ED-858	R6	33.21708011, -115.40437923	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	208.735	7	N/A
ED-859	R6	33.23392296, -115.4115964	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.181	785.560	10	N/A
ED-860	R6	33.21331336, -115.39003692	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	32.051	7	N/A
ED-862	R6	33.23308748, -115.4147235	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.023	163.800	6	N/A
ED-864	R6	33.23349672, -115.41650543	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.190	546.009	15	N/A
ED-865	R6	33.2196205, -115.40017543	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	35.877	8	N/A
ED-872	R6	33.22842769, -115.40925189	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.080	693.408	5	N/A
ED-879	R6	33.21926045, -115.39800954	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.070	370.635	8	N/A
ED-880	R6	33.23140711, -115.41232101	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.024	252.270	4	N/A
ED-882	R6	33.23151527, -115.4177394	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	126.353	5	N/A
ED-885	R6	33.22924768, -115.40682286	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.0043	184.394	1	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-888	R6	33.22203815, -115.408418	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.046	326.243	6	N/A
ED-890	R6	33.21436218, -115.39035839	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.096	168.175	25	N/A
ED-892	R6	33.23153109, -115.41672722	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.037	308.891	5	N/A
ED-895	R6	33.22604998, -115.40831712	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.041	171.986	10	N/A
ED-898	R6	33.21947714, -115.40480655	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.019	132.542	6	N/A
ED-900	R6	33.23351283, -115.41289332	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.078	205.465	15	N/A
ED-901	R6	33.23312247, -115.41675568	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	110.127	6	N/A
ED-902	R6	33.23201107, -115.41444979	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.149	919.459	7	N/A
ED-903	R6	33.22845973, -115.40835692	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	55.350	2	N/A
ED-905	R6	33.23424897, -115.40991315	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.022	308.046	3	N/A
ED-910	R6	33.22565777, -115.40807026	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.012	168.959	3	N/A
ED-912	R6	33.21194379, -115.39529161	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.000	0.414	6	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-913	R6	33.2320219, -115.42047867	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	7.205	5	N/A
ED-914	R6	33.21851912, -115.39345208	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.338	979.491	15	N/A
ED-915	R6	33.23075454, -115.41370836	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.047	407.122	5	N/A
ED-916	R6	33.21910182, -115.40452978	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.050	168.643	12	N/A
ED-917	R6	33.23253734, -115.4161131	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.019	156.068	5	N/A
ED-920	R6	33.23093827, -115.41933895	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.049	252.996	8	N/A
ED-921	R6	33.23450324, -115.407486	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	203.797	5	N/A
ED-928	R6	33.2340982, -115.4220864	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.213	361.378	25	N/A
ED-929	R6	33.22226183, -115.40687502	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	74.674	2	N/A
ED-930	R6	33.21742231, -115.40015126	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.205	265.625	30	N/A
ED-934	R6	33.21827628, -115.4014715	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.054	465.453	5	N/A
ED-936	R6	33.22622459, -115.40987916	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.059	245.618	10	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-937	R6	33.21588569, -115.39748447	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.032	221.658	6	N/A
ED-938	R6	33.22666689, -115.4085055	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.117	411.306	12	N/A
ED-940	R6	33.23228165, -115.41688086	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.255	546.953	20	N/A
ED-941	R6	33.23179676, -115.40664096	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.001	35.660	1	N/A
ED-944	R6	33.2292689, -115.40867267	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.052	368.933	6	N/A
ED-945	R6	33.23328011, -115.41364632	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.051	208.709	10	N/A
ED-946	R6	33.21914582, -115.40656334	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.018	88.866	8	N/A
ED-948	R6	33.22701243, -115.40678412	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	31.196	2	N/A
ED-949	R6	33.21298095, -115.39269154	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.073	440.290	7	N/A
ED-950	R6	33.21570381, -115.40153732	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.072	303.076	10	N/A
ED-954	R6	33.21310875, -115.40475835	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.042	257.625	7	N/A
ED-955	R6	33.21292024, -115.39053872	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.009	57.798	6	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-957	R6	33.22491863, -115.41017263	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.037	526.842	3	N/A
ED-960	R6	33.22305149, -115.40824734	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.216	308.646	30	N/A
ED-965	R6	33.2171635, -115.4001925	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	100.293	10	N/A
ED-967	R6	33.23373753, -115.40791936	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.011	77.438	6	N/A
ED-968	R6	33.21283089, -115.39061704	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	47.713	2	N/A
ED-969	R6	33.23427866, -115.42199492	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.013	180.572	3	N/A
ED-970	R6	33.22655134, -115.4092513	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.045	483.979	4	N/A
ED-971	R6	33.21546344, -115.40039095	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.118	419.853	12	N/A
ED-972	R6	33.21405043, -115.39106601	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.009	57.657	6	N/A
ED-973	R6	33.22797858, -115.40869084	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.044	236.836	8	N/A
ED-974	R6	33.2166366, -115.40206624	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.153	822.739	8	N/A
ED-977	R6	33.22516989, -115.40757348	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.061	663.671	4	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-980	R6	33.23281578, -115.4151258	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	209.642	3	N/A
ED-982	R6	33.21349553, -115.40539288	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.082	433.261	8	N/A
ED-983	R6	33.23429988, -115.41640457	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.120	338.292	15	N/A
ED-984	R6	33.23376638, -115.41321633	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	176.746	6	N/A
ED-985	R6	33.22434886, -115.40866927	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.343	1483.622	10	N/A
ED-987	R6	33.21680637, -115.40342369	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.064	270.409	10	N/A
ED-989	R6	33.21621457, -115.40468798	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.053	216.961	10	N/A
ED-999	R6	33.22756902, -115.40909902	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.017	175.651	4	N/A
ED-1000	R6	33.21925087, -115.39842328	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	350.293	3	N/A
ED-1004	R6	33.21897678, -115.40651219	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.010	139.274	3	N/A
ED-1005	R6	33.21335242, -115.38951879	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	23.650	6	N/A
ED-1007	R6	33.21674768, -115.40089049	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.026	107.100	10	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-1009	R6	33.22611175, -115.40881085	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.0094	407.667	1	N/A
ED-1015	R6	33.21565291, -115.39951697	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.039	165.356	10	N/A
ED-1020	R6	33.21253963, -115.39115439	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	253.390	6	N/A
ED-1022	R6	33.23055739, -115.41500653	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.005	65.975	3	N/A
ED-1023	R6	33.22885565, -115.40816359	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	29.572	3	N/A
ED-1028	R6	33.23435742, -115.41066126	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.071	377.143	8	N/A
ED-1038	R6	33.21954855, -115.39174556	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.014	84.749	7	N/A
ED-1041	R6	33.2116365, -115.3958341	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	62.685	5	N/A
ED-1045	R6	33.21865406, -115.40647608	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.086	144.706	25	N/A
ED-1050	R6	33.22991749, -115.40664718	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.026	55.055	15	N/A
ED-1052	R6	33.23342293, -115.41892324	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.070	304.563	10	N/A
ED-1053	R6	33.22614559, -115.40948794	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.311	250.910	50	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-1054	R6	33.23217002, -115.4166409	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.348	734.377	20	N/A
ED-1063	R6	33.22229832, -115.41019034	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.298	485.865	25	N/A
ED-1065	R6	33.21677263, -115.40306703	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.022	88.385	10	N/A
ED-1071	R6	33.21671403, -115.40557944	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.028	193.655	6	N/A
ED-1076	R6	33.22746011, -115.40738306	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.039	419.588	4	N/A
ED-1077	R6	33.21957584, -115.40481958	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.081	229.555	15	N/A
ED-1080	R6	33.2235811, -115.40775866	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.100	350.778	12	N/A
ED-1082	R6	33.23247165, -115.41192982	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	168.626	4	N/A
ED-1083	R6	33.23153452, -115.41871448	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.019	69.213	10	N/A
ED-1084	R6	33.21415488, -115.39093118	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	38.676	8	N/A
ED-1085	R6	33.21227274, -115.39329858	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	176.566	6	N/A
ED-1088	R6	33.21886095, -115.39204895	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.045	212.538	9	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-1090	R6	33.21579300, -115.40146188	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.176	764.493	10	N/A
ED-1091	R6	33.21874757, -115.40366998	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.114	485.292	10	N/A
ED-1095	R6	33.2316261, -115.41896959	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	123.530	2	N/A
ED-1096	R6	33.21908254, -115.40366838	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.233	396.137	25	N/A
ED-1097	R6	33.20827055, -115.39934655	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	75.216	2	N/A
ED-1100	R6	33.22193366, -115.40761211	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.118	637.313	8	N/A
ED-1103	R6	33.23449202, -115.42170061	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.000	0.463	5	N/A
ED-1104	R6	33.2169737, -115.39995194	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.076	400.409	8	N/A
ED-1107	R6	33.23093071, -115.42015237	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.000	6.634	40	N/A
ED-1113	R6	33.21680831, -115.40269529	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.028	196.791	6	N/A
ED-1117	R6	33.21606549, -115.40235345	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	126.089	5	N/A
ED-1118	R6	33.22580178, -115.40728469	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.157	335.106	20	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-1121	R6	33.2277448, -115.41118109	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.000	1.830	15	N/A
ED-1125	R6	33.23408874, -115.40985789	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.083	1197.912	3	N/A
ED-1128	R6	33.21568961, -115.39871266	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.040	171.073	10	N/A
ED-1130	R6	33.20895309, -115.40028201	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	312.619	2	N/A
ED-1133	R6	33.23302219, -115.41530811	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.042	204.003	9	N/A
ED-1137	R6	33.22483874, -115.40664709	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	10.446	15	N/A
ED-1139	R6	33.21770515, -115.39450317	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.001	18.556	3	N/A
ED-1143	R6	33.2312474, -115.41797898	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.342	343.659	40	N/A
ED-1152	R6	33.21789564, -115.40166744	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.076	399.344	8	N/A
ED-1153	R6	33.23402118, -115.41171099	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.511	599.651	35	N/A
ED-1155	R6	33.21276802, -115.4049186	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.045	230.595	8	N/A
ED-1157	R6	33.22902642, -115.40679729	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	170.515	2	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-1158	R6	33.21614335, -115.40350849	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.043	180.817	10	N/A
ED-1159	R6	33.22373263, -115.40934634	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.074	398.867	8	N/A
ED-1163	R6	33.23290660, -115.41493744	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.087	618.095	6	N/A
ED-1164	R6	33.21330650, -115.38981267	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.017	120.153	6	N/A
ED-1165	R6	33.21880124, -115.40498489	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.089	311.382	12	N/A
ED-1167	R6	33.2338001, -115.41373832	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.039	127.944	12	N/A
ED-1170	R6	33.21580050, -115.39725411	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.011	152.419	3	N/A
ED-1172	R6	33.21778367, -115.40462546	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.144	295.559	20	N/A
ED-1175	R6	33.22452651, -115.40708709	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.499	411.714	40	N/A
ED-1176	R6	33.22640015, -115.410748	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.110	462.832	10	N/A
ED-1177	R6	33.21326909, -115.40536324	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.070	426.097	7	N/A
ED-1180	R6	33.23003934, -115.40718359	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	142.259	10	N/A

PC ORIGINAL PKG

Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-1181	R6	33.21251159, -115.39075892	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.059	427.324	6	N/A
ED-1184	R6	33.21680919, -115.40476937	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.106	573.135	8	N/A
ED-1185	R6	33.21835881, -115.40576588	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	21.075	10	N/A
ED-1189	R6	33.23383546, -115.41313501	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.010	136.341	3	N/A
ED-1190	R6	33.22052980, -115.40747607	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	313.215	2	N/A
ED-1193	R6	33.23394638, -115.40970336	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.233	1443.014	7	N/A
ED-1194	R6	33.21242461, -115.39643895	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	120.320	5	N/A
ED-1195	R6	33.21592671, -115.40294676	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.049	167.281	12	N/A
ED-1196	R6	33.22290426, -115.40794331	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.029	418.336	3	N/A
ED-1201	R6	33.2181672, -115.40538005	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.048	340.207	6	N/A
ED-1205	R6	33.22769174, -115.40864925	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	37.092	2	N/A
ED-1207	R6	33.21938859, -115.39872402	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.049	294.387	7	N/A

PC ORIGINAL PKG

Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-1208	R6	33.21911691, -115.39730335	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.031	177.350	7	N/A
ED-1210	R6	33.23086055, -115.41950899	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	88.307	4	N/A
ED-1212	R6	33.20731892, -115.39982708	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	182.446	8	N/A
ED-1213	R6	33.21930268, -115.40112195	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.117	192.742	25	N/A
ED-1214	R6	33.21259495, -115.40466098	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.026	152.454	7	N/A
ED-1216	R6	33.21227739, -115.39393888	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.029	240.977	5	N/A
ED-1219	R6	33.23317367, -115.41535919	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.041	216.890	8	N/A
ED-1221	R6	33.21584132, -115.40539248	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.178	231.832	30	N/A
ED-1228	R6	33.21920242, -115.40446699	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.158	447.602	15	N/A
ED-1233	R6	33.21583859, -115.40456634	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.117	329.915	15	N/A
ED-1234	R6	33.21800411, -115.40347425	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.207	442.258	20	N/A
ED-1235	R6	33.22999379, -115.40826992	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.014	195.611	3	N/A

PC ORIGINAL PKG

Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-1236	R6	33.23341735, -115.4215397	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.041	584.247	3	N/A
ED-1240	R6	33.22677324, -115.41062416	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.055	596.706	4	N/A
ED-1242	R6	33.21881572, -115.40565367	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.085	266.710	15	N/A
ED-1243	R6	33.22658843, -115.41071543	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.011	233.883	2	N/A
ED-1247	R6	33.23355737, -115.41692563	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.068	362.186	8	N/A
ED-1249	R6	33.22059676, -115.41086866	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	109.085	3	N/A
ED-1252	R6	33.22339229, -115.40714051	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.214	296.442	20	N/A
ED-1253	R6	33.22130874, -115.41006355	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.694	501.450	20	N/A
ED-1254	R6	33.21273796, -115.39052594	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.029	251.908	5	N/A
ED-1259	R6	33.21631181, -115.39214891	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.048	204.366	10	N/A
ED-1260	R6	33.21602391, -115.40581328	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.001	8.076	10	N/A
ED-1263	R6	33.21570182, -115.39907588	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.098	422.342	10	N/A

PC ORIGINAL PKG

Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-1264	R6	33.21946410, -115.40065208	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.104	145.686	30	N/A
ED-1266	R6	33.21963600, -115.39552288	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.000	6.492	10	N/A
ED-1268	R6	33.23370969, -115.41293937	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	119.605	2	N/A
ED-1269	R6	33.23003383, -115.41635205	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.0219	151.832	6	N/A
ED-1270	R6	33.21648831, -115.40524908	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.0335	195.832	7	N/A
ED-1275	R6	33.23164159, -115.41850193	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.144	618.105	10	N/A
Total	N/A	N/A	N/A	N/A	50.830	166085.900	N/A	239.749

[1]ED= Ephemeral Drainage
[2] Cowardin Codes: (R6) Riverine, Ephemeral (USFWS 2020b).
[3]Bank-to-bank width.
[4]Includes Alkali Sink and Riparian Habitat acreages.
[5]Drainage has been removed from Impact Area, but associated riparian habitat is included.

PC ORIGINAL PKG

OHWM and Wetland Determination Data Forms – Arid West Region

PC ORIGINAL PKG

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Vega SES 2/3
Project Number:
Stream: ED-3005 (Cross section #100)
Investigator(s): C. Torres, G. Hampton

Date: 11/12/2020
Town: Calipatria
Photo begin file#:

Time: 9:20 AM
State: CA
Photo end file#:

Y [X] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [X] Is the site significantly disturbed?

Location Details: Cross section taken at Siphon 4 where the associated drainage system crosses Coachella Canal.

Projection: **Datum:** NAD83
Coordinates:

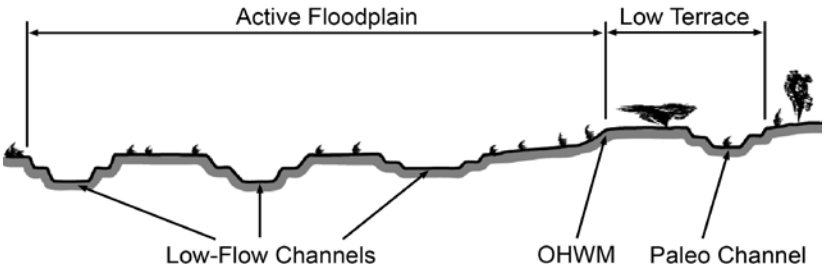
Potential anthropogenic influences on the channel system: Drainage system is diverted to cross over the Coachella Canal via a series of Siphons: Siphon 4, Siphon 5, and Siphon 6. Manmade berms that serve to divert surface flow are present along the railroad, canal, and other areas within the Study Areas. Active agriculture is adjacent to the northwest portion of the Study Areas. Area is actively used for offroad vehicles, including some of the larger drainages that double as roads.

Brief site description: The Study Areas and adjacent Chocolate Mountains are part of an alluvial fan drainage system. The Coachella Canal bisects Study Areas 2 and 3. Unlined, manmade retention basins are located directly west of and run parallel to the Coachella Canal. A railroad right-of-way borders the southwestern portion of the site, and a drainage system flows southwest under the railroad via a concrete underpass. Drainages flow southwest in direction of the East Highline Canal.

Checklist of resources (if available):

- [X] Aerial photography
  Dates: 1953-2015
- [X] Topographic maps
- [ ] Geologic maps
- [X] Vegetation maps
- [X] Soils maps
- [X] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [X] Global positioning system (GPS)
- [ ] Other studies
- [ ] Stream gage data
  Gage number:
  Period of record:
- [ ] History of recent effective discharges
- [ ] Results of flood frequency analysis
- [ ] Most recent shift-adjusted rating
- [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



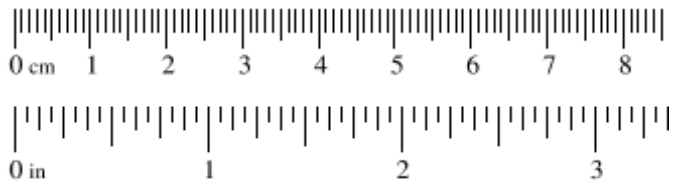
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - [ ] Mapping on aerial photograph
   - [X] GPS
   - [ ] Digitized on computer
   - [ ] Other:

PC ORIGINAL PKG

Wentworth Size Classes

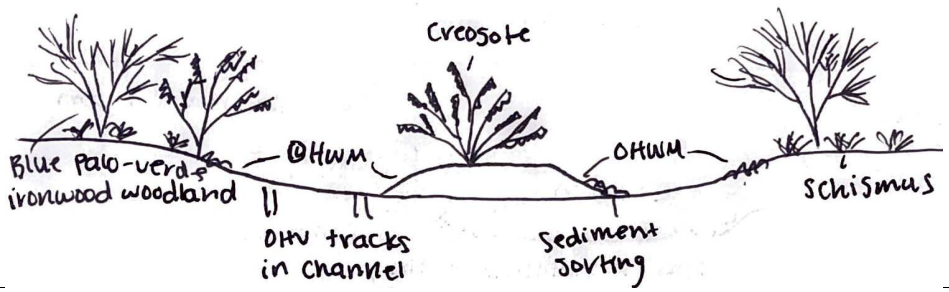
Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	
		Cobble	Gravel
2.56	64	Pebble	
0.157	4	Granule	
0.079	2.00	Very coarse sand	
0.039	1.00	Coarse sand	
0.020	0.50	Medium sand	Sand
1/2 0.0098	0.25	Fine sand	
1/4 0.005	0.125	Very fine sand	
1/8 0.0025	0.0625	Coarse silt	
1/16 0.0012	0.031	Medium silt	
1/32 0.00061	0.0156	Fine silt	Silt
1/64 0.00031	0.0078	Very fine silt	
1/128 0.00015	0.0039	Clay	Mud



PC ORIGINAL PKG

Project ID: Vega SES 2/3 **Cross section ID:** ED-3005 (#100) **Date:** 11/12/2020 **Time:** 9:20 AM

Cross section drawing:



OHWM

GPS point: 33.205770, -115.404347

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Large drainage also being used as a road for OHV. Riparian habitat associated with drainage system. Slight break in bed and bank.
OHWM: 15' width, 5" depth
B2B: 50' width, 1' depth

Floodplain unit:

- [x] Low-Flow Channel
- [ ] Active Floodplain
- [ ] Low Terrace

GPS point: 33.205770, -115.404347

Characteristics of the floodplain unit:

Average sediment texture: Medium sand
Total veg cover: 15 % Tree: 10 % Shrub: 5 % Herb: _____%
Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [x] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [x] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Channel itself is unvegetated with some vegetated islands. Blue palo-verde and ironwood woodland line the banks, with occasional creosote bush. A number of channels branch off the main drainage that flows into Siphon Four.

PC ORIGINAL PKG

Project ID: **Cross section ID:** **Date:** **Time:**

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

PC ORIGINAL PKG

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Vega SES 2/3
Project Number:
Stream: ED-3004 (Cross section #101)
Investigator(s): C. Torres, G. Hampton

Date: 11/11/2020
Town: Calipatria
Photo begin file#:

Time: 10:00 AM
State: CA
Photo end file#:

Y [x] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [x] Is the site significantly disturbed?

Location Details: Cross section taken at Siphon 5 where the associated drainage system crosses Coachella Canal.

Projection:
Datum: NAD83
Coordinates:

Potential anthropogenic influences on the channel system: Drainage system is diverted to cross over the Coachella Canal via a series of Siphons: Siphon 4, Siphon 5, and Siphon 6. Manmade berms that serve to divert surface flow are present along the railroad, canal, and other areas within the Study Areas. Active agriculture is adjacent to the northwest portion of the Study Areas. Area is actively used for offroad vehicles, including some of the larger drainages that double as roads.

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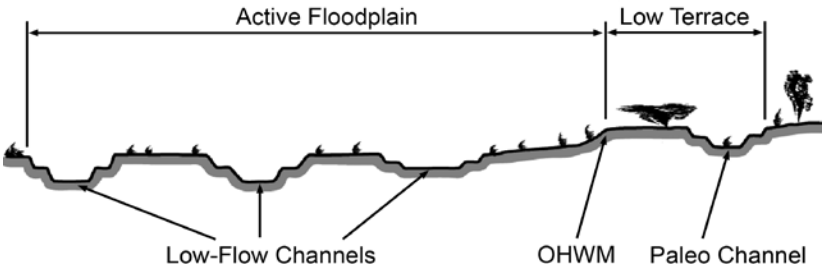
Checklist of resources (if available):

- [x] Aerial photography
  Dates: 1953-2015
- [x] Topographic maps
- [ ] Geologic maps
- [x] Vegetation maps
- [x] Soils maps
- [x] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [x] Global positioning system (GPS)
- [ ] Other studies
- [ ] Stream gage data
  Gage number:
  Period of record:
- [ ] History of recent effective discharges
- [ ] Results of flood frequency analysis
- [ ] Most recent shift-adjusted rating
- [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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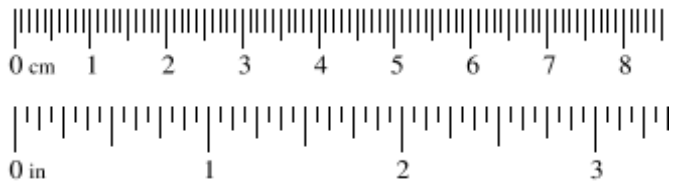
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - [ ] Mapping on aerial photograph
   - [x] GPS
   - [ ] Digitized on computer
   - [ ] Other:

PC ORIGINAL PKG

Wentworth Size Classes

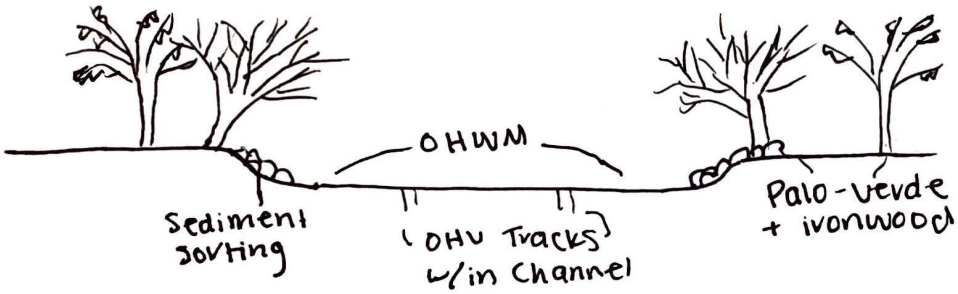
Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	
		Cobble	Gravel
2.56	64	Pebble	
0.157	4	Granule	
0.079	2.00	Very coarse sand	
0.039	1.00	Coarse sand	
0.020	0.50	Medium sand	Sand
1/2 0.0098	0.25	Fine sand	
1/4 0.005	0.125	Very fine sand	
1/8 0.0025	0.0625	Coarse silt	
1/16 0.0012	0.031	Medium silt	
1/32 0.00061	0.0156	Fine silt	Silt
1/64 0.00031	0.0078	Very fine silt	
1/128 0.00015	0.0039	Clay	Mud



PC ORIGINAL PKG

Project ID: Vega SES 2/3 **Cross section ID:** ED-3004 (#101) **Date:** 11/11/2020 **Time:** 10:00 AM

Cross section drawing:



OHWM

GPS point: 32.215538, -115.411027

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Large drainage also being used as a road for OHV. Riparian habitat associated with drainage system.
OHWM: 10' width, 2" depth
B2B: 45' width, 2' depth

Floodplain unit:

[x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: 32.215538, -115.411027

Characteristics of the floodplain unit:

Average sediment texture: Medium Sand
Total veg cover: 10 % Tree: 10 % Shrub: 0 % Herb: 0 %
Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [x] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [x] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Channel itself is unvegetated. Blue palo-verde and ironwood line the banks, with occasional creosote bush further downstream. A number of channels branch off the main drainage that flows into Siphon Five.

PC ORIGINAL PKG

Project ID: **Cross section ID:** **Date:** **Time:**

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

PC ORIGINAL PKG

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Vega SES 2/3
Project Number:
Stream: ED-3002 (Cross section #102)
Investigator(s): C. Torres, G. Hampton

Date: 11/9/2020 **Time:** 1:20 PM
Town: Calipatria **State:** CA
Photo begin file#: **Photo end file#:**

Y [X] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [X] Is the site significantly disturbed?

Location Details: Cross section taken at Siphon 6 where the associated drainage system crosses Coachella Canal.

Projection: **Datum:** NAD83
Coordinates:

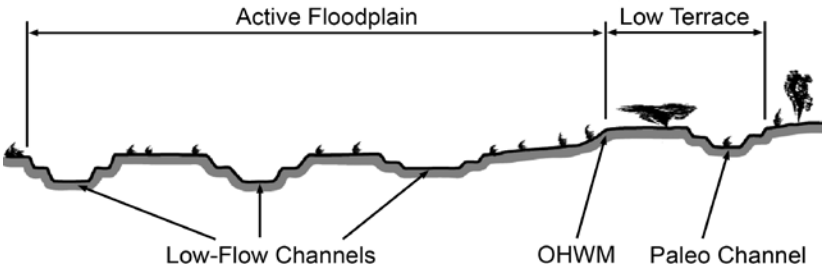
Potential anthropogenic influences on the channel system: Drainage system is diverted over the Coachella Canal via a series of Siphons: Siphon 4, Siphon 5, and Siphon 6. Manmade berms that serve to divert surface flow are present along the railroad, canal, and other areas within the Study Areas. Active agriculture is adjacent to the northwest portion of the Study Areas. Area is actively used for offroad vehicles, including some of the larger drainages that double as roads.

Brief site description: The Study Areas and adjacent Chocolate Mountains are part of an alluvial fan drainage system. The Coachella Canal bisects Study Areas 2 and 3. Unlined, manmade retention basins are located directly west of and run parallel to the Coachella Canal. A railroad right-of-way borders the southwestern portion of the site, and a drainage system flows southwest under the railroad via a concrete underpass. Drainages flow southwest in direction of the East Highline Canal.

Checklist of resources (if available):

- [X] Aerial photography
  Dates: 1953-2015
- [X] Topographic maps
- [ ] Geologic maps
- [X] Vegetation maps
- [X] Soils maps
- [X] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [X] Global positioning system (GPS)
- [ ] Other studies
- [ ] Stream gage data
  Gage number:
  Period of record:
- [ ] History of recent effective discharges
- [ ] Results of flood frequency analysis
- [ ] Most recent shift-adjusted rating
- [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - [ ] Mapping on aerial photograph
   - [X] GPS
   - [ ] Digitized on computer
   - [ ] Other:

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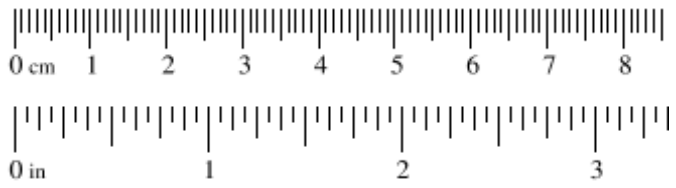
Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	
		Cobble	Gravel
2.56	64	Pebble	
0.157	4	Granule	
0.079	2.00	Very coarse sand	
0.039	1.00	Coarse sand	
0.020	0.50	Medium sand	Sand
1/2 0.0098	0.25	Fine sand	
1/4 0.005	0.125	Very fine sand	
1/8 0.0025	0.0625	Coarse silt	
1/16 0.0012	0.031	Medium silt	
1/32 0.00061	0.0156	Fine silt	Silt
1/64 0.00031	0.0078	Very fine silt	
1/128 0.00015	0.0039	Clay	Mud



PC ORIGINAL PKG

Project ID: Vega SES 2/3 **Cross section ID:** ED-3002 (#102) **Date:** 11/9/2020 **Time:** 1:20 PM

Cross section drawing:

OHWM

GPS point: 33.231588, -115.422418

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Large drainage also being used as a road for OHV. Riparian habitat associated with drainage system. Slight break in bed and bank.
OHWM: 25' width, 2" depth
B2B: 30' width, 5" depth

Floodplain unit:

- [x] Low-Flow Channel
- [ ] Active Floodplain
- [ ] Low Terrace

GPS point: 33.231588, -115.422418

Characteristics of the floodplain unit:

Average sediment texture: Medium sand
Total veg cover: 12 % Tree: 12 % Shrub: _____% Herb: _____%
Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [x] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [x] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Channel itself is unvegetated. Palo verde-ironwood woodland on banks, with scattered individuals of creosote bush. A number of braided channels offshoot from main drainage that leads into Siphon Six.

PC ORIGINAL PKG

Project ID: **Cross section ID:** **Date:** **Time:**

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

PC ORIGINAL PKG

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Vega SES 2/3
Project Number:
Stream: ED-3001 (Cross section #200)
Investigator(s): C. Congedo, C. Torres

Date: 09/29/2020
Town: Calipatria
Photo begin file#:

Time: 10:30AM
State: CA
Photo end file#:

Y [x] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [x] Is the site significantly disturbed?

Location Details: Cross section taken of ID-01 adjacent to railroad right-of-way at northeast portion of Project Area.

Projection:
Datum: NAD83
Coordinates:

Potential anthropogenic influences on the channel system:
Channel diverted under railroad tracks using a concrete culvert, and drainage system eventually meets with the East Highline Canal at the southwest end of the site. Lateral canals divert water from the East Highline Canal to active agriculture that is adjacent to the Project Area.

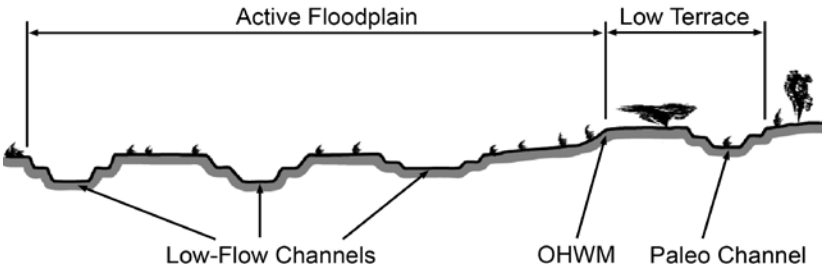
Brief site description: The East Highline Canal bisects the western portion of the Study Area, and the Study Area is bordered by a railroad right-of-way to the northeast. The portion of the site that is southwest of the canal consists of undeveloped land that was historically used for agriculture. The portion of the site that is northeast of the canal is comprised of a drainage system and associated wetland and riparian habitats. Wetland habitat lines both sides of the East Highline Canal.

Checklist of resources (if available):

- [x] Aerial photography
  Dates: 1953- 2015
- [x] Topographic maps
- [ ] Geologic maps
- [x] Vegetation maps
- [x] Soils maps
- [x] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [x] Global positioning system (GPS)
- [ ] Other studies

- [ ] Stream gage data
  Gage number:
  Period of record:
- [ ] History of recent effective discharges
- [ ] Results of flood frequency analysis
- [ ] Most recent shift-adjusted rating
- [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



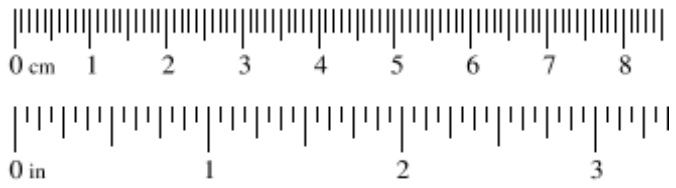
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - [ ] Mapping on aerial photograph
   - [ ] Digitized on computer
   - [x] GPS
   - [ ] Other:

PC ORIGINAL PKG

Wentworth Size Classes

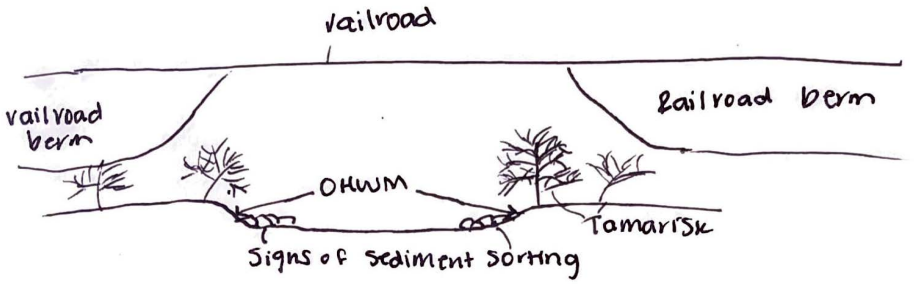
Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	
		Cobble	Gravel
2.56	64	Pebble	
0.157	4	Granule	
0.079	2.00	Very coarse sand	
0.039	1.00	Coarse sand	
0.020	0.50	Medium sand	Sand
1/2 0.0098	0.25	Fine sand	
1/4 0.005	0.125	Very fine sand	
1/8 0.0025	0.0625	Coarse silt	
1/16 0.0012	0.031	Medium silt	
1/32 0.00061	0.0156	Fine silt	Silt
1/64 0.00031	0.0078	Very fine silt	
1/128 0.00015	0.0039	Clay	Mud



PC ORIGINAL PKG

Project ID: Vega SES 5 **Cross section ID:** ED-3001 (#200) **Date:** 09/29/2020 **Time:** 10:30 AM

Cross section drawing:



OHWM

GPS point: 33.206767, -115.431705

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Cross section taken adjacent to railroad. Drainage width eventually increases further downstream as feature continues through site.
OHWM: 3' width, 4" depth
B2B: 4' width, 1' depth

Floodplain unit:

- [x] Low-Flow Channel
- [ ] Active Floodplain
- [ ] Low Terrace

GPS point: 33.206767, -115.431705

Characteristics of the floodplain unit:

Average sediment texture: Medium to fine sand
Total veg cover: 10 % Tree: 10 % Shrub: 0 % Herb: 0 %
Community successional stage:

- [ ] NA
- [x] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [x] Soil development
- [x] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Channel itself is unvegetated. *Tamarix* sp. present on banks of channel. Further downstream there a few scattered individuals of ironwood mixed with tamarisk.

PC ORIGINAL PKG

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 2 City/County: Calipatria/ Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 1

Investigator(s): G. Hampton and C. Torres Section, Township, Range: S8, T11S, R15E

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 15

Subregion (LRR): D Lat: 33.229181 Long: -115.424770 Datum: NAD83

Soil Map Unit Name: Rositas fine sand, wet, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Area adjacent to drainages and hard-packed dirt road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	2		FAC
2.			
3.			
4.			
	2	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 15')			
1. Schismus barbatus	5	x	N/A
2. Cryptantha angustifolia	3		N/A
3.			
4.			
5.			
6.			
7.			
8.			
	8	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 90 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	2	x 3 =	6
FACU species	0	x 4 =	0
UPL species	8	x 5 =	40
Column Totals:	10 (A)		46 (B)

Prevalence Index = B/A = 4.6

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Area mainly consists of dead tamarisk- branches and debris.

PC ORIGINAL PKG

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/3	100					Sandy loa	
3-9	10YR 4/4	100					Loamy sa	
9-13+	10YR 4/4	100					Loamy sa	Rock/gravel deposits in soil.

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ✓ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): _____

Water Table Present? Yes ____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 2 City/County: Calipatria/ Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 2

Investigator(s): G. Hampton and C. Torres Section, Township, Range: S8, T11S, R15E

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 15

Subregion (LRR): D Lat: 33.230137 Long: -115.425168 Datum: NAD83

Soil Map Unit Name: Rositas fine sand, wet, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Area adjacent to drainages and hard-packed dirt road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	3		FAC
2.			
3.			
4.			
	3	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 15')			
1. Schismus barbatus	10	x	N/A
2. Cryptantha angustifolia	2		N/A
3.			
4.			
5.			
6.			
7.			
8.			
	12	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 85 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	3	x 3 =	9
FACU species	0	x 4 =	0
UPL species	12	x 5 =	60
Column Totals:	15 (A)		69 (B)

Prevalence Index = B/A = 4.6

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Area mainly consists of dead tamarisk- branches and debris.

PC ORIGINAL PKG

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13+	10YR 4/4	100					Loamy sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

PC ORIGINAL PKG

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 2 City/County: Calipatria/ Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 3

Investigator(s): G. Hampton and C. Torres Section, Township, Range: S8, T11S, R15E

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Non Slope (%): 15

Subregion (LRR): D Lat: 33.230593 Long: -115.424544 Datum: NAD83

Soil Map Unit Name: Rositas fine sand, wet, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Area adjacent to drainages and hard-packed dirt road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	1		FAC
2.			
3.			
4.			
	1	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 15')			
1. Schismus barbatus	7	x	N/A
2. Cryptantha angustifolia	3		N/A
3.			
4.			
5.			
6.			
7.			
8.			
	10	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 89 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	1	x 3 =	3
FACU species	0	x 4 =	0
UPL species	10	x 5 =	50
Column Totals:	11 (A)		53 (B)

Prevalence Index = B/A = 4.8

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Area mainly consists of dead tamarisk- branches and debris.

PC ORIGINAL PKG

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/3	99	5YR 5/8	1	C	M	Silt loam	
3-13+	10YR 4/3	100					Loamy sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 2 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 551

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 8

Subregion (LRR): D Lat: 33.207607 Long: -115.430569 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Point taken ~250 feet northeast (upslope) of railroad right-of-way.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Tamarix sp.	20	x	FAC
2. Suaeda nigra	3		OBL
3.			
4.			
5.			
	23	= Total Cover	
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 77 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	23 (A)		63 (B)

Prevalence Index = B/A = 2.7

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 551

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 5/4	100					Loamy sa	Fine
6-8+	10YR 5/4	97	Gley 1, 2.5/N	3	C	M	Loamy sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 2 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 552

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Alluvial fan Local relief (concave, convex, none): Concave Slope (%): 8

Subregion (LRR): D Lat: 33.207840 Long: -115.431894 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Point taken ~110 feet northeast (upslope) of railroad right-of-way.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Suaeda nigra	5	x	OBL
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 95 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	5 (A)		5 (B)

Prevalence Index = B/A = 1.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 552

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 4/4	100					Silt loam	
4-7	7.5YR 5/4	100					Loamy sa	10% small/medium pebbles
7-10+	7.5YR 4/4	97	5YR 5/8	3	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

ATTACHMENT D

Representative Site Photographs

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Photo 1. Section of the Coachella Canal adjacent to the Impact Area of Study Area 2; photo facing northwest. November 9, 2020.

Photo 2. View of the railroad right-of-way bordering the southwest portion of Study Area 1. The ED-3001 drainage crosses the railroad via an underpass; photo facing northeast. November 11, 2020.

PC ORIGINAL PKG

Photo 3. Evidence of defined bed and bank for ED-3001 within the southern portion of Study Area 1; photo facing southwest. September 30, 2020.

Photo 4. Downstream view of ED-3002 at OHWM Cross Section 102. Drainage associated with Siphon Six within the northwestern portion of Study Area 2; photo facing southwest. November 9, 2020.

PC ORIGINAL PKG

Photo 5. Upstream view of ED-3003. Drainage associated with Siphon Five within the northwestern portion of Study Area 2; photo facing north. January 27, 2021.

Photo 6. Upstream view of ED-3004 at OHWM Cross Section 101. Drainage associated with Siphon Five within the northwestern portion of Study Area 3; photo facing east. November 11, 2020.

PC ORIGINAL PKG

Photo 7. Example of an ephemeral channel determined to be active due to the presence of two or more OHWM indicators within the northwestern portion of Study Area 3; photo facing east. January 26, 2021.

Photo 8. Example of an ephemeral channel determined to be inactive within the southeastern portion of Study Area 3; photo facing west. January 27, 2021.

PC ORIGINAL PKG

Photo 9. View of Sampling Point 552 taken within alkali sink habitat at the southwest portion of Study Area 1 along the railroad tracks; photo facing southeast. November 11, 2020.

Photo 10. View of the riparian habitat associated with ED-3002 near Sampling Point 2 within the northwest portion of Study Area 2; photo facing southeast. November 11, 2020

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ATTACHMENT E

USACE ORM Aquatic Resources Table
(Provided as an accompanying electronic file)

PC ORIGINAL PKG

ATTACHMENT F

Digital Data
(Provided as accompanying electronic files)

PC ORIGINAL PKG

Aquatic Resources Delineation

Vega SES 5 Solar Project

Imperial County, California

Prepared For:

Apex Energy Solutions, LLC.
604 Sutter Street
Suite 250
Folsom, California 95630
(916) 985-9461

Submitted By:

ECORP Consulting, Inc.
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(858) 279-4040

February 2021, revised October 2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

PC ORIGINAL PKG

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LIST OF ACRONYMS AND ABBREVIATIONS

Amsl	Above mean sea level
APN	Assessor's Parcel Number
APT	Antecedent Precipitation Tool
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CNPS	California Native Plant Society
CWA	Clean Water Act
FP	Freshwater pond
FSW	Forested/shrub wetlands
Gen-tie	Generator inter-tie
GIS	Geographic Information System
GPS	Global Positioning System
IID	Imperial Irrigation District
MW	Megawatt
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWPR	Navigable Waters Protection Rule
OHWM	Ordinary high-water mark
ORM	OMBIL Regulatory Module
Project	Vega SES 5 Solar Project
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
sUAS	Small unmanned aircraft system
SWQB	Surface Water Quality Bureau
SWRCB	State Water Resources Control Board
TNW	Traditional navigable water
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency

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LIST OF ACRONYMS AND ABBREVIATIONS

USGS	U.S. Geological Survey
WDR	Waste discharge regulation

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1.0 INTRODUCTION

This aquatic resources delineation report was prepared to describe the aquatic resources at the Vega SES 5 Solar Project (Project). The proposed Project is a 50-megawatt (MW) alternating current solar photovoltaic energy project with an integrated 50-MW battery storage utility-scale solar project located on approximately 405 acres of land (*Project Area*) on three private parcels in Imperial County, California (Assessor Parcel Numbers [APNs] 025-260-022-000, 025-260-019-000, and a portion of 025-260-011-000). For the purposes of this report, the term *Impact Area* refers to the area proposed to be directly affected by implementation of the Project and corresponds to the client supplied project impact boundary.

The Project Area is approximately 10 miles east of the Salton Sea and five miles east of the Chocolate Mountains (Figure 1. *Project Location and Vicinity*). The Project Area corresponds to portions of Sections 8, 16, 17, 18, 19, and 20; Township 11 South; and Range 15 East (San Bernardino Base and Meridian) of the "Iris, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1992). The approximate center of the Project Area is located at 33.206020° latitude and -115.440959° longitude within the Salton Sea Watershed (Hydrologic Unit Code #18100204, Natural Resources Conservation Service [NRCS], USGS, and U.S. Environmental Protection Agency [USEPA] 2016). Driving directions to the site are included as Attachment A.

This report describes aquatic resources identified within the Impact Area that may be regulated by the Porter-Cologne Water Quality Act, California Fish and Game Code Section 1600 and 1602, and the U.S. Army Corps of Engineers (USACE) pursuant to Sections 401 and 404 of the federal Clean Water Act (CWA). The information presented in this report provides data required by the USACE Los Angeles District's *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (USACE 2016). The aquatic resource boundaries depicted in this report represent a calculated estimation of the potentially jurisdictional area within the Impact Area and are subject to modification following a verification process by each regulating agency.

The original area surveyed in 2020 and 2021 included a larger footprint. This area was the Project Area plus a 500-foot buffer. The Impact Area of the Project was refined in 2022. Therefore, the original 2020 and 2021 survey area, including features mapped and sample points collected outside of the updated Impact Areas are shown on the figures to provide context. However, this report is intended to provide information to support USACE review and verification for features within the Impact Area only.

2.0 REGULATORY SETTING

2.1 Clean Water Act

The USACE regulates discharge of dredged or fill material into waters of the U.S. under Section 404 of the CWA. "Discharges of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to, the following: placement of fill necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road

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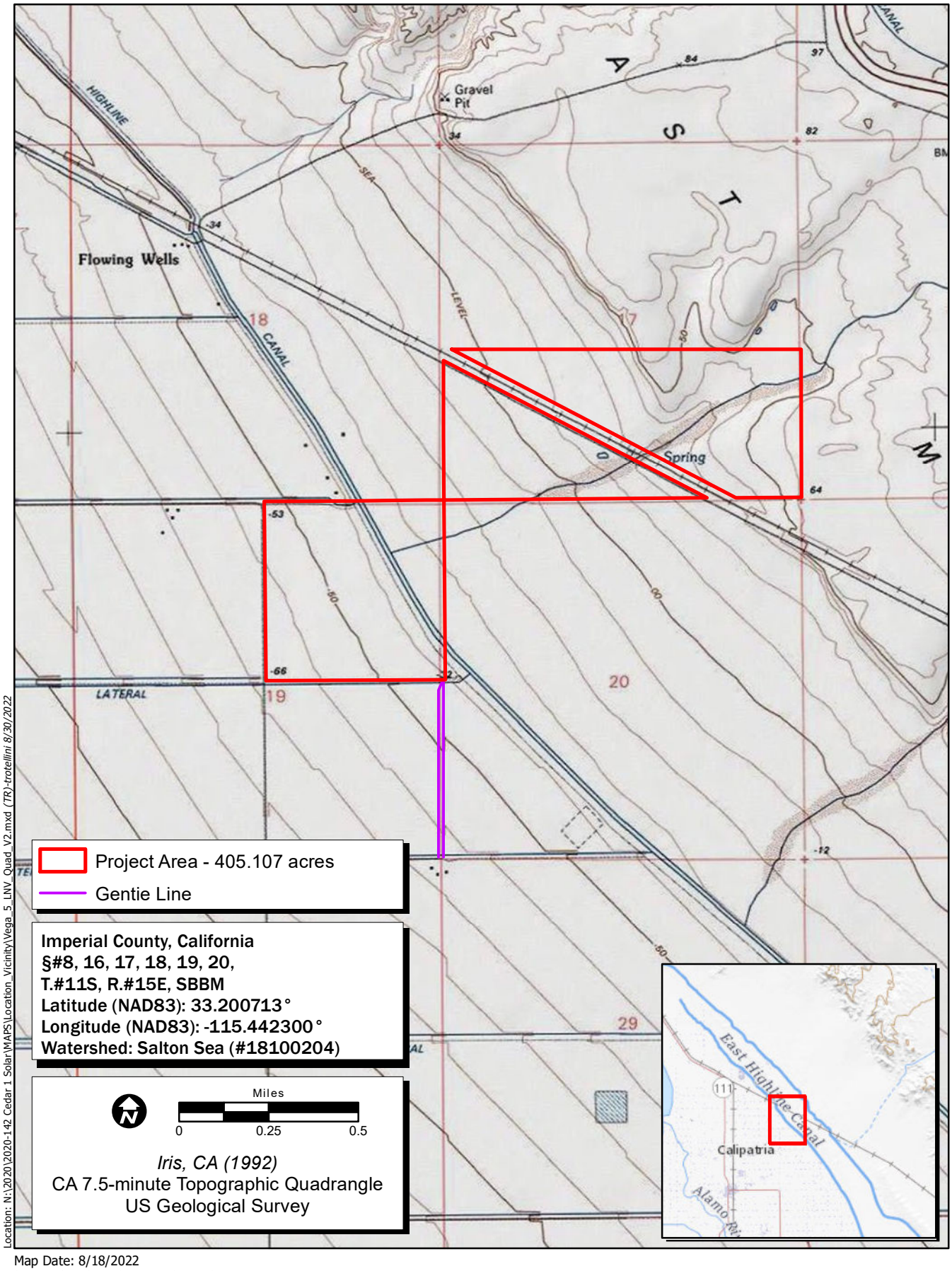

Location: N:\2020\2020-142 Cedar 1 Solar\MAPS\Location_Vicinity\Vega_5_LNV_Quad_V2.mxd (TR)-trotellini 8/30/2022

Map Date: 8/18/2022

Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed

Figure 1. Project Location and Vicinity

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fills; and fill for intake and outfall pipes, and subaqueous utility lines [33 CFR § 328.2(f)]. In addition, Section 401 of the CWA (33 U.S. Code 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Substantial impacts to wetlands, over 0.5 acre of impact, may require an individual permit. Projects that only minimally affect wetlands, less than 0.5 acre of impact, may meet the conditions of one of the existing Nationwide Permits. A RWQCB Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for USACE Section 404 permit actions.

Pursuant to the USEPA and USACE memorandum regarding CWA jurisdiction, issued following the U.S. Supreme Court's decision in the consolidated cases Rapanos v. United States and Carabell v. United States (herein referred to as Rapanos), the agencies will assert jurisdiction over the following waters: "Traditional Navigable Waters" (TNW), all wetlands adjacent to TNWs, non-navigable tributaries of TNWs that are "relatively permanent" waters (RPW) (i.e., tributaries that typically flow year-round or have continuous flow at least seasonally), and wetlands that directly abut such tributaries (USEPA and USACE 2007).

Waters requiring a significant nexus determination by the USACE and USEPA to establish jurisdiction include non-navigable tributaries that are not relatively permanent, wetlands adjacent to non-navigable tributaries that are not relatively permanent, and wetlands adjacent to but do not directly abut a relatively permanent non-navigable tributary (USEPA and USACE 2007). The jurisdictional determination is a fact-based evaluation to establish whether a water has a significant nexus with a TNW. The significant nexus analysis will assess the flow characteristics and functions of the non-navigable tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream TNWs (USEPA and USACE 2007).

2.2 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (hereafter referred to as Porter-Cologne Act) provides a framework to protect water quality in California. The Porter-Cologne Act was enacted in 1969 as Division 7 of the Water Code and is the primary water quality law in California. The Porter-Cologne Act addresses two primary functions: water quality control planning and waste discharge regulation (WDR). The State Legislature, in adopting the Porter-Cologne Act, directed that California's waters "shall be regulated to attain the highest water quality which is reasonable" and charges the Water Boards with protecting all waters of California, defined as "any surface water or groundwater, including saline waters, within the boundaries of the State." This encompasses all Waters of the State, including those not under federal jurisdiction.

The Porter-Cologne Act regulates discharges that could affect the quality of water of surface or ground waters, wherever those discharges may occur. Under the Porter-Cologne Act, the Water Board regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" [Water Code 13260(a)]. Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" [Water Code 13050 (e)].

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The Porter Cologne Act defines "Waters of the State" very broadly, with no physical descriptors, and no interstate commerce limitation.

The Porter-Cologne Act further requires that anyone who plans to discharge waste where it might affect Waters of the State must first notify the Water Boards. The Water Boards identify the sources of pollutants that threaten water quality under the Porter-Cologne Act and regulate waste discharges that could affect water quality by issuing WDRs. The State Water Resources Control Board (SWRCB) adopted the *State Wetland Definition and Procedures for Discharge of Dredged or Fill Material into Waters of the U.S.* in April 2019. The Water Board regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by USACE due to a lack of connectivity with a navigable water body. The Water Board may require issuance of a WDR for these activities. If a project impacts Waters of the State that do not fall under federal jurisdiction, the applicant need not obtain a section 404 permit or a 401 certification, but instead must receive approval from the Water Boards through the adoption of WDRs.

2.3 California Fish and Game Code Section 1602

Pursuant to Section 1602 of the California Fish and Game Code, a Streambed Alteration Agreement (SAA) application must be submitted for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake" (California Department of Fish and Wildlife [CDFW] 2020). In Title 14 of the California Code of Regulations, Section 1.72, the CDFW defines a *stream* (including creeks and rivers) as:

> "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

The CDFW's jurisdiction includes drainages with a definable bed, bank, or channel with the jurisdictional limit being the top-of-bank. It also includes areas that support intermittent, perennial, or subsurface flows; supports fish or other aquatic life; or supports riparian or hydrophytic vegetation. It also includes areas that have a hydrologic source.

The CDFW will determine if the proposed actions will result in diversion, obstruction, or change of the natural flow, bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. The CDFW will submit an SAA that includes measures to protect affected fish and wildlife resources; this SAA is the final proposal agreed upon by the CDFW and the applicant.

A summary of federal, state, and local regulations and corresponding regulating agencies are summarized in Table 1.

Table 1. Summary of Federal, State, and Local Regulations

Regulation	Resource	Regulating Agency
Federal Regulations		
Federal Clean Water Act	Aquatic features meeting the definition of Waters of the US	USACE

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State Regulations		
California Fish and Game Code Section 1602	River, stream, or lake and associated riparian habitat	CDFW
Porter-Cologne Act	Aquatic features meeting the definition of Waters of the State	SWRCB/RWQCB

3.0 METHODS

3.1 Pre-Survey Investigations

Due to the size of the area and limited road access, an initial survey utilizing a small Unmanned Aircraft System (sUAS) was conducted to assess current site conditions and gather high-resolution imagery. The sUAS survey was conducted on September 9, 2020. Photos collected during the sUAS survey were then combined into a single orthomosaic image that was incorporated into mapping files in a Geographic Information System (GIS). Potential aquatic resources, specifically drainages, within the Project Area were digitized prior to the field survey using the sUAS imagery. Prior to conducting the field delineations, the following resources were reviewed to identify potential aquatic resources: sUAS imagery, satellite aerial imagery (ESRI 2020; Google Earth 2015; USDA 2018), the National Wetlands Database, the online web soil survey (NRCS 2020a), and a hydric soils list for the area (NRCS 2020c).

3.2 Field Survey Investigation

This aquatic resources delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b), the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2010), and the State of New Mexico's *Hydrology Protocol for the Determination of Ephemeral, Intermittent, and Perennial Waters* (Surface Water Quality Bureau [SWQB] 2010). Field data was recorded on Wetland Determination Data Forms - Arid West Region and Arid West OHWM Datasheets. ESRI© and sUAS aerial imagery were used to assist with mapping and ground-truthing. *Munsell Soil Color Charts* (Kollmorgen Instruments Co. 1990) and the Web Soil Survey (NRCS 2020a) were used to aid in identifying hydric soils in the field. The Jepson Manual, 2nd Edition (Baldwin et al. 2012) and the USACE National Wetland Plant List (USACE 2018) were used for plant nomenclature and identification.

Digitized feature boundaries identified during the pre-survey investigation were then verified in the field. Feature boundary modifications, if necessary, were made in the field using a post-processing capable global positioning system unit with sub-meter accuracy (EOS Arrow 100 GNSS). Where aquatic features were present, the extent of potential Waters of the U.S. and CDFW-regulated streambed and top-of-bank limits were determined using the OHWM in accordance with USACE requirements and guidelines, as well as SWRCB and CDFW delineation guidance. Streambed widths were based on evidence of OHWM as observed during the field survey, and streambed widths and other lateral limits of jurisdiction were calculated and recorded. Bank-to-bank width measures were also recorded and used as a measure of

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CDFW jurisdictional boundary where features lacked riparian vegetation. The extent of associated riparian habitat was based on the canopy of the riparian community within or directly adjacent to the streambed that is likely influenced by the hydrology of the streambed. In addition, each of the drainages were evaluated for the presence or absence of sediment deposits, litter/debris, water stains, soil shelving, or exposed roots indicating active hydrology within the channel. Streambed widths and other lateral limits of jurisdiction were calculated and recorded. Bank-to-bank width measures were also recorded and used as a measure of CDFW jurisdictional boundary where features lacked riparian vegetation. The extent of associated riparian habitat was based on the canopy of the riparian community within or directly adjacent to the streambed that is likely deriving benefit from the hydrology of the streambed. In addition, stream conditions were assessed based on the SWQB protocol to classify features as ephemeral, intermittent, or perennial waters. A combination of hydrological, geomorphic and biological indicators was used to determine the hydrologic nature of each drainage. Each channel was also evaluated for the presence or absence of OHWM field indicators such as bed and bank, a natural line impressed in the bank, sediment deposits, changes in the character of soil, destruction of terrestrial vegetation, litter/debris, leaf litter disturbance, water stains, soil shelving, and exposed roots indicating active hydrology within the channel.

Due to the alluvial fan system within the Project Area, ephemeral channels identified during the pre-survey investigation were assessed in the field to determine if active hydrology occurred within the channel. Ephemeral features were assessed on a case-by-case basis and determined to be active or inactive based on the number of OHWM features present and the presence of riparian vegetation. In general, ephemeral features were considered active if the feature exhibited at least two OHWM indicators and supported riparian vegetation. These active ephemeral drainages were mapped upstream of existing riparian vegetation to the extent that two or more OHWM indicators were present. Whereas channels mapped during the pre-survey that only exhibited one OHWM indicator were classified as inactive erosional channels, or rills. Channels classified as active are those that are presumed to regularly transport water during rain events, and channels classified as inactive do not regularly transport water during rain events and are relic remains of large rain events.

The boundaries of the aquatic resources were delineated through standard field methods (e.g., paired sample set analyses) and aerial photograph interpretation. Paired locations were sampled to evaluate whether the vegetation, hydrology, and soils data supported an aquatic resource determination. At each paired location, one point was located such that it was within the estimated aquatic resource area, and the other point was situated outside the limits of the estimated aquatic resource area. Additional non-paired locations were sampled to confirm boundaries. All aquatic features observed within the Project Area were recorded in the field using a post-processing capable Global Positioning System (GPS) unit with sub-meter accuracy (e.g., Juniper Geode™). Feature characteristics and measurements were recorded directly into the data dictionary in the GPS unit. Characteristics of mapped features were also documented in photographs.

Field surveys were conducted on six days (September 29-30, November 9-11, 2020, and January 25, 2021) by ECORP delineation specialists Christina Congedo, Jessie Beckman, and Caroline Garcia. The September field surveys were general field reconnaissance of the Project Area to identify areas supporting potential state and federal jurisdictional waters. The November and January field surveys were a formal delineation

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conducted to verify preliminary results observed in the September surveys and to collect additional data and photographs. The entire Project Area was visually surveyed to determine the location and extent of aquatic resources, and special attention was given to the features identified during the preliminary survey described above.

3.3 Post-Processing

The data collected in the field utilized ArcGIS™ Collector on a device (smartphone or tablet) connected to a submeter external receiver. The submeter receiver applies differential correction instantaneously in the field using the Satellite Based Augmentation System. The data were then viewed and analyzed for verification, edited, and compiled in GIS format at the time of download. ArcGIS™ software was used to develop the geodatabase and the shapefiles depicted on the figures included in this report.

4.0 RESULTS

4.1 Existing Site Conditions

The Project Area is located within relatively flat to gently sloping terrain situated at an elevational range of approximately -20 meters (-65 feet) and 22 meters (71 feet) above mean sea level (amsl) in the Sonoran Desert Region of the Desert Province (Baldwin et. al. 2012). The average winter low temperature in the vicinity of the Project Area is 41.7 degrees Fahrenheit (˚F) and the average summer high temperature is 104.7˚F. Average annual precipitation for Imperial, California is approximately 2.90 inches, which falls as rain (National Oceanic and Atmospheric Administration [NOAA] 2020a). During the 2019-2020 rain year prior to the to the November field survey (October 1, 2019 to April 30, 2020), approximately 4.74 inches of precipitation were recorded at the Imperial, CA weather station located approximately 25 miles southwest of the Project Area (NOAA 2020b). The most recent significant precipitation event prior to the surveys occurred April 8-11, 2020, with a total of 0.80 inches of rainfall accumulating over four days.

A typical year analysis of the Project Area via a single point method was conducted using the USACE Antecedent Precipitation Tool (APT, USACE 2021). The APT is an automation tool that utilizes standardized methodology to calculate precipitation normalcy at a given location using publicly available data sources. The APT analysis determines whether precipitation, drought, and other climatic conditions from the previous three months are *wet*, *normal*, or *dry* for the geographic area based on a rolling 30-year period (USEPA 2021). The APT was run for the dates the wetland delineation data were collected between September 29, 2020 and January 25, 2021. The APT demonstrated the site conditions on these dates represent a time of year referenced as the dry season, that the general region and site were in a moderate to severe drought, and that site conditions were normal to wetter than normal in climatic conditions.

The southwestern portion of the Project Area is primarily composed of undeveloped land that was historically used for agriculture. The northeastern section is comprised of an ephemeral drainage and associated wetland and riparian habitats. The ephemeral drainage system (ED-3001) associated with Siphon Five runs northeast-southwest through the Project Area. A majority of ED-3001 is located outside of the Impact Area. The East Highline Canal bisects the western portion of the Project Area, and the Project Area is bisected by a railroad right-of-way in the northeastern portion of the Project Area. The

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Project Area is surrounded to the west and south by agricultural fields and undeveloped land to the north, east, and southeast.

4.1.1 Vegetation Communities

The western portion of the Project Area is primarily composed of active and fallow agriculture. The eastern portion of the Project Area is primarily composed of a braided ephemeral drainage system with riparian scrub and wetland habitats. The Impact Area supports three vegetation communities: bush seepweed (*Suaeda nigra*) scrub, creosote bush (*Larrea tridentata*) scrub, and tamarisk (*Tamarix* spp.) thickets. The Impact Area also includes the following land cover types: fallow agricultural land and urban/developed. Two additional land cover types, iodine bush (*Allenrolfea occidentalis*) scrub and active agricultural land, were observed within the buffer, but not within the Impact Area. Descriptions of the vegetation communities and land cover within the Impact Area only are provided below.

Vegetation Communities with the Impact Area

Bush seepweed scrub is typically found in flat to gently sloping valley bottoms, playas, toe slopes adjacent to alluvial fans, and bajadas (CNPS 2020). Bush seepweed scrub is found within an alkali sink that makes up most of the eastern portion of the Impact Area. Alkali sinks are composed of poorly drained soils with high salinity and/or alkalinity from evaporation of water that accumulates in closed drainages. These sinks are often seasonally inundated and lose water through evaporation. Within the Impact Area, bush sweepweed dominated the shrub cover with occasional occurrences of four-wing saltbush (*Atriplex canescens*), arrow weed (*Pluchea sercia*), big saltbush (*Atriplex lentiformis*), alkali goldenbush (*Isocoma acradenia*), and tamarisk.

Creosote bush scrub is typically found on alluvial fans, bajadas, upland slopes, and washes (CNPS 2020). Within the Impact Area, creosote bush scrub is located in the upland areas adjacent to the alkali sink and is dominated by a nearly monotypic stand of creosote bush with an open canopy and an herbaceous layer of seasonal annuals and perennials. Creosote was typically dominant in the shrub canopy, but occasionally was co-dominant with white bursage (*Ambrosia dumosa*), with an absent to intermittent herbaceous layer of seasonal annuals. Other plant species include four-wing saltbush, big saltbush, Mediterranean grass (*Schismus barbatus*) and occasional bush seepweed on the banks of established drainages.

Tamarisk thickets are typically found in sandy or gravelly braided washes or streams, areas where evaporation is high therefore increasing the saltiness. Within the Impact Area, tamarisk thickets are located within the ephemeral drainage and within the wetlands adjacent to East Highline Canal, and are characterized by a weedy, monoculture of tamarisk. Within the Impact Area, tamarisk and arrow weed were often co-dominant in this vegetation community. Other plant species observed include arrow weed, bush seepweed, four-wing saltbush, and big saltbush.

Land Cover Types within the Impact Area

Fallow agricultural lands include remnant signs of row crops with open space between rows. Agricultural lands often occur in upland areas with high soil quality, or floodplains and are almost always artificially irrigated. This land cover was observed in the southwestern portion of the Impact Area. With the Impact

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Area, this land cover consisted primarily of ruderal vegetation including bush seepweed, amaranth (*Amaranthus* sp.), sudangrass (*Sorghum bicolor* ssp. *drummondii*), and occasional big saltbush.

Urban/Developed areas do not constitute a vegetation classification, but rather a land cover type. Areas mapped as developed have been constructed upon or otherwise physically altered to an extent that natural vegetation communities are no longer supported. There may be irrigated landscaped, ornamental species present between the hardscape. Within the Impact Area, this land cover consisted primarily of compacted dirt roads, structures, including utility towers.

4.1.2 Soils

According to the Web Soil Survey (NRCS 2020a), eight soil units, or types, have been mapped within the Project Area (Figure 2. *Natural Resources Conservation Service Soil Types*). These include:

- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 115 - Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes
- 122 - Meloland very fine sandy loam, wet
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 141 - Torriorthents and Orthids, 5 to 30 percent slopes
- 142 - Vint loamy very fine sand, wet
- 144 - Vint and Indio very fine sandy loams, wet
- 145 - Water

The Niland gravelly sand (124) and the Niland gravelly sand, wet map units (125) both contain hydric minor components (NCRS 2020c). Three water state classes (dry, moist, and wet) are used as soil moisture status entries for map unit components and designate a mean monthly soil water state at a specified depth. A summary of characteristics based on official series descriptions for each of the soil series mapped within the alignments are provided below (NRCS 2020b).

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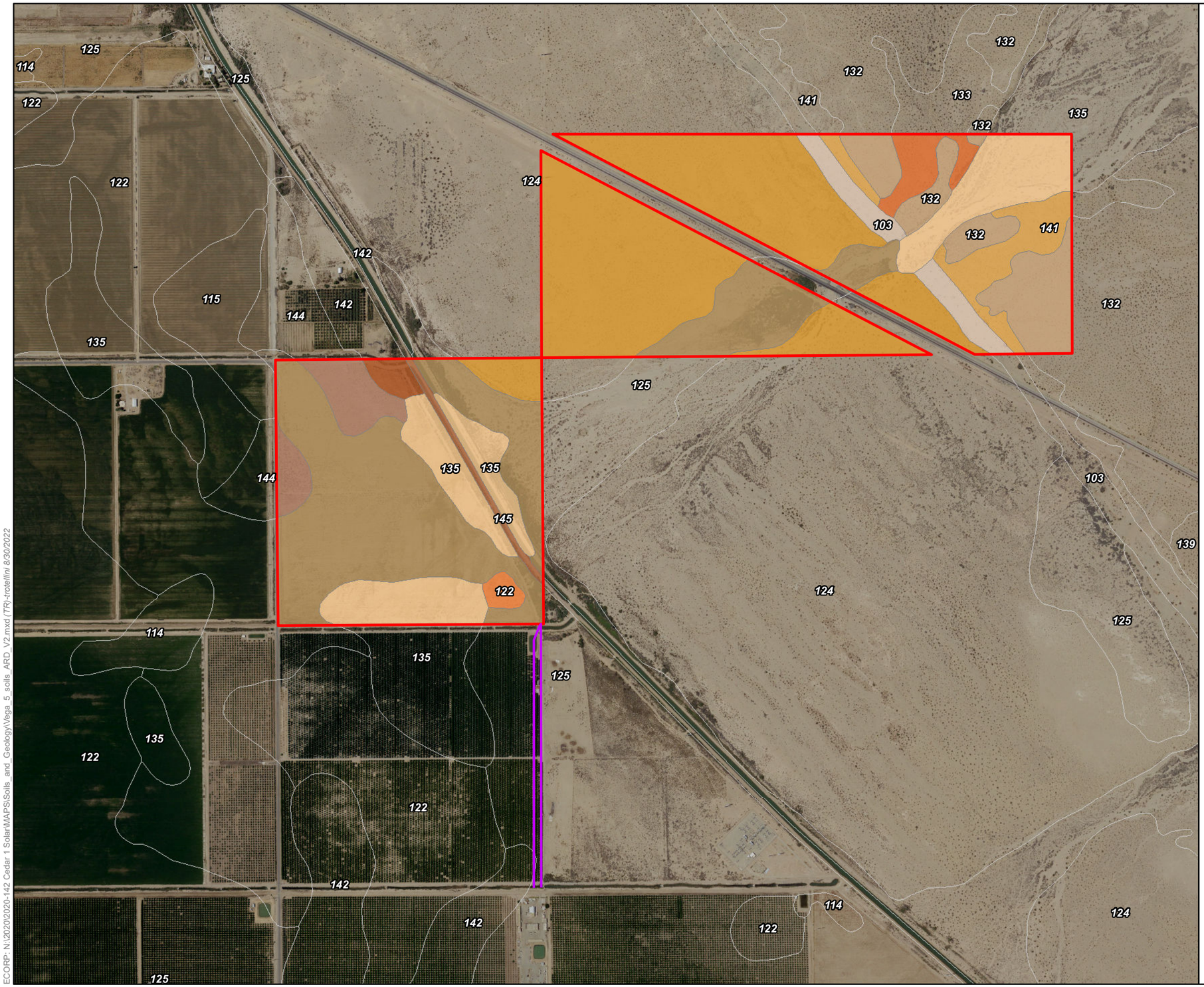

Map Features

- Project Area
- Gentie Line

Series Designation - Series Description

- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 115 - Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes
- 122 - Meloland very fine sandy loam, wet
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 141 - Torriorthents and Orthids, 5 to 30 percent slopes
- 142 - Vint loamy very fine sand, wet
- 144 - Vint and Indio very fine sandy loams, wet
- 145 - Water

Sources: NAIP (2018)

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Map Date: 8/30/2022

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Scale in Feet
0 1,000

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Figure 2. Natural Resources Conservation Service Soil Types

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Carsitas Series

The Carsitas series consists of very deep, somewhat excessively drained soils that formed in alluvium from granitoid and/or gneissic rocks. The Carsitas soils are on alluvial fans, fan aprons, valley fills, dissected remnants of alluvial fans and in drainageways. Slopes range from 0 to 30 percent. The mean annual precipitation is about three inches and the mean annual air temperature is about 77°F.

Imperial Series

The Imperial series consists very deep, well and moderately well-drained soils that formed in calcareous alluvium from mixed sources. The Imperial soils are nearly level to gently sloping are on flood plains and in old lake beds. The climate is arid with hot dry summers and cool dry winters. Average annual precipitation is less than four inches and the average annual temperature is about 72°F.

Glenbar Series

The Glenbar series consists of very deep, well-drained soils that formed in stratified stream alluvium. Glenbar soils are on flood plains and alluvial fans and have slopes of 0 to 3 percent. The mean annual precipitation is about seven inches and the mean annual air temperature is about 71°F.

Meloland Series

The Meloland series consists of naturally well-drained soils that commonly have perched water tables under irrigation. Typically, Meloland soils have light brown and very pale brown, calcareous very fine sandy loam, loamy fine sand, and silt loam upper horizons underlain by pink calcareous silty clay at depth of 26 inches that extends to a depth of 71 inches. Meloland soils are found in nearly level lacustrine basins and flood plains in the deserts. These soils have low to medium surface runoff and slow permeability.

Niland Series

The Niland series consists of well and moderately well-drained soils with slopes that formed in coarse mixed alluvium overlying fine alluvium at depths of less than 36 inches. Niland soils are on basin and floodplain edges and have slopes that are typically less than one percent, but can range up to five percent. Average annual precipitation is less than four inches and the average annual temperature is about 72°F.

Rositas Series

The Rositas series consists of very deep, somewhat excessively drained soils. These soils are formed in sandy eolian material and have less than 15 percent coarse and very coarse sand. Rositas soils are on dunes and sand sheets and have slopes that range from 0 to 30 percent. The mean annual precipitation is about four inches and the mean annual air temperature is about 72°F.

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Torriorthents and Orthids Series

The Torriorthents and Orthids series consists of deep, well drained to excessively drained soils formed on terrace escarpments and old alluvial fans dissected by geologic erosion. These soils are formed in mixed, unconsolidated alluvial sediment. These soils have rapid surface runoff and slow to rapid permeability.

Vint Series

The Vint series consists of very deep, somewhat excessively drained soils formed in stratified stream alluvium. These soils are on flood plains with a mean annual precipitation is about seven inches and the mean annual air temperature is about 71°F.

4.1.3 National Wetland Inventory

According to the National Wetlands Inventory (NWI, USFWS 2020a), there are four general types of drainage features mapped within the Project Area. These include freshwater pond, freshwater forested/shrub wetland, fluvial natural drainage features, and fluvial unnatural features (Figure 3. *National Wetland Inventory*).

4.1.4 Hydrology

The Project Area is within the Salton Sea Watershed (Hydrologic Unit Code #18100204, NRCS et al. 2016). The Project Area and adjacent upslope areas are within an alluvial fan drainage system that produces ephemeral conditions with surface waters flowing in direct response to large rain events for short durations. soils. A number of ephemeral features within the Project Area are relic remains of rain events and do not actively transport surface flow within the site; they would therefore be considered inactive ephemeral drainages. Furthermore, these features lack connectivity to the ephemeral system further upstream due to the presence of the railroad right-of-way.

The hydrology of the ephemeral system within the Project Area supports associated wetland, alkali sink, and riparian habitat. The ephemeral system ultimately drains into wetlands existing along the eastern end of the East Highline Canal, and additional wetlands exist along the western end of the canal. Runoff within the Project Area generally flows southwest from the direction of the Chocolate Mountains toward the East Highline Canal and associated wetlands. The East Highline Canal supplies water to the Imperial Valley via smaller lateral canals and drains that ultimately drain to the Salton Sea. The Salton Sea is a traditional navigable water (TNW) per Section 404 of the CWA.

4.2 Aquatic Resources

Aquatic resources have been mapped within the Impact Area; each resource is summarized by feature in Table 2 and depicted on Figure 4. *Aquatic Resources Delineation*. The regulated limits that are presented in Table 2 serve as an estimate and are subject to agency verification. Features identified as an aquatic resource had wetland indicators present and/or physical evidence of flow including OHWM, defined bed and bank, scour, presence of a clear and natural line impressed on the bank, disturbance of leaf litter, the presence or absence of sediment deposits, changes in the character of soil, destruction of terrestrial vegetation, and/or exposed roots indicating active hydrology within the channel.

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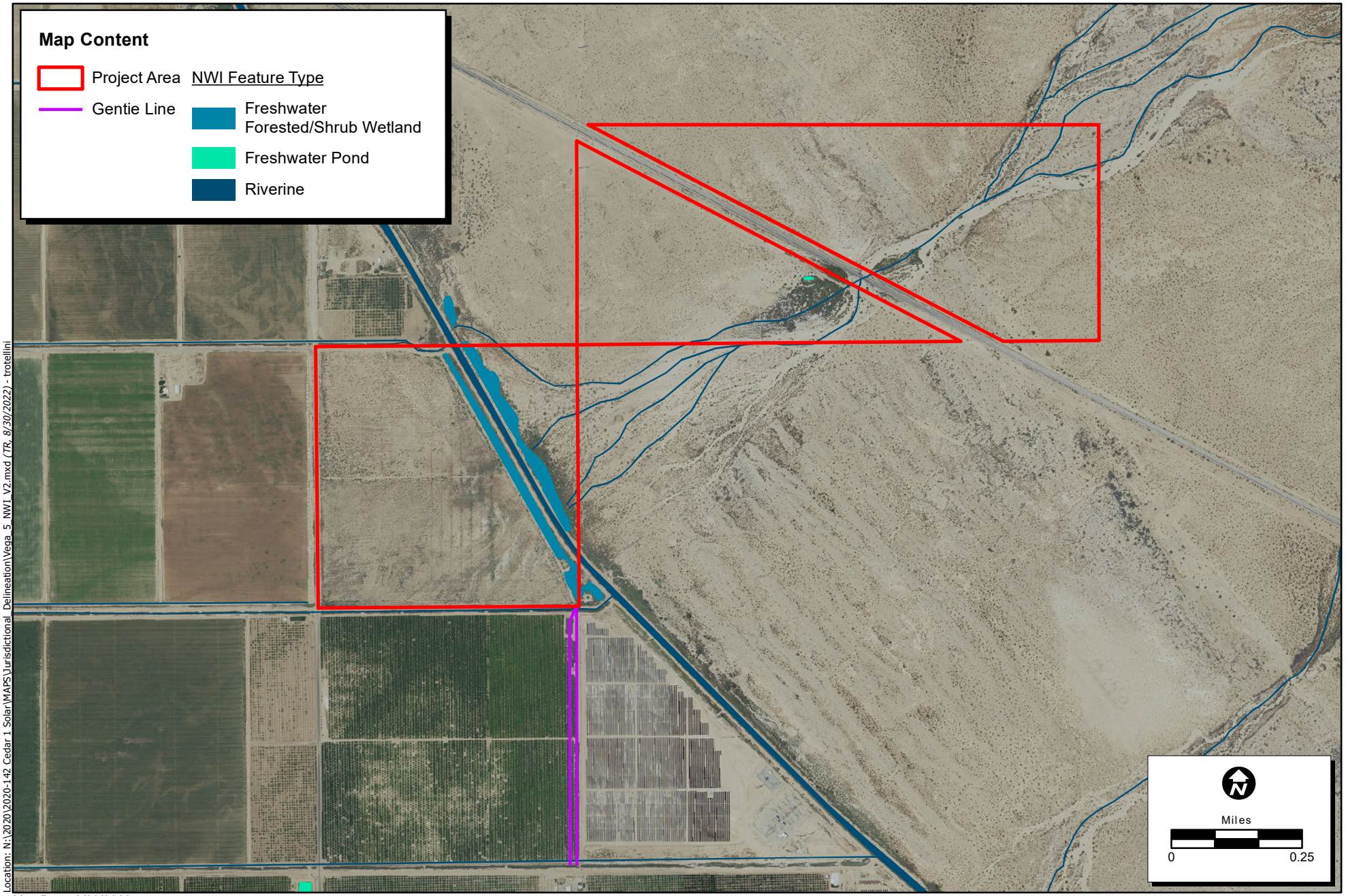

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Map Date: 8/30/2022
Photo Source: NAIP (2020)

Figure 3. National Wetland Inventory

2020-144 Vega SES 5

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Table 2. Aquatic Resources within the Impact Area

Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-3001	R6	33.20708933, -115.4308437	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	1.433	1092.817	300	61.505
ED-28	R6	33.20652851, -115.4310019	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.033	88.544	15	N/A
ED-951	R6	33.20618897, -115.432043	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	25.806	100	N/A
ED-1034	R6	33.20608786, -115.4317562	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.061	20.695	25	N/A
Unassociated Riparian Habitat	N/A	33.19838717, -115.4489476	Relic feature with riparian habitat persisting; hydrology that was diverted for cropland has been redirected and no longer exists; non-wetland. Associated with N Lateral.	Tamarisk Thickets	N/A	N/A	N/A	0.680
Total	N/A	N/A	N/A	N/A	1.535	1227.862	N/A	62.185

[1]ED= Ephemeral Drainage
[2]Cowardin Codes: (R6) Riverine, Ephemeral (USFWS 2020b).
[3] Bank-to-bank width.
[4]Includes Alkali Sink and Riparian Habitat acreages.

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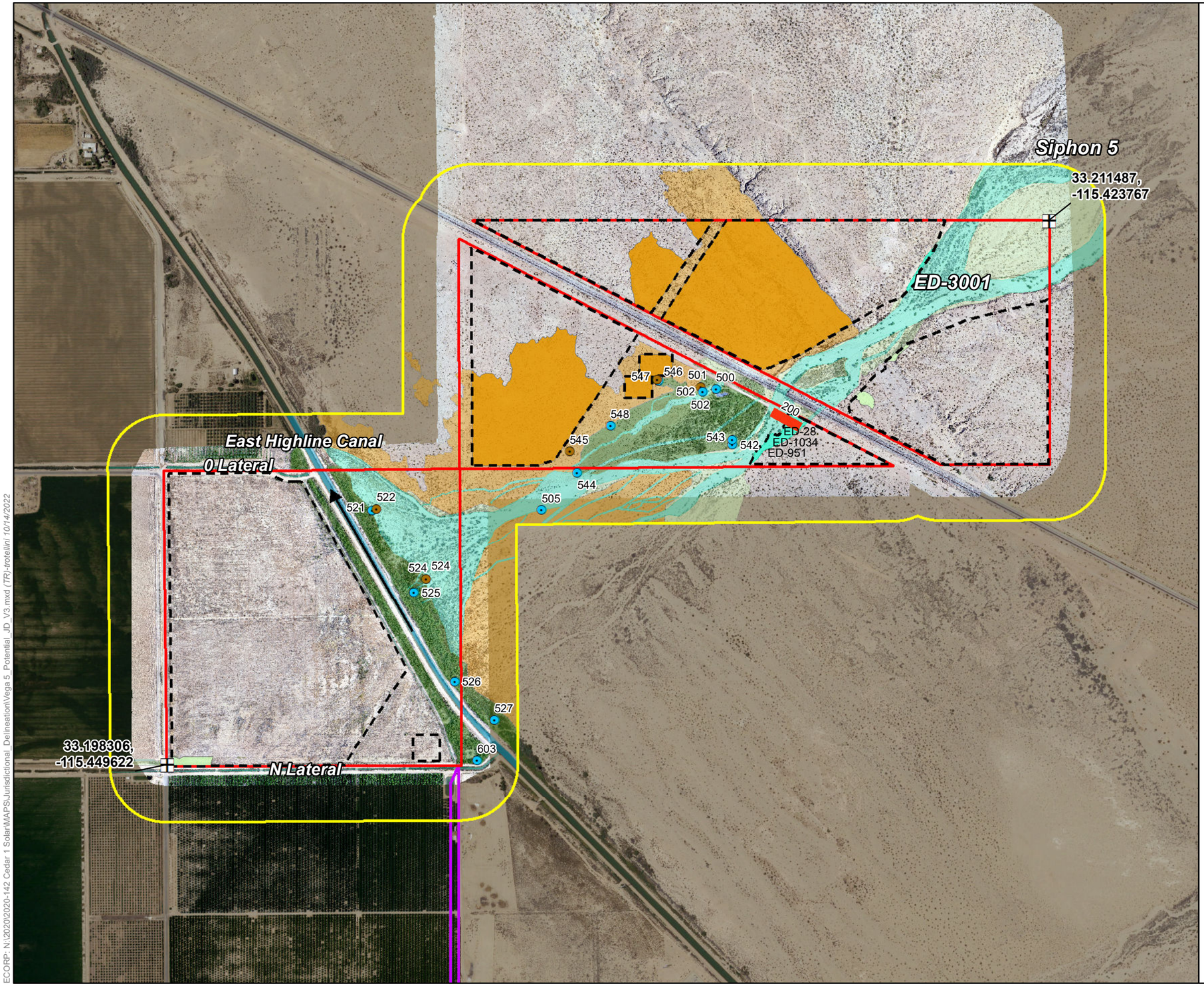


Map Features

- Project Area
- Impact Areas
- 500-ft Buffer (2020 & 2021 Survey Area)
- Gentie Line
- Reference Point
- Flow to TNW
- OHWM Cross Section

Features within Impact Area

- Ephemeral Drainage *
- Riparian Habitat
- Alkali Sink

Features adjacent to the Impact Area

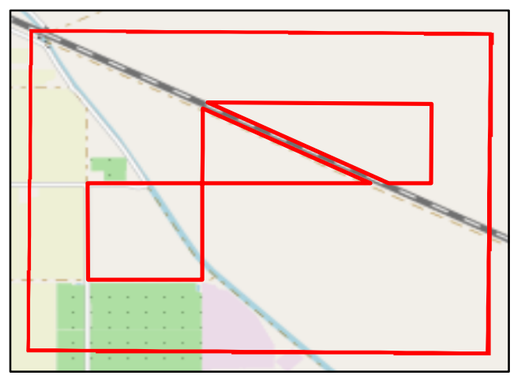
- Irrigation Channel
- Canal
- Freshwater Pond
- Freshwater Forested/Shrub Wetland

Sample Points

- Upland Point
- Waters Point

*Ephemeral drainage features within the buffer are displayed to show connectivity; therefore not all features that exist within the buffer are displayed in the figure.

Sources: NAIP (2020), ECORP Drone Imagery (2020)



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Map Date: 10/14/2022

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Scale in Feet
0 450 900

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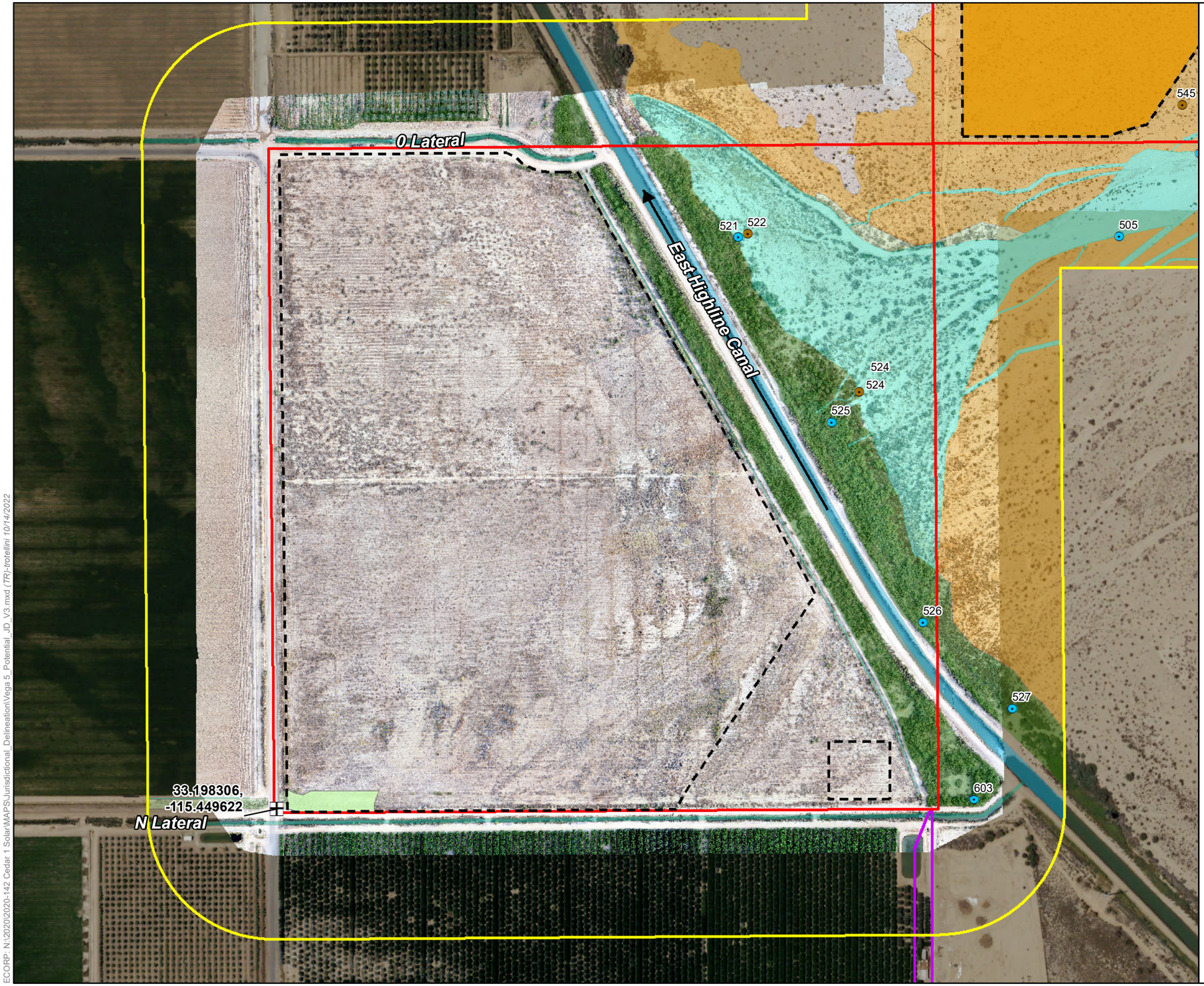
Figure 4. Aquatic Resources Delineation Overview - Sheet 1 of 3
2020-144 Vega SES 5



Map Features

- Project Area
- Impact Areas
- 500-ft Buffer (2020 & 2021 Survey Area)
- Gentie Line
- Reference Point
- Flow to TNW

Features within Impact Area

- Ephemeral Drainage *
- Riparian Habitat
- Alkali Sink

Features adjacent to the Impact Area

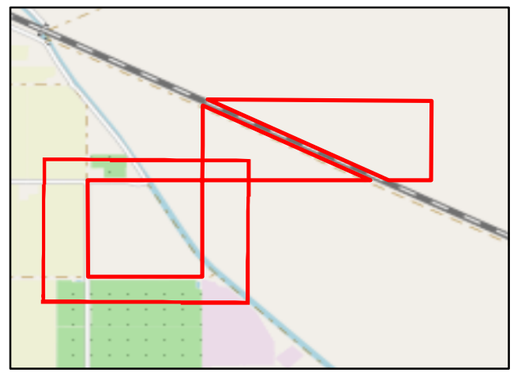
- Irrigation Channel
- Canal
- Freshwater Forested/Shrub Wetland

Sample Points

- Upland Point
- Waters Point

*Ephemeral drainage features within the buffer are displayed to show connectivity; therefore not all features that exist within the buffer are displayed in the figure.

Sources: NAIP (2020), ECORP Drone Imagery (2020)



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Map Date: 10/14/2022

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Scale in Feet
0 200 400

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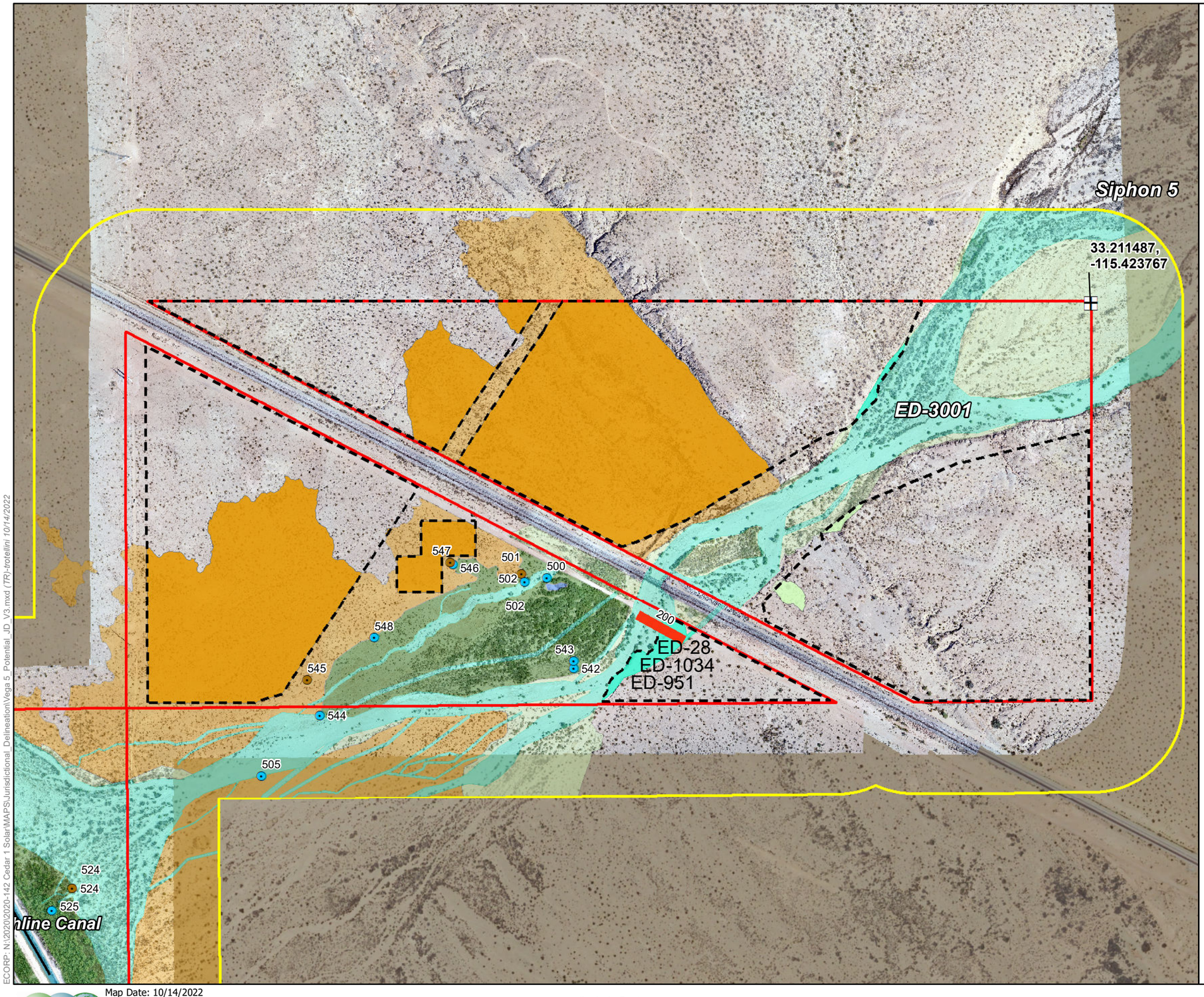
Figure 4. Aquatic Resources Delineation
Sheet 2 of 3
2020-144 Vega SES 5



Map Features

- Project Area
- Impact Areas
- 500-ft Buffer (2020 & 2021 Survey Area)
- Reference Point
- Flow to TNW
- OHWM Cross Section

Features within Impact Area

- Ephemeral Drainage *
- Riparian Habitat
- Alkali Sink

Features adjacent to the Impact Area

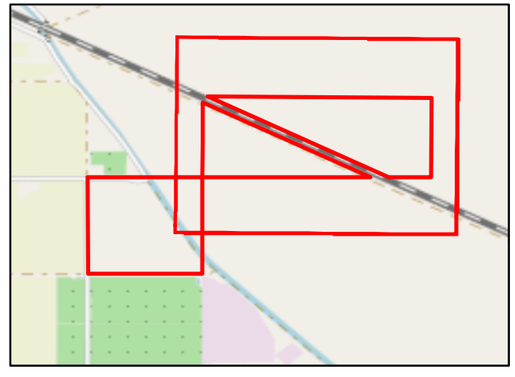
- Irrigation Channel
- Canal
- Freshwater Pond
- Freshwater Forested/Shrub Wetland

Sample Points

- Upland Point
- Waters Point

*Ephemeral drainage features within the buffer are displayed to show connectivity; therefore not all features that exist within the buffer are displayed in the figure.

Sources: NAIP (2020), ECORP Drone Imagery (2020)



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Map Date: 10/14/2022

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Scale in Feet
0 275 550

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Figure 4. Aquatic Resources Delineation
Sheet 3 of 3
2020-144 Vega SES 5

Contiguous riparian habitat associated with a nearby aquatic feature was mapped, and the aquatic feature with which the habitat was associated was also recorded. Riparian habitat not associated with an active aquatic feature was also mapped. OHWM and Wetland Determination Data Forms are included as Attachment B, representative site photographs are included as Attachment C, the USACE OMBIL Regulatory Module (ORM) aquatic resources table is included as Attachment D, and digital data are provided as Attachment E.

4.2.1 Wetlands

No wetlands were delineated within the Impact Area. Three freshwater forested/shrub wetlands and one freshwater pond were identified and mapped within the Project Area but outside of the Impact Area. These features are discussed below to provide context for the aquatic resources within the Impact Area only and not to support verification of these features.

Freshwater Forested/Shrub Wetland

Freshwater forested/shrub wetlands (FSW) are dominated by woody vegetation such as true shrubs, young trees (saplings), and trees or shrubs that are stunted due to environmental conditions. In seasonally flooded wetlands, surface water is present for extended periods, particularly in the early growing season, but is absent by the end of the growing season in most years. The water table can be variable after a flooding event, and ranges from saturation at the ground surface to a water table well below the ground surface (USFWS 2020b).

Three freshwater forested/shrub wetlands were identified and mapped within the Project Area but outside of the Impact Area. Two of these features are located adjacent to the East Highline Canal in the southwest parcel, and one feature is associated with the ephemeral drainage in the northeast parcel of the Project Area. These features are documented with Sampling Points 502, 521, 525, 526, 527, 542, 543, 544, 548, and 603 (Attachment B) and Photos 6-8 (Attachment C). Sampling Points 500, 502, 542, 543, 548, and 544 were collected in the wetland in the northeast parcel of the Project Area. Sampling Points 521, 525, 526, and 527 were collected in the wetland east of the East Highline Canal. Sampling Point 603 was collected in the freshwater forested/shrub wetland west of the East Highline Canal. At the time of the aquatic resource delineation in 2020 and 2021, these sampling points were inside the Project impact limits. The Impact Area was revised in 2022 and it now no longer includes the location of the aforementioned Sampling Points.

All freshwater forested/shrub wetlands were sparsely vegetated and dominated by hydrophytic vegetation characterized as tamarisk scrub. Plant species observed within the wetlands included tamarisk, bush seepweed, arrow-weed, iodine bush, big saltbush, and saltgrass. All sampling points met the F8 (redox depressions) hydric soil indicator. All sampling points met the surface soil cracks (B6) primary wetland hydrology indicator, and multiple sampling points met additional primary or secondary indicators. Additional primary indicators present included sediment deposits (B2) and drift deposits (B3). Additional secondary indicators present included water marks (B1), sediment deposits (B2), drift deposits (B3), drainage patterns (B10), and the FAC-neutral test (D5). Soil at Sampling Point 525 and Sampling Point 526

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are representative of soil conditions within the wetlands throughout the Project Area. Conditions at these sampling points are described below.

At Sampling Point 525, the matrix color at a depth of 0 to 4 inches was 10YR 4/4 with no redox features; and at a depth of 4 to 12 inches the matrix color was 10YR 4/3 with 5 percent redox features colored 5YR 5/8. Texture was the primary difference between these horizons. The A horizon was loamy sand, and the B horizon was silty clay loam. The soil was moist at a depth of approximately four inches, indicating possible ground water connection to the adjacent East Highline Canal at the time of the assessment. It was determined that the redox depressions (F8) hydric soil indicator was met at this sampling location. Wetland hydrology indicators observed included the surface soil cracks (B6) primary indicator and the sediment deposits (B2), drift deposits (B3), drainage patterns (B10), and FAC-neutral test (D5) secondary indicators.

At Sampling Point 526, the matrix color at a depth of 0 to 2 inches was 10YR 4/3 with no redox features; at a depth of 2 to 4 inches the matrix color was 85 percent 10YR 4/3 and 10 percent N 2.5/0 with 5 percent redox features colored 5YR 5/8; and at a depth of 4 to 12 inches the matrix color was 10YR 4/3 with no redox features. The presence of redox features was the primary difference between these horizons. It was determined that the redox depressions (F8) hydric soil indicator was met at this sampling location. Wetland hydrology indicators observed included the surface soil cracks (B6) primary indicator and the sediment deposits (B2), drift deposits (B3), drainage patterns (B10), and FAC-neutral test (D5) secondary indicators.

Freshwater Pond

Freshwater ponds (FP) are non-tidal wetlands that are typically dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens. They consist of unconsolidated substrates with less than 75 percent coverage of stones, boulders or bedrock and less than 30 percent coverage of vegetation. In intermittently flooded wetlands, substrate is usually exposed but surface water is present for variable periods without detectable seasonal periodicity. Weeks, months, or years may pass between periods of inundation (USFWS 2020a).

One freshwater pond was identified and mapped within the northeast portion of the Project Area, outside of the Impact Area. This feature is documented by Sampling Point 500 (Attachment B) and Photo 5 (Attachment C). At the time of the aquatic resource delineation in 2020 and 2021, this Sampling Point was inside the Project impact limits. The Impact Area was revised in 2022 and it now no longer includes the location of the Sampling Point 500. Plant species observed within the wetland included tamarisk and iodine bush. The matrix color at a depth of 0 to 6 inches was 7.5YR 4/4 with 5 percent redox features colored 7.5R 5/8; and at a depth of 6 to 15 inches the matrix color was 7.5YR 4/3 with 30 percent redox features colored 7.5R 5/8. Texture and the percentage of redox features were the primary differences between these horizons. The A horizon was clay loam, and the B horizon was silty clay. It was determined that the redox depressions (F8) hydric soil indicator was met at this sampling location. Wetland hydrology indicators met included the surface soil cracks (B6) primary indicator and FAC-neutral test (D5) secondary indicator.

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4.2.2 Other Aquatic Resources (Non-Wetland Waters)

Ephemeral Drainage

Ephemeral drainages are linear features that exhibit a bed and bank and an OHWM. These features typically convey runoff for short periods of time, during and immediately following rain events, and are not influenced by groundwater sources at any time during the year. As previously described, the Project Area and adjacent upslope areas are within an alluvial fan drainage system. Multiple ephemeral drainages that are part of this system flow through the Project Area and appear to transport surface water from the direction of the Chocolate Mountains to the East Highline Canal, the ephemeral drainage (ED-3001), and/or the freshwater forested/shrub wetland directly northeast of the East Highline Canal. These features lack connectivity to the ephemeral system further upstream due to the presence of the railroad right-of-way.

Four ephemeral drainage features associated with Siphon Five are located fully or partially within the Impact Area (ED-3001, ED-28, ED-951, and ED-1034). Feature ED-3001 is documented by OHWM Transect 200 (Attachment B) and Photo 3 (Attachment C). A majority of feature ED-3001 is outside of the Impact Area. At the time of the field delineation in 2020, the OHWM Transect was located inside the Project impact limits, as previously provided by the Applicant. The Impact Area limits were revised in 2022 and the OHWM Transect was no longer located fully within the revised Impact Area, but was partially within and directly adjacent. The OHWM Transect data sheet has been included in this report because the field conditions documented are representative of the ephemeral drainages mapped within the revised Impact Area limits. At the time of the field assessment, this feature contained no surface flow and had sparse vegetation within the bed. The OHWM was delineated in the field primarily by changes in sediment, vegetation, a natural scour line, bank erosion, and the presence of litter and debris. ED-3001 flows southwest under the railroad via a concrete underpass. It diverts surface flow from the direction of the Chocolate Mountains to the southwest, bypassing the Coachella Canal and the railroad right-of-way, and ultimately connects to the East Highline Canal and/or associated wetlands within the southwest portion of the Project Area. The East Highline Canal supplies water to the Imperial Valley via smaller lateral canals and drains that ultimately drain to the Salton Sea.

At the time of the field assessment, all other ephemeral features contained no surface flow. The OHWM was delineated in the field primarily by the changes in vegetation, sediment changes, and the break in bank slope. Other features observed included mud cracks and surface relief caused by flowing water. Channel surface features within ephemeral drainages indicated weak bed and bank along with a narrow scoured area that varied in width. Other indicators present included drainage patterns and sediment deposits..

4.2.3 Manmade Features

No manmade features were delineated within the Impact Area. One canal and three irrigation channels were identified and mapped within the Project Area and buffer but are located outside of the Impact Area. These features are discussed below to provide context for the aquatic resources within the Impact Area only and not to support verification of these features.

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Canal

One major canal, the East Highline Canal, is located within the Project Area but outside of the Impact Area. The East Highline Canal is managed by the Imperial Irrigation District (IID) and was constructed for the purposes of water delivery. It is an unvegetated, concrete (or other impervious material)-lined channel that transports water year-round. Within the Project Area, lateral canals transport water from the East Highline Canal east towards active agricultural land within the buffer area. The East Highline Canal ultimately flows into the Salton Sea through a series of lateral canals and drains.

Irrigation Channel

Features classified as irrigation channels include concrete-lined lateral canals and concrete-lined irrigation ditches. The irrigation channels located within the buffer of the Project Area are used for agricultural purposes and are part of a larger interconnected system that supplies water throughout the Imperial Valley.

Lateral Canals

The lateral canals within the buffer of the Project Area are managed by IID and supply water to irrigation ditches that are used by private farming operations. The concrete-lined lateral canals are managed by IID to be free of vegetation and therefore lack habitat for wildlife species. Lateral canals that fall adjacent to the Project Area include the O Lateral along the northern end and the N Lateral along the southern end of the western portion of the Project Area.

Irrigation Ditches

There is one concrete-lined irrigation ditch within the Project Area, but outside of the Impact Area, that is associated with a fallow agricultural field and is no longer in use. This irrigation ditch runs parallel to the East Highline Canal and associated wetlands. The concrete-lined irrigation ditch is free of vegetation and therefore lacks habitat for wildlife species.

4.2.4 Potential CDFW Regulated Habitats

The following describes vegetation communities or habitat features that could be regulated by CDFW but are not expected to be regulated by the USACE under Section 404 of the CWA because they do not appear to meet the current definition of waters of the U.S.

Alkali Sink

Alkali sinks are composed of poorly drained soils with high salinity and/or alkalinity from evaporation of water that accumulates in closed drainages. These sinks are often temporarily flooded during large precipitation events, but do not stay inundated long enough to form hydric soils.

The alkali sink habitat is documented with Sampling Points 501, 522, 524, 545, and 547 (Attachment B) and Photo 9 (Attachment C). At the time of the aquatic resource delineation in 2020 and 2021, these sampling points were inside the Project impact limits. The Impact Area was revised in 2022 and it now no longer includes the location of the aforementioned Sampling Points. However, alkali sink habitat is still

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present within the revised Impact Area and is subject to direct impacts. Sampling Points 501, 522, 524, 545, and 547 are representative of the alkali sink habitat of the Project Area as a whole. Sparse hydrophytic vegetation was present at all sampling point locations within the alkali sink habitat, including iodine bush, arrow weed, bush seepweed, and big saltbush. Indicators of wetland hydrology were observed at multiple upland sampling points within the alkali sinks, including primary indicator surface soil cracks (B6) and secondary indicators sediment deposits (B2), drift deposits (B3), and drainage patterns (B10). All sampling points within the alkali sink habitat lacked hydric soil indicators. Upland Sampling Points 522 and 545 document locations which had hydrophytic vegetation but lacked wetland hydrology and hydric soils. Upland Sampling Points 524 and 547 document locations which had hydrophytic vegetation and wetland hydrology but lacked hydric soils.

Riparian Habitat

Riparian habitat associated with the drainage systems throughout the Project Area consists of tamarisk thickets, which is characterized by a weedy, monoculture of tamarisk. This habitat is typically in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. Throughout the Project Area, other species observed included four-wing saltbush and arrow weed. There is additional riparian habitat within the southwest portion of the Impact Area near the N Lateral canal that is not associated with an active aquatic feature. This habitat likely established opportunistically in areas that were recently left fallow and consists of tamarisk thickets. This area was determined to be remnant of a relic unlined irrigation channel that is no longer in use.

5.0 JURISDICTIONAL ASSESSMENT

Aquatic resources that are potentially regulated under the CWA, the Porter-Cologne Act, and California Fish and Game Code Section 1602 within the Impact Area are summarized below. These results are subject to modification following agency verification.

5.1 Clean Water Act

Per Regulatory Guidance Letter 16-01, an applicant may request a PJD "in order to move ahead expeditiously to obtain a Corps permit authorization where the requestor determine*s that it is in his or her best interest to do so … even where initial indications are that the aquatic resources on a parcel may not be jurisdictional*" (USACE 2016b). The following information on connectivity of wetlands and other waters in the Survey Area to TNW is provided should an Approved Jurisdictional Determination (AJD) be necessary.

The ephemeral drainages within the Impact Area are tributary to the Salton Sea, which is a TNW. Under the current definition of waters of the U.S., the *Rapanos* guidance, the ephemeral drainages onsite would be considered non-navigable tributaries that are not relatively permanent. In which, case, a significant nexus evaluation of the ephemeral drainages would be necessary to determine jurisdiction if seeking an AJD.

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5.2 Porter-Cologne Water Quality Control Act

Ephemeral drainages meet the definition of Waters of the State and are regulated pursuant to the Porter-Cologne Act. The Porter-Cologne Act defines Waters of the State as "any surface water or groundwater, including saline waters, within the boundaries of the state" [Water Code 13050 (e)]. The Porter Cologne Act defines "Waters of the State" very broadly, with no physical descriptors, and no interstate commerce limitation.

5.3 California Fish and Game Code Section 1600-1602

The following categories meet the criteria for resources that are regulated under section 1600 of the California Fish and Game Code. This includes all resources with surface or subsurface flow, and a body of water that "flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life." Areas with associated riparian vegetation that is supported by the surface and subsurface flow through these streambeds are also added to CDFW's jurisdiction under 1600. The categories are:

- Ephemeral Drainages
- Riparian Habitat
- Alkali Sinks

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LIST OF ATTACHMENTS

Attachment A – Driving Directions to the Project

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ATTACHMENT A

Driving Directions to the Project

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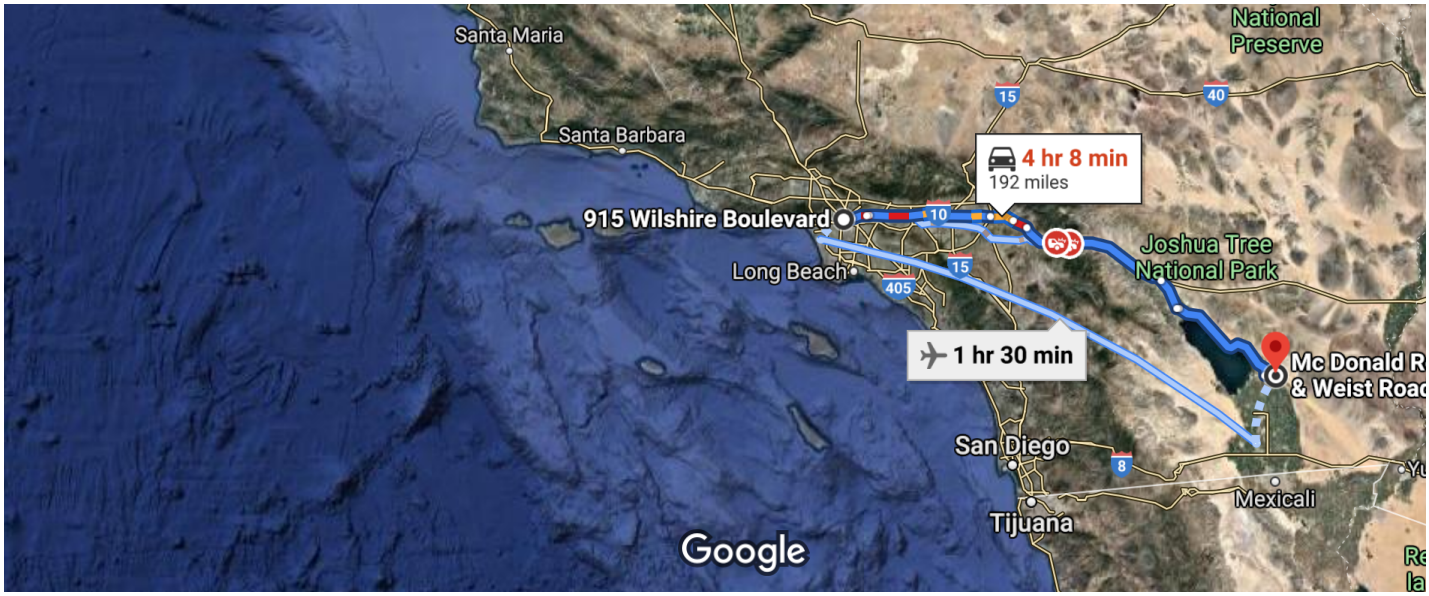
Google Maps

915 Wilshire Blvd, Los Angeles, CA 90017 to Wiest Rd & McDonald Rd, California 92233

Drive 192 miles, 4 hr 8 min



Imagery ©2020 TerraMetrics, Map data ©2020 Google, INEGI 50 mi

915 Wilshire Blvd

Los Angeles, CA 90017

Get on CA-110 N/Harbor Fwy from S Figueroa St

2 min (0.5 mi)

1. Head southeast on Wilshire Blvd toward S Figueroa St

410 ft

2. Use the left 2 lanes to turn left at the 1st cross street onto S Figueroa St

0.2 mi

3. Use the 2nd from the left lane to turn left at the 3rd cross street onto W 5th St

174 ft

4. Keep right at the fork, follow signs for Harbor Fwy/CA-110 N and merge onto CA-110 N/Harbor Fwy

0.2 mi

Follow I-10 E to CA-86 S in Indio

1 hr 59 min (129 mi)

5. Merge onto CA-110 N/Harbor Fwy

0.5 mi

6. Use the 2nd from the right lane to take the exit toward I-5 S/I-10 E

0.5 mi

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7. Merge onto US-101 S

1.3 mi

8. Keep left at the fork to continue on San Bernardino Fwy, follow signs for I-10 E/San Bernardino

1.2 mi

9. Continue onto I-10 E/San Bernardino Fwy

5.8 mi

10. Keep left to stay on I-10 E

1.0 mi

11. Keep left to stay on I-10 E

46.2 mi

12. Keep left to stay on I-10 E

Pass by Starbucks (on the right in 1.2 mi)

9.2 mi

13. Keep left to stay on I-10 E

6.0 mi

14. Keep left to stay on I-10 E

57.6 mi

Follow CA-86 S and CA-111 S to McDonald Rd in Imperial County

1 hr 6 min (62.8 mi)

15. Keep right to continue on CA-86 S, follow signs for Brawley/El Centro/865 Expy

12.1 mi

16. Use the left lane to take the 66th Ave ramp to CA-111 S/Niland/Calipatria

0.2 mi

17. Turn left onto 66th Ave

0.8 mi

18. Continue onto Lincoln St

190 ft

19. Turn right onto CA-111 S

45.7 mi

20. Turn left onto McDonald Rd

4.0 mi

McDonald Rd & Weist Rd

California 92233

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

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OHWM and Wetland Determination Data Forms – Arid West Region

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Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Vega SES 5
Project Number:
Stream: ED-3001 (Cross section #200)
Investigator(s): C. Congedo, C. Torres

Date: 09/29/2020
Town: Calipatria
Photo begin file#:

Time: 10:30AM
State: CA
Photo end file#:

Y [x] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [x] Is the site significantly disturbed?

Location Details: Cross section taken of ED-3001 adjacent to railroad right-of-way at northeast portion of Project Area.

Projection:
Datum: NAD83
Coordinates:

Potential anthropogenic influences on the channel system:

Channel diverted under railroad tracks using a concrete culvert, and drainage system eventually meets with the East Highline Canal at the southwest end of the site. Lateral canals divert water from the East Highline Canal to active agriculture that is adjacent to the Project Area.

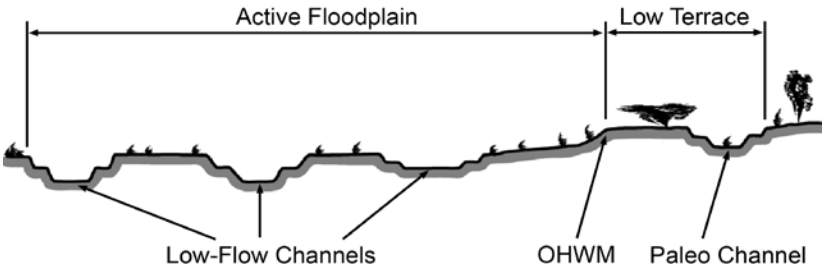
Brief site description: The East Highline Canal bisects the western portion of the Study Area and a railroad bisects the eastern portion of the Study Area. The portion of the site that is southwest of the canal consists of undeveloped land that was historically used for agriculture. The portion of the site that is northeast of the canal is comprised of an ephemeral drainage system and associated wetland and riparian habitats. Wetland habitat lines both sides of the East Highline Canal.

Checklist of resources (if available):

- [x] Aerial photography
  Dates: 1953- 2015
- [x] Topographic maps
- [ ] Geologic maps
- [x] Vegetation maps
- [x] Soils maps
- [x] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [x] Global positioning system (GPS)
- [ ] Other studies

- [ ] Stream gage data
  Gage number:
  Period of record:
- [ ] History of recent effective discharges
- [ ] Results of flood frequency analysis
- [ ] Most recent shift-adjusted rating
- [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - [ ] Mapping on aerial photograph
   - [ ] Digitized on computer
   - [x] GPS
   - [ ] Other:

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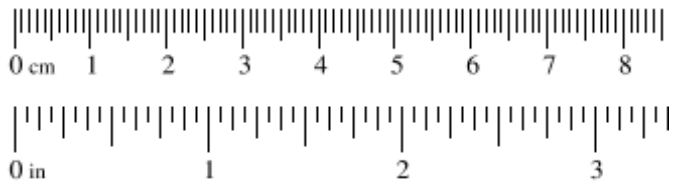
Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	
		Cobble	Gravel
2.56	64	Pebble	
0.157	4	Granule	
0.079	2.00	Very coarse sand	
0.039	1.00	Coarse sand	
0.020	0.50	Medium sand	Sand
1/2 0.0098	0.25	Fine sand	
1/4 0.005	0.125	Very fine sand	
1/8 0.0025	0.0625	Coarse silt	
1/16 0.0012	0.031	Medium silt	
1/32 0.00061	0.0156	Fine silt	Silt
1/64 0.00031	0.0078	Very fine silt	
1/128 0.00015	0.0039	Clay	Mud



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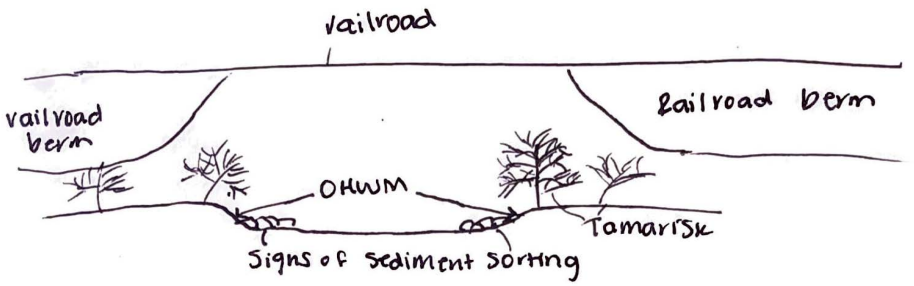
Project ID: Vega SES 5 **Cross section ID:** ED-3001 (#200) **Date:** 09/29/2020 **Time:** 10:30 AM

Cross section drawing:



OHWM

GPS point: 33.206767, -115.431705

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Cross section taken adjacent to railroad. Drainage width eventually increases further downstream as feature continues through site.
OHWM: 3' width, 4" depth
B2B: 4' width, 1' depth

Floodplain unit:

- [x] Low-Flow Channel
- [ ] Active Floodplain
- [ ] Low Terrace

GPS point: 33.206767, -115.431705

Characteristics of the floodplain unit:

Average sediment texture: Medium to fine sand
Total veg cover: 10 % Tree: 10 % Shrub: 0 % Herb: 0 %
Community successional stage:

- [ ] NA
- [x] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [x] Soil development
- [x] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Channel itself is unvegetated. *Tamarix* sp. present on banks of channel. Further downstream there a few scattered individuals of ironwood mixed with tamarisk.

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/9/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 500

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Basin Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.207433 Long: -115.433520 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Point taken within the outer limits of the freshwater emergent wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	1		FAC
2.			
3.			
4.			
	1	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Allenrolfea occidentalis	5	x	FACW
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 94 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	1	x 3 =	3
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	6 (A)		13 (B)

Prevalence Index = B/A = 2.2

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

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SOIL

Sampling Point: 500

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 4/4	95	7.5R 5/8	5	C	M	Clay loam	5% small rocks
6-15+	7.5YR 4/3	70	7.5R 5/8	30	C	M	Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Soils moist starting at 6" depth.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/9/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 501

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Alluvial fan Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR): D Lat: 33.207491 Long: -115.433970 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Sampling point in upland vegetation with mounds.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Larrea tridentata	1		N/L
2. Isocoma acradenia	5	x	FACU
3. Atriplex canescens	1		N/L
4. Allenrolfea occidentalis	1		FACW
5.			
	8	= Total Cover	
Herb Stratum (Plot size: 15')			
1. Isocoma acradenia (seedlings)	3	x	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	3	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 89 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	1	x 2 =	2
FAC species	0	x 3 =	0
FACU species	8	x 4 =	32
UPL species	2	x 5 =	10
Column Totals:	11 (A)		44 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

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SOIL

Sampling Point: 501

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/4	100					Loamy sa	Fine rocks
8-12+	10YR 4/4	100					Loamy sa	90% small/medium pebbles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appears to receive ephemeral water flow, from overflow during high rain events. Drainage just west (10 feet) from collection.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/9/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: _____ Sampling Point: 502

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Alluvial fan Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR): D Lat: 33.207369 Long: -115.433918 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Point collected ~200 feet southwest of railroad right-of-way.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	2		FAC
2.			
3.			
4.			
	2	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Allenrolfea occidentalis	3	x	FACW
2.			
3.			
4.			
5.			
	3	= Total Cover	
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 95 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	3	x 2 =	6
FAC species	2	x 3 =	6
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	5 (A)		12 (B)

Prevalence Index = B/A = 2.4

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 502

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/4	100					Loamy sa	
4-12	10YR 4/3	93	7.5YR 5/8	7	C	M	Silty clay	
12-15+	10YR 4/3	80	7.5YR 5/8	20	C	M	Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Soils wet at 4" deep.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Salt crust is present, but most likely from agricultural runoff.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/10/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 521

Investigator(s): C. Congedo Section, Township, Range: S19, T11S, R15E

Landform (hillslope, terrace, etc.): Alluvial fan Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.204514 Long: -115.443583 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Point taken ~180 feet east of hard-packed road and adjacent wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	1		FAC
2.			
3.			
4.			
	1	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. Pluchea sericea	3		FACW
2. Suaeda nigra	6	x	OBL
3. Tamarix sp.	2		FAC
4.			
5.			
	11	= Total Cover	
Herb Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 88 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	6	x 1 =	6
FACW species	3	x 2 =	6
FAC species	3	x 3 =	9
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	12 (A)		21 (B)

Prevalence Index = B/A = 1.8

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 521

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/4	100					Silt loam	
2-5	10YR 4/4	95	7.5YR 5/8	5	C	M	Silt loam	
5-12+	10YR 4/4	100					Loamy sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ✓ Sediment Deposits (B2) (**Nonriverine**)
- ✓ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Soil cracks prevalent, sheet flow until wetland then begins ponding.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/10/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 522

Investigator(s): C. Congedo Section, Township, Range: S19, T11S, R15E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.204555 Long: -115.443463 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Point taken ~220 feet east of hard-packed road and adjacent wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. Suaeda nigra	4	x	OBL
2. Pluchea sericea	1		FACW
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 10')			
1. Schismus barbatus	2		N/L
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	2	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 93 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	4	x 1 =	4
FACW species	1	x 2 =	2
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	2	x 5 =	10
Column Totals:	7 (A)		16 (B)

Prevalence Index = B/A = 2.3

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 522

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/4	98	Gley 1, 2.5/N	2	C	M	Silt loam	
3-6	10YR 4/4	100					Loamy sa	30% small pebbles
6-12+	10YR 4/4	100					Loamy sa	50% small/medium pebbles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/10/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 524

Investigator(s): C. Congedo Section, Township, Range: S19, T11S, R15E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.202820 Long: -115.442029 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	1		FAC
2.			
3.			
4.			
	1	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Suaeda nigra	5	x	OBL
2. Larrea tridentata	2		N/L
3.			
4.			
5.			
	7	= Total Cover	
Herb Stratum (Plot size: 15')			
1. Brassica tournefortii	3		N/L
2. Schismus barbatus	3		N/L
3.			
4.			
5.			
6.			
7.			
8.			
	6	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 86 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	1	x 3 =	3
FACU species	0	x 4 =	0
UPL species	8	x 5 =	40
Column Totals:	14 (A)		48 (B)

Prevalence Index = B/A = 3.4

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 524

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/4	100					Loamy sa	Fine
10-12	10YR 4/3	100					Loamy sa	Very fine

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appears to be part of sheet flow from numerous drainages.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/10/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 525

Investigator(s): C. Congedo Section, Township, Range: S19, T11S, R15E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.202490 Long: -115.442389 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Point collected within wetland ~150 east of hard-packed road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	5		FAC
2.			
3.			
4.			
	5	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. Suaeda nigra	25	x	OBL
2.			
3.			
4.			
5.			
	25	= Total Cover	
Herb Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 70 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	30 (A)		40 (B)

Prevalence Index = B/A = 1.3

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 525

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/4	100					Loamy sa	
4-12	10YR 4/3	95	5YR 5/8	5	C	M	Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Soil moist approximately 4" deep.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/10/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 526

Investigator(s): C. Congedo Section, Township, Range: S19, T11S, R15E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.200294 Long: -115.441220 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	10	x	FAC
2.			
3.			
4.			
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. Atriplex lentiformis	10	x	FAC
2. Suaeda nigra	3		OBL
3.			
4.			
5.			
	13	= Total Cover	
Herb Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 77 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	23 (A)		63 (B)

Prevalence Index = B/A = 2.7

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 526

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/3	100					Silty clay	
2-4	10YR 4/3	85	5YR 5/8	5	C	M/PL	Silty clay	
2-4	Gley 1, 2.5/N	10					Silty clay	
4-12+	10YR 4/3	100					Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/10/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 527

Investigator(s): C. Congedo Section, Township, Range: S20, T11S, R15E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR): D Lat: 33.199352 Long: -115.440070 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	8	x	FAC
2.			
3.			
4.			
	8	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Allenrolfea occidentalis	3		FACW
2. Suaeda nigra	10	x	OBL
3.			
4.			
5.			
	13	= Total Cover	
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 79 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	3	x 2 =	6
FAC species	8	x 3 =	24
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	21 (A)		40 (B)

Prevalence Index = B/A = 1.9

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 527

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/3	100					Silty clay	
4-8	10YR 4/3	75	5YR 5/8	5	C	M	Silty clay	
4-8	N/9.5	20						
8-12+	10YR 4/3	60	5YR 5/8	20	C	M	Sandy cla	
8-12+	N/9.5	20						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): _____

Water Table Present? Yes ___ No ___ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: _____ Sampling Point: 542

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.206062 Long: -115.433048 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Flood plain area of main channels, several small inlet channels that appear to hold water.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Tamarix sp.	8	x	FAC
2.			
3.			
4.			
5.			
	8	= Total Cover	
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 92 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	8	x 3 =	24
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	8 (A)		24 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 542

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 5/4	90					Loamy sa	10% small pebbles
2-4	10YR 3/4	75					Loamy sa	25% small pebbles
4-6	10YR 5/4	80	5YR 5/8	20	C	M	Loamy sa	
6-12+	10YR 5/4	80	5YR 5/8	10	C	M	Loamy sa	10% small pebbles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Soils moist at 9" deep.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Within overflow channels connected to main channel.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 543

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.206175 Long: -115.433052 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Wedge of overflow area, just on other side (west) of overflow channel from Sampling Point 542.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. Tamarix sp.	8	x	FAC
2.			
3.			
4.			
5.			
	8	= Total Cover	
Herb Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 92 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	8	x 3 =	24
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	8 (A)		24 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 543

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 4/4	90					Loamy sa	10% small/medium pebbles
1-6	7.5YR 4/4	87	5YR 5/8	5	C	M	Silty clay	
1-6			WP 7.5YR 8.5/2	8	C	M	Silty clay	
6-12	7.5YR 4/4	80	5YR 5/8	10	C	M	Silty clay	
6-12	WP 7.5YR 8.5/2	10					Silty clay	
12-15	7.5YR 4/4	80	5YR 5/8	10	C	M	Silty clay	
	WP 7.5YR 8.5/2	5					Silty clay	
	Gley 1, 2.5/N	5					Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

WP= White Page

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 544

Investigator(s): C. Congedo Section, Township, Range: S20, T11S, R15E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): 12

Subregion (LRR): D Lat: 33.205394 Long: -115.437585 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

South end of adjacent freshwater forested/shrub wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Allenrolfea occidentalis	8	x	FACW
2.			
3.			
4.			
5.			
	8	= Total Cover	
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 92 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	8	x 2 =	16
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	8 (A)		16 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 544

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 5/4	80	5YR 5/8	20	C	M	Loamy sa	
2-5	7.5YR 4/4	92	5YR 5/8	8	C	M	Silty clay	
5-12+	10YR 4/4	97	5YR 5/8	3	C	M	Loamy sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 545

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Alluvial fan Local relief (concave, convex, none): Concave Slope (%): 12

Subregion (LRR): D Lat: 33.205924 Long: -115.437809 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Atriplex canescens	2		N/L
2. Suaeda nigra	5	x	OBL
3. Larrea tridentata	1		N/L
4.			
5.			
	8 = Total Cover		
Herb Stratum (Plot size: 15')			
1. Schismus barbatus	3		N/L
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	3 = Total Cover		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 89 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	6	x 5 =	30
Column Totals:	11 (A)		35 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 545

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/4	95					Loamy sa	5% large pebbles
4-7	10YR 4/4	100					Loamy sa	Small pebbles
7-12+	7.5YR 4/4	95	7.5YR 6/8	5	C	M	Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No ✓

Remarks:

Moist at 7" deep.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): _____

Water Table Present? Yes ____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 546

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Alluvial fan Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.207644 Long: -115.435196 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Point taken ~425 feet southwest of the railroad right-of-way.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Suaeda nigra	3	x	OBL
2. Allenrolfea occidentalis	2	x	FACW
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 15')			
1. Schismus barbatus	1		N/L
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	1	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 94 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species	2	x 2 =	4
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	1	x 5 =	5
Column Totals:	6 (A)		12 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 546

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 4/4	100					Loamy sa	
2-8	7.5YR 4/4	85	7.5YR 5/8	15	C	M	Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 547

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.207674 Long: -115.435234 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Suaeda nigra	4	x	OBL
2. Atriplex canescens	2		N/L
3.			
4.			
5.			
	6	= Total Cover	
Herb Stratum (Plot size: 15')			
1. Schismus barbatus	2		N/L
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	2	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 92 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	4	x 1 =	4
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	2	x 5 =	10
Column Totals:	6 (A)		14 (B)

Prevalence Index = B/A = 2.3

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 547

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 4/4	90					Loamy sa	10% small/medium pebbles
7-12+	7.5YR 4/4	98	5YR 5/8	2	C	M	Loamy sa	Fine

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): _____

Water Table Present? Yes ____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 548

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.206551 Long: -115.436605 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. Suaeda nigra	3	x	OBL
2. Atriplex canescens	1		N/L
3.			
4.			
5.			
	4 = Total Cover		
Herb Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 10')			
1.	0		
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 96 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	1	x 5 =	5
Column Totals:	4 (A)		8 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 548

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/4	100					Loamy sa	Gritty
2-4	7.5YR 4/4	100					Silty clay	Salt particles (10%)
4-12+	7.5YR 4/4	60	5YR 5/8	5	C	M	Silty clay	
4-12+	10YR 5/4	20	5YR 5/8	15	C	M	Loamy sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/13/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 603

Investigator(s): C. Congedo and C. Torres Section, Township, Range: S20, T11S, R15E

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 3

Subregion (LRR): D Lat: 33.198356 Long: -115.440576 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	5		FAC
2.			
3.			
4.			
	5	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Pluchea sericea	4		FACW
2.			
3.			
4.			
5.			
	4	= Total Cover	
Herb Stratum (Plot size: 15')			
1. Distichlis spicata	15	x	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	15	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 76 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	4	x 2 =	8
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	24 (A)		68 (B)

Prevalence Index = B/A = 2.8

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 603

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/3	95	7.5YR 6/8	3	C	M	Sandy loa	
0-3	Gley 1, 1.5/N	1	2.5YR 4/8	1	C	M		
3-4	10YR 4/4	97	5YR 5/8	3	C	M	Sandy loa	
4-9	10YR 4/4	81	7.5YR 5/8	12	C	M	Silty clay	
4-9			5YR 5/8	7	C	M		
9-12+	10YR 4/4	95	5YR 5/8	5	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Salt crust present, most likely from agricultural runoff.

ATTACHMENT C

Representative Site Photographs

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Photo 1. View of the N Lateral canal within the southwestern portion of the buffer of the Project Area; photo facing south. September 29, 2020.

Photo 2. View of the railroad right-of-way within the northeast portion of the Project Area. ED-3001 drainage crosses the railroad via an underpass; photo facing northeast. November 11, 2020.

PC ORIGINAL PKG

Photo 3. View of a braided portion of ED-3001 taken at OHWM Cross Section 200 near the railroad right-of-way within the Project Area; photo facing northeast. September 29, 2020.

Photo 4. View of an ephemeral drainage determined to be inactive within the northeastern portion of the Project Area; photo facing northeast. January 25, 2021.

PC ORIGINAL PKG

Photo 5. View of Sampling Point 500 taken within the freshwater pond at the northeast portion of the Project Area; photo facing southeast. November 9, 2020.

Photo 6. View of Sampling Point 543 taken within the freshwater forested/shrub wetland at the northeast portion of the site; photo facing west. November 11, 2020.

PC ORIGINAL PKG

Photo 7. View of Sampling Point 525 taken within the freshwater forested/shrub wetland along the east side of the East Highline Canal; photo facing west. November 10, 2020.

Photo 8. View of Sampling Point 603 taken within the freshwater forested/shrub along the west side of the East Highline Canal; photo facing north. November 13, 2020.

PC ORIGINAL PKG

Photo 9. Sampling Point 547 taken within alkali sink habitat at the northeastern portion of the Project Area; photo facing southeast. November 11, 2020.

Photo 10. View of unassociated riparian habitat within the southwestern portion of the Project Area. Habitat is likely remnant of a relic unlined irrigation channel that is no longer in use; photo facing southwest. September 30, 2020.

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ATTACHMENT D

USACE ORM Aquatic Resources Table
(Provided as an accompanying electronic file)

PC ORIGINAL PKG

ATTACHMENT E

Digital Data
(Provided as accompanying electronic files)

PC ORIGINAL PKG

PRELIMINARY GEOLOGICAL AND GEOTECHNICAL HAZARD EVALUATION REPORT

VEGA 2, 3, 5

Imperial County, California

December 2, 2022

Prepared for:

Imperial County
Planning & Development Services Department

Prepared by:

HDR Engineering, Inc.
3230 El Camino Real, Suite 200
Irvine, CA 92602

PC ORIGINAL PKG

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1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

It is our understanding that the proposed VEGA 2, 3, 5 Project will consist of the design and construction of a 350-megawatt photovoltaic solar energy facility with an integrated 350-megawatt battery storage system to provide a renewable and reliable source of electrical power. Project components will include a ground mounted photovoltaic solar power generating system, supporting structures, on-site substations, battery storage systems, interconnection facilities, and internal access roads. The project would employ the use of PV power systems to convert solar energy into electricity using non-reflective technology. All proposed improvements will be located on approximately 1,963 acres of land in central Imperial County, California.

1.2 SITE LOCATION AND DESCRIPTION

The proposed VEGA 2, 3, 5 Project is located approximately 5.5 miles southeast of Niland in Imperial County, California. The Project site consists of five parcels (Assessor Parcel Numbers (APN) 025-260- 022, 025-260-019, 025-270-023, 025-260-011, and 025-010-006) and crosses over the East Highline and Coachella Canals. The site location is shown on Figure 1, Site Location Map in Appendix A.

Based on our site visit, the five parcels are unimproved with some minimal vegetation consisting of native small brush, cactus, and grass, to bare ground. Agricultural fields are located west of the parcels. The VEGA 5 site consists of two parcels located south of the Noffsinger Road, and a portion of APN 025-260-011 located north of Noffsinger Road.

The VEGA 5 site is traversed by the East Highline Canal. The ground surface at the VEGA 5 site was generally covered with dense vegetation ranging in height between about 3 and 7 feet tall. Transmission towers and overhead power lines run along the eastern and western edges of the south and north quadrants of the VEGA 5 site.

The VEGA 2 and 3 sites are located northeast of the Noffsinger Road. Generally, the ground surface at these parcels consisted of sparse dry vegetation. The northern portion of the parcels were found to contain minimal vegetation, or bare ground. The Coachella Canal traverses one of the northernmost parcels of VEGA 2. During our site visit, some of the north areas of VEGA 2 and VEGA 3 were inaccessible due to soft upper soils or deep erosion gullies on dirt roads.

The topography of the Project site is relatively flat with elevations ranging from approximately -64 feet at the west to +192 feet at the east. The coordinates at the center of the Project site are approximately:

Latitude: 33.21672ºN Longitude: 115.423951ºW

1.3 PURPOSE AND SCOPE

The purpose of this preliminary geological and geotechnical study was to review existing geologic/geotechnical data and evaluate preliminary geological and geotechnical hazards for the proposed Project. This report is preliminary in scope and does not include a subsurface field investigation. A final design report must be performed prior to development after subsurface investigation and laboratory testing has been performed.

Our scope of services for this project included the following tasks:

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Literature Review: Reviewed various readily available published and unpublished geologic and geotechnical documents pertinent to the Project site. A list of references used in preparation of this report is presented in Section 6.0.

Site Reconnaissance: Performed a brief site reconnaissance to visually observe the existing site conditions including existing on-site near-surface soils and potential geologic hazards. Selected photographs from our site reconnaissance are included in Appendix B, Site Photographs. The VEGA 3 area was inaccessible during our visit due to soft upper soils and erosion of dirt roads, therefore no photographs were taken at that location.

Preliminary Geologic and Geotechnical Hazards Evaluation: This evaluation included location of known and mapped nearby earthquake faults and seismic zones in relation to the Project site, intensity of ground shaking, potential for liquefaction, ground rupture, landslides, and flooding. Other potential hazards such as expansion, collapse, and corrosivity potentials of on-site soils were also evaluated. Our evaluations were performed based on literature review only. Field and laboratory testing program was not included as a part of our services.

Report Preparation: Relevant geotechnical and geological data were compiled in this report along with our findings and conclusions for the proposed Project.

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2.0 GEOLOGY, FAULTING AND SEISMICITY

2.1 REGIONAL GEOLOGIC SETTING

The Project site is located in the Imperial Valley, a part of the Salton Trough, located in the Colorado Desert physiographic province of California. With surface elevations as low as 275 feet below sea level, the Salton Trough formed as a structural depression resulting from tectonic boundary adjustment between the Pacific and the North American plates. The Salton Trough is bounded on the east and northeast by the San Andreas Fault and on the west by the San Jacinto Fault Zone. The structural trough is filled with more than 15,000 feet of Miocene and younger, marine and non-marine sediments capped by approximately 100 feet of Pleistocene and later lacustrine deposits that have been deposited by intermittent filling derived from periodic flooding of the Colorado River and Lake Cahuilla (Morton, 1977). A Regional Geologic Map is shown on Figure 2 (Appendix A).

2.2 SURFACE SUBGRADE SOILS AND GROUNDWATER CONDITIONS

Based on a review of published data by the California Geological Survey (CGS, 2010), the Project site is generally underlain by stratified alluvial deposits, predominately consisting of interbedded layers of silt, sand and clay. According to the Soil Survey of Imperial County prepared by United States Department of Agriculture Soil Conservation Service (2020), the near-surface soils are predominantly comprised of very fine to fine sand and occasionally gravelly sand. The soil map for the Project site is shown on Figure 3.

A review of online water well databases from USGS (2021b) and California Department of Water Resources (2021) indicate that there is one water well within a mile radius from the site (less than a mile south of Parcel No. 025-270-023 [VEGA 2 Site]). Groundwater at Well No. 11S15E23M001S was measured at about 50 feet below ground surface in March 2020. Groundwater information should be obtained after conducting a subsurface field investigation during the design phase of the Project. Seasonal fluctuations of shallow groundwater should be expected during periods of rainfall, irrigation of adjacent properties, and site grading. The groundwater levels shown herein should not be interpreted to represent accurate current or permanent conditions.

2.3 FAULTING

Southern California straddles the boundary between two global tectonic plates known as the North American Plate (on the east) and the Pacific Plate (on the west). The main plate boundary is represented by the San Andreas Fault, which extends northwest from the Gulf of California in Mexico, through the desert region of the Imperial Valley, through the San Bernardino region, and into Northern California, where it eventually trends offshore, north of San Francisco (Jennings and Bryant, 2010).

In Southern California, the plate boundary is a complex system of numerous faults known as the San Andreas Fault System (SAFS) that span a 150-mile-wide zone from the main San Andreas fault in the Imperial Valley westward to offshore of San Diego (Powell et al., 1993 and Wallace, 1990). The major faults east of San Diego (from east to west) include the San Andreas Fault, the San Jacinto fault, and the Elsinore fault. The SAFS is a transform plate boundary dominated by right-lateral fault displacement with the Pacific Plate moving northwest relative to the North

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American Plate (Wallace, 1990 and Weldon and Sieh, 1985). The significance of this lateral faulting is that transform plate interactions typically generate much smaller maximum magnitude earthquakes than convergent or subduction plate boundaries. Thus, in Southern California the expected maximum moment magnitudes for most faults are typically in the M6.5 to M7.5 range, with only a few faults (San Andreas Fault, possibly some thrust faults of the Transverse Ranges) capable of generating earthquakes in the M8 range, such as the 1906 San Francisco and 1857 Fort Tejon earthquakes, on the San Andreas Fault itself.

Most of the seismic energy and associated fault displacement within the SAFS occurs along the fault structures closest to the plate boundary (i.e., on the Elsinore, San Jacinto, and San Andreas faults) (Powell et al. 1993). Approximately 1.9 inches/year (49 millimeters per year, [mm/yr.]) of overall lateral displacement have been measured geodetically and as fault slip across the plate boundary. Combined, the Elsinore, San Jacinto, and San Andreas faults account for up to 1.6 inches/year (41 mm/yr.), or 84 percent, of the total plate displacement. The remaining 16 percent is accommodated across the faults to the west (Bennett et al., 1996).

The Project site is located in the seismically active Southern California region, within the influence of several fault systems that are considered to be active or potentially active. Several active or potentially active faults are located in the vicinity of the Project site. The locations of these faults relative to the site are shown on Figure 4, Fault Map (Appendix A).

Under the current understanding of regional seismology and tectonics, the largest maximum earthquake to impact the project may be generated by the Brawley Seismic Zone having an estimated maximum magnitude of M7.4. Table 2-1 lists faults with a risk contribution greater than 1 percent, along with pertinent data such as fault type, distance to fault, and maximum magnitude. Other nearby faults are shown in Figure 4.

Table 2-1. Contributing Faults

Fault Name	Distance (km)	Site Location (Latitude and Longitude)	Maximum Magnitude
Brawley Seismic Zone	21.0	33.21672ºN 115.423951ºW	7.4
Elmore Ranch	21.6		6.5

Note:

Listed faults were derived from United States Geologic Survey (USGS) Deaggregation online tool and lists faults with a risk contribution greater than 1 percent of the total seismic risk. Site Class D was assumed and using USGS Dynamic 2014 dataset (V4.2.0) with a 2,475-year return period. See USGS (2021d) for details.

2.4 HISTORICAL SEISMICITY

The Project site and vicinity are located in an area characterized by high seismicity.

The seismicity of the region surrounding the project site was evaluated using the earthquake database from USGS website (2021c). Based on the review of the available data, 163 earthquake events with magnitudes equal or greater than 4.5 have occurred within a radius of 60 miles of the site in the last 100 years. Selected location of the earthquake epicenter, year of occurrence, and

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earthquake magnitude are summarized in Table 2-2. The earthquakes listed below are based on largest magnitudes.

Table 2-2. List of Selected Historic Earthquakes

Earthquake Location	Date of Earthquake	Earthquake Magnitude
4km N of Holtville, CA	05-19-1940	6.9
22km W of Westmorland, CA	11-24-1987	6.6
5km NNE of Ocotillo Wells, CA	04-09-1968	6.6
17km WSW of Westmorland, CA	10-21-1942	6.6
10km E of Mexicali, B.C., MX	10-15-1979	6.4
12km W of Salton City, CA	03-19-1954	6.4
17km WNW of Westmorland, CA	11-24-1987	6.2
16km WSW of Oasis, CA	03-25-1937	6.0

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3.0 ASSESSMENT OF POTENTIAL GEOLOGIC AND GEOTECHNICAL HAZARDS

3.1 SEISMIC SHAKING

The Project site is located in the highly seismic Southern California region within the influence of several fault systems that are considered to be active or potentially active. A list of known faults considered capable of producing potentially damaging seismic shaking at the site is presented in Table 2-1. It is anticipated that the Project site will periodically experience ground accelerations and shaking as the result of small to moderate magnitude earthquakes occurring along these faults and other faults within the Southern California region.

The results of our preliminary seismic hazard analyses indicated that the estimated horizontal peak ground acceleration (PGA) having a 2 percent probability of exceedance in 50 years and corresponding to the statistical return period of approximately 2,475 years, which is defined as the Maximum Considered Earthquake (MCE), is on the order of 0.55g.

3.2 FAULT-RUPTURE HAZARD

Surface rupture usually occurs along traces of known active or potentially active faults. However, many historic seismic events, including the 1994 Northridge Earthquake, have occurred on faults without surface expression (blind faults) that were not previously known to exist or to be active.

The California Geologic Survey (CGS) established criteria for faults as active, potentially active, and inactive. Active faults are those that show evidence of surface displacement within the last 11,000 years (Holocene age). Potentially active faults are those that demonstrate displacement within the past 1.6 million years (Quaternary age). Faults showing no evidence of displacement within the last 1.6 million years may be, in general, considered inactive for most structures, except for critical structures. In 1972 the Alquist-Priolo Special Studies Earthquake Hazards Act (APEHA) was passed, which required fault studies within 500 feet of active or potentially active faults. The APEHA designates “active” and “potentially active” faults utilizing the same age criteria as that used by the CGS. The site is not located within a currently-delineated State of California Alquist-Priolo Earthquake Fault Zone (Bryant and Hart, 2007 and CGS, 2019) and therefore the likelihood of fault rupture at the Project site is considered low. Location of known Alquist Priolo Earthquake Fault Zones in the general vicinity of the Project Site is shown on Figure 5, Seismic Hazard Map (Appendix A).

3.3 FLOOD HAZARD AND TSUNAMIS

Flooding can occur as a result of several factors in developed areas. These factors include: rainfall rates that exceed an area’s ability to absorb or control the runoff; impounded water retained behind a flood control structure (upstream-inundation), failure of a flood control structure (downstream-inundation), seiches, and tsunami.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map Number 06025C0750C (2008), the Project site is considered a Zone X site, which is an area that is determined to be outside the 0.2% annual chance of flooding. Therefore, the risk related to natural flooding is low.

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Due to the site's inland location and the lack of any local impounded bodies of water, tsunami, and seiches do not represent potential hazards to the site.

3.4 LANDSLIDING

Landslides and other forms of mass wasting, including mud flows, debris flows, and soil slips occur as soil moves downslope under the influence of gravity. Landslides are frequently triggered by intense rainfall or seismic shaking. Because the site is located in a relatively flat area, we do not consider landslides or other forms of natural slope instability to represent a significant hazard to the project.

3.5 LIQUEFACTION/SEISMIC SETTLEMENT

The term liquefaction describes a phenomenon in which saturated, cohesionless soils temporarily lose shear strength (liquefy) when subjected to cyclic ground motions. Cyclic loading of saturated soils leads to the build-up of pore water pressure as a result of soil particles being rearranged with a tendency toward closer packing. Under undrained conditions, shaking of loose non-cohesive soils may result in loads being transferred from the soil skeleton to the pore water with consequent reduction in the soil strength and stiffness. Structures founded on or above potentially liquefiable soils may experience bearing capacity failures due to the temporary loss of foundation support, vertical settlements (both total and differential), and/or undergo lateral spreading. The factors known to influence liquefaction potential include soil type, relative density, grain size distribution, confining pressure, depth to groundwater, and the intensity and duration of the seismic ground shaking. Liquefaction is most prevalent in loose- to medium-dense, silty, sandy, and gravelly soils below the groundwater table.

The Project site has not been mapped for liquefaction potential by CGS. Due to the limited soils and groundwater information, the liquefaction potential at the project site cannot be determined. The liquefaction potential should be evaluated during the design phase of the Project, using site-specific information collected from future site-specific exploratory boreholes.

3.6 LATERAL SPREADING

Liquefaction-induced lateral spreading is defined as the lateral displacement of ground as a result of pore pressure build-up or liquefaction in shallow underlying soils during an earthquake. Lateral spreading can occur on sloping ground or where nearby slopes are present. The factors known to influence the magnitude of lateral spreading include earthquake magnitude, peak ground acceleration, distance between the site and the seismic event, the slope height and gradient, thickness of the liquefied layer, fines content, soil particle gradation, and residual strength of the liquefied soil.

A site-specific geotechnical investigation should be performed and mitigation measures, if necessary, should be developed to reduce the magnitude of lateral displacement due to lateral spreading.

3.7 LAND SUBSIDENCE

Subsidence is the sinking of the ground surface caused by the compression of earth materials or the loss of subsurface soil due to underground mining, tunneling, or erosion. The major causes of subsidence include fluid withdrawal from the ground, decomposing organics, underground

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mining or tunneling, and placing large fills over compressible earth materials. The effective stress on underlying soils is increased resulting in consolidation and settlement. Subsidence may also be caused by tectonic processes. The Project site is not located in an area of known ground subsidence or within any delineated zones of subsidence due to groundwater pumping or oil extraction (USGS, 2021a). Accordingly, the potential for subsidence to occur at the site is considered to be low.

3.8 EXPANSIVE SOILS

Expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell) due to variations in moisture content. Changes in soil moisture content can result from precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may result in unacceptable settlement or heave of structures. Based on available data, the onsite near-surface soil deposits primarily consist of sand, gravelly sand and clay/silty clay. Generally, sands are considered not expansive soils and clays may exhibit moderate to high expansion potential due to variation in moisture content. A site-specific geotechnical investigation should be performed to evaluate soil expansiveness and potential impact, if any, of expansive soil on the Project.

3.9 COLLAPSIBLE SOILS

Collapsible soil is generally defined as soil that will undergo a sudden decrease in volume and its internal support is lost under applied loads when water is introduced into the soil. The internal support is considered to be a temporary strength and is derived from a number of sources including capillary tension, cementing agents, e.g. iron oxide and calcium carbonate, clay-welding of grains, silt bonds, clay bonds and clay bridges. Soils found to be most susceptible to collapse include loess (fine grained wind-deposited soils), valley alluvium deposited within a semi-arid to arid climate, and residual soil deposits. At this time, it is unknown whether collapsible soils are present at the site. A site-specific geotechnical investigation should be performed to assess the presence of collapsible soils and evaluate potential impact, if any, of collapsible soils on the proposed improvements.

3.10 SOIL CORROSION

A site-specific corrosion study should be performed and mitigation measures should be recommended if the soils are found to be corrosive to concrete or steel. Generally, fine grained soils like clay are more likely to be corrosive. Typical remediation for the corrosive soil conditions consists of using concrete mix with higher cement contents (Type V Portland Cement) and appropriate steel corrosion protection. Because fine grained soils are expected to be encountered at the subject site, corrosion potential should be further evaluated during the design phase of this Project.

3.11 OTHER GEOLOGIC HAZARDS

Volcanic Eruption: The Project site is not located in an area of a recent volcanism. Therefore, the potential for volcanic activity is very low.

Radon Gas: Radon gas is a radioactive product of uranium which can reach high levels depending on the local geology and building construction. According to Environmental Protection

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Agency (EPA) Map of Radon Zones, the Project site, as the entire Imperial County, is located in Zone 3 with predicted average indoor radon screening levels less than 2 picocuries per liter (pCi/L). Since the site is not located within an area of high potential for indoor radon levels (above 4 pCi/L), the potential for radon gas accumulation is considered low.

Naturally Occurring Asbestos: The site is not located in an area of known naturally occurring asbestos (CGS, 2011). Therefore, the potential for occurring asbestos is considered low.

Hazardous Materials: The site is not located in proximity to any known hazardous materials (methane gas, hydrogen sulfide gas) and the risk of hazardous materials is considered low.

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4.0 PRELIMINARY SEISMIC DESIGN RECOMMENDATIONS

To reduce the effects of ground shaking produced by regional seismic events, seismic design should be performed in accordance with the applicable building codes. Preliminary seismic parameters were calculated using the California's Office of Statewide Health Planning and Development [OSHPD] (2018) and in accordance with the 2016 California Building Code and the American Society of Civil Engineers/Structural Engineering Institute (ASCE/SEI) (2017) 7-16. Site Class D was assumed for preliminary design and must be confirmed prior to final design. Seismic design parameters for Site Class D are provided in Table 4-1.

Table 4-1. Preliminary Seismic Design Parameters

Category	Recommended Value
Risk Category	II (1)
Site Class	D
Latitude	33.21672ºN
Longitude	115.423951ºW
Mapped (5% damped) spectral response acceleration parameter at short period (0.2 sec), S_S	1.333
Mapped (5% damped) spectral response acceleration parameter at long period (1.0 sec), S_1	0.469
Short period (0.2 sec) site coefficient, F_a	1.0
Long period (1.0 sec) site coefficient, F_v	1.87
Spectral response acceleration parameter at short period (0.2 sec), S_{MS}	1.333
Spectral response acceleration parameter at long period (1.0 sec), S_{M1}	0.877
Design (5% damped) spectral response acceleration parameter at short period (0.2 sec), S_{DS}	0.889
Design (5% damped) spectral response acceleration parameter at long period (1.0 sec) S_{D1}	0.585 (2)
Peak Ground Acceleration (PGA) (g)	0.50
Site -adjusted PGA (PGA_M) (g)	0.55
Design Magnitude(3) Mw	7.3

Notes:

(1) Risk category was assumed and should be verified by designer during final design.

(2) See the commentary in ASCE/SEI 7-16, Section 11.4.8 for site-specific ground motion analysis and "Exception note" 2.

(3) Design magnitude based on USGS Probabilistic Deaggregation with 2% chance of exceedance in 50 years (2,475 year return interval) (USGS, 2021d).

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5.0 CONCLUSIONS AND LIMITATIONS

Our review of available geological and geotechnical literature did not reveal conditions that would preclude development of the proposed Project provided, as mentioned above, a site-specific geotechnical investigation is conducted prior to the site development. The proposed project is considered feasible for development from a geotechnical perspective.

This preliminary geological and geotechnical hazard evaluation report has been prepared for the use of HDR and Imperial County for the proposed VEGA 2,3,5 Project. The report may not be used by others without the written consent of our client and our firm. The findings, conclusions, and preliminary recommendations presented in this report were prepared in a manner consistent with the standard of care and skill ordinarily exercised by members of its profession, practicing under similar conditions in the geographic vicinity, and at the time the services were performed. No other warranty is either expressed or implied.

Our findings, conclusions and preliminary recommendations presented in this report may be used for preliminary consideration of the feasibility and cost of site development purposes only. They are not intended for the design of the project. Additionally, a site-specific geotechnical investigation should be performed during the planning process for the proposed Project, in order to develop recommendations for the specific foundation designs and earthwork construction being considered for this project.

We appreciate the opportunity to provide our services on this Project. Please do not hesitate to contact undersigned if you have questions, comments, or need additional information.

Respectfully submitted,

HDR Engineering, Inc.

Manuel Guzman, PE
Engineer - Geotechnical

Gary Goldman, PE, GE
Senior Project Manager-Geotechnical

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Appendix A
Figures

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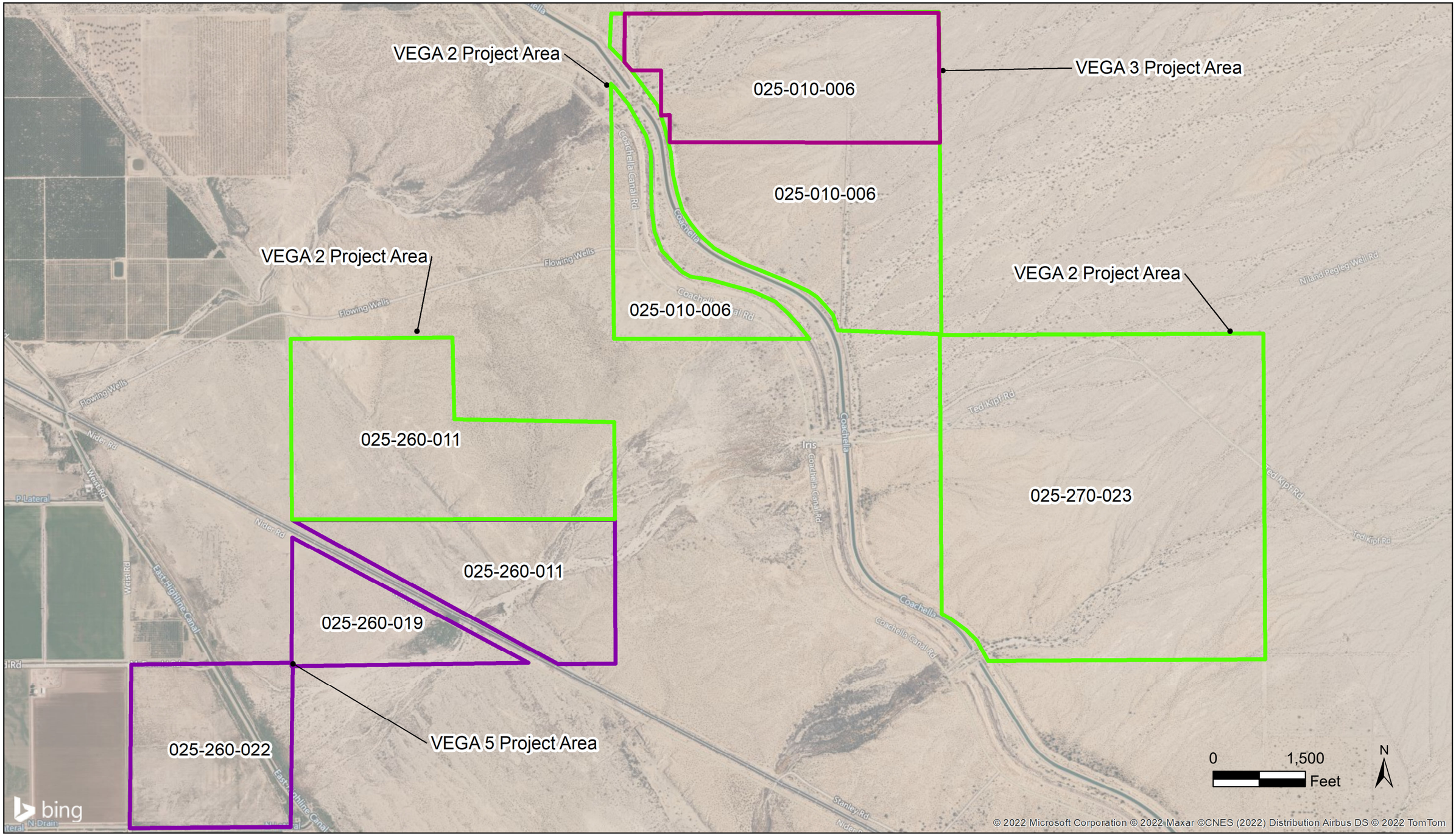

SOIL LOCATION MAP
VEGA 2, 3, 5
IMPERIAL COUNTY, CALIFORNIA

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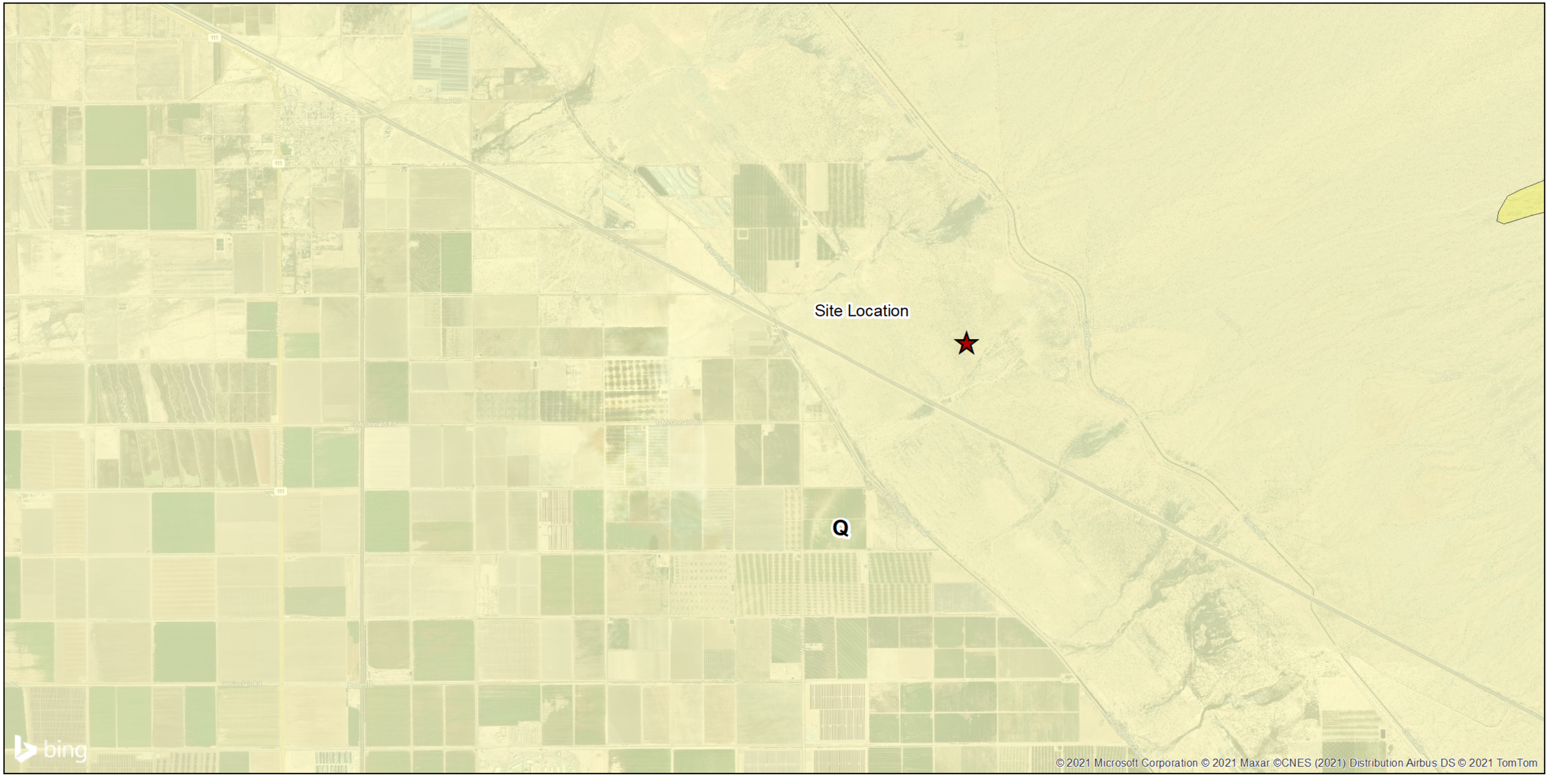
Figure 1



Reference: CGS, 2010, Geologic Map of California, Original compilation by Charles W. Jennings, Updated version by Carlos Gutierrez, William Bryant, George Saucedo, and Chris Wills.

Q **Q - Alluvium, lake, playa, and terrace deposits; unconsolidated and semi-consolidated. Mostly nonmarine, but includes marine deposits near the coast.**

Qoa **Qoa - Older alluvium, lake, playa, and terrace deposits.**

0 4,000 Feet N

REGIONAL GEOLOGIC MAP
VEGA 2,3,5
IMPERIAL COUNTY, CALIFORNIA

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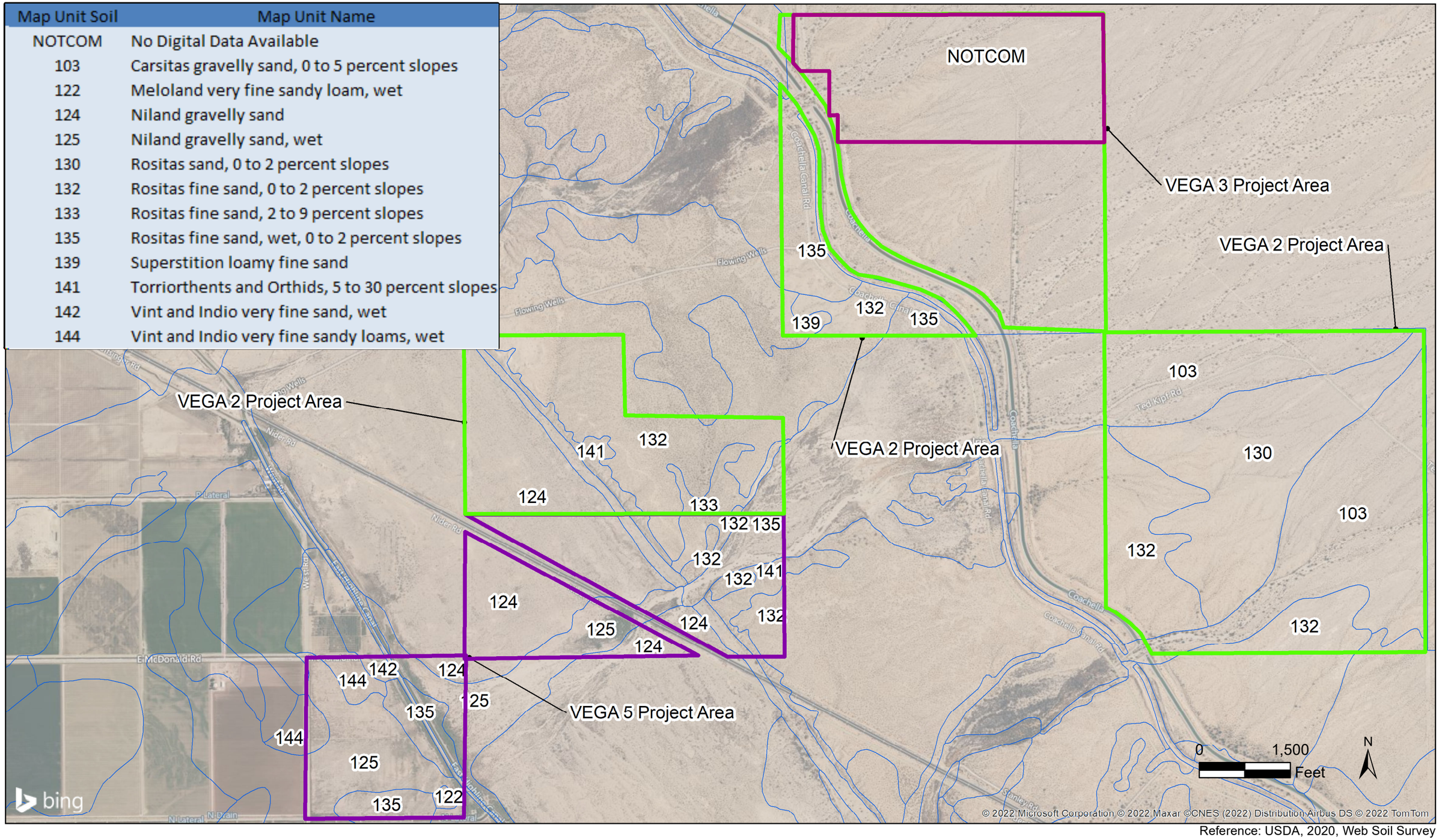
Figure 2

Map Unit Soil	Map Unit Name
NOTCOM	No Digital Data Available
103	Carsitas gravelly sand, 0 to 5 percent slopes
122	Meloland very fine sandy loam, wet
124	Niland gravelly sand
125	Niland gravelly sand, wet
130	Rositas sand, 0 to 2 percent slopes
132	Rositas fine sand, 0 to 2 percent slopes
133	Rositas fine sand, 2 to 9 percent slopes
135	Rositas fine sand, wet, 0 to 2 percent slopes
139	Superstition loamy fine sand
141	Torriorthents and Orthids, 5 to 30 percent slopes
142	Vint and Indio very fine sand, wet
144	Vint and Indio very fine sandy loams, wet



Reference: USDA, 2020, Web Soil Survey

SOIL SURVEY MAP
VEGA 2, 3, 5
IMPERIAL COUNTY, CALIFORNIA

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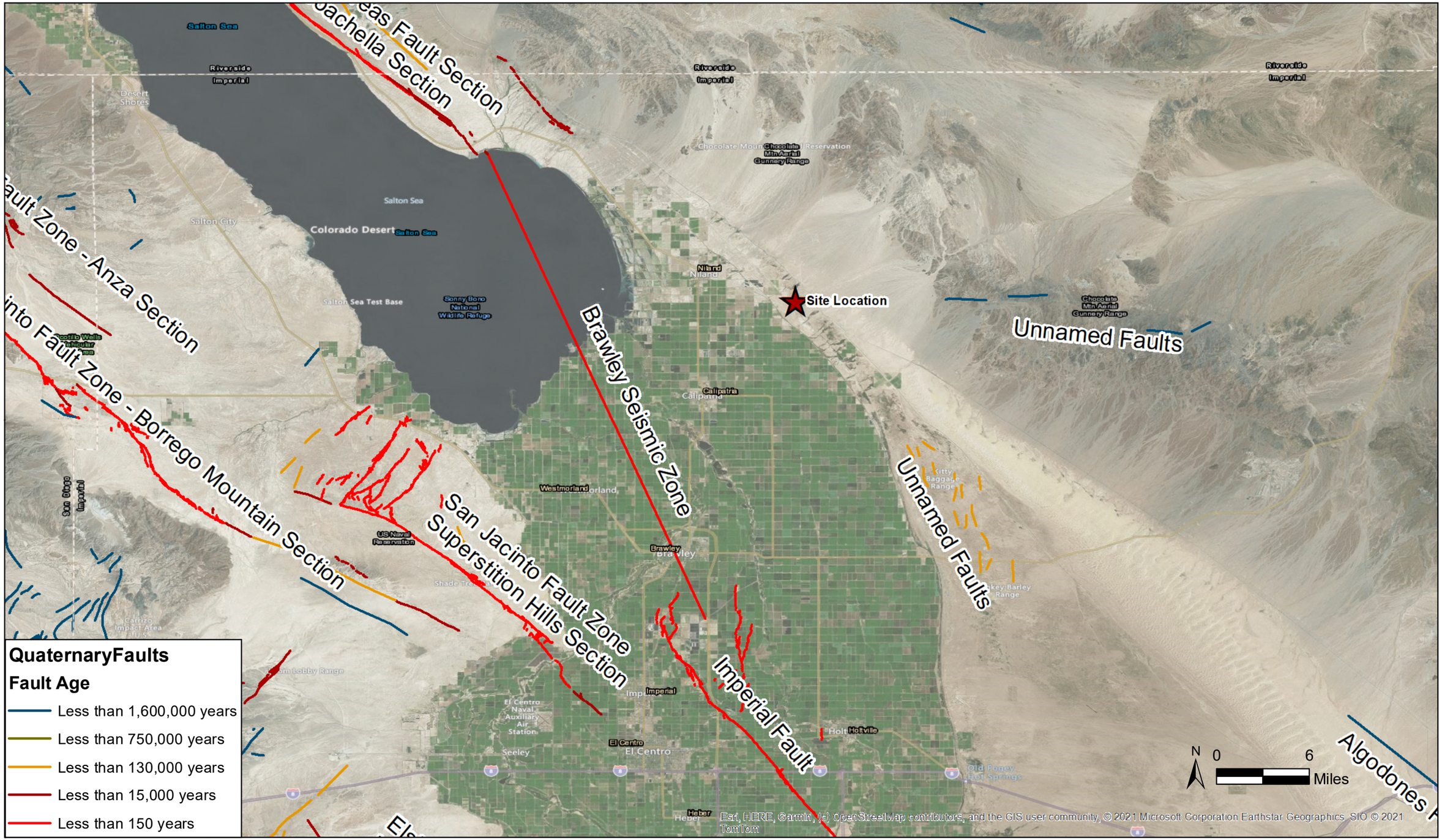
Figure 3



* Fault Age classifications are based on geologic evidence to determine the youngest faulted unit and the oldest unfaulted unit along each fault or fault section (Jennings, C.W., and Bryant, W.A., 2010)

Reference: USGS, 2006

FAULT MAP
VEGA 2,3,5
IMPERIAL COUNTY, CALIFORNIA

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Figure 4

Reference: CGS, 2019

SEISMIC HAZARD MAP
VEGA 2,3,5
IMPERIAL COUNTY, CALIFORNIA

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Figure 5

Appendix B
Site Photographs

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VEGA 2 – Southern Area

VEGA 2 – Southern Area

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VEGA 2 – Northern Area

VEGA 2 – Northern Area

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VEGA 2 – Eastern Area

VEGA 2 – Eastern Area

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VEGA 5 – Southern Area

VEGA 5 – Southern Area

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VEGA 5 – Northeast Area

VEGA 5 – Northeast Area

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Phase I ESA Report

Vega 2/3 (Tong Li, Mesa Ranch and Clark) Solar Site
Flowing Wells and PegLeg Well Roads at Coachella Canal
Niland, California

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GSLyon

Engineering And
Information Technology

December 17, 2020

Mr. Ziad Alaynon
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Phase I Environmental Site Assessment Report
Vega 2/3 (Tong Li, Mesa Ranch and Clark) Solar Site
Flowing Wells and PegLeg Well Roads at Coachella Canal
Niland, California
GSL Report No. GS2020

Dear Mr. Alaynon:

We have performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM E1527-13 of the approximately 1,713-acre subject property located at Flowing Wells and PegLeg Well Roads at the Coachella Canal approximately 9 miles southeast of Niland, California. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report.

This assessment has not revealed any recognized environmental conditions (REC's) in connection with the property.

We declare that, to the best of our professional knowledge and belief, we meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR §312 and we have the specific qualifications based on education, training and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

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Attached is our report which describes the procedures used and results of the assessment. If you have any questions or require additional information, please do not hesitate to contact the undersigned at (760) 337-1100. We appreciate the opportunity to provide our professional review for this subject property.

Respectfully Submitted,
GS Lyon Consultants, Inc.

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1.0 INTRODUCTION

1.1 Purpose

GS Lyon Consultants, Inc. was retained by Apex Energy Solutions, LLC to conduct a Phase I Environmental Site Assessment (ESA) for the Property (herein referred to as the subject property or subject sites in this Phase I ESA Report) as a prerequisite to property transaction (purchase, sale, refinance, etc.). The 1,713-acre subject property located at Flowing Wells Road and PegLeg Well Road at the Coachella Canal approximately 9 miles southeast of Niland, California. See Plate 1 in Appendix B for a Vicinity Map of the subject property.

The purpose of this Phase I Environmental Site Assessment (ESA) is to identify, to the extent feasible, recognized environmental conditions (RECs) associated with past and present activities on the subject property or in the immediate subject property vicinity in general conformance to ASTM Standard E1527-13 "*Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*" that may affect future uses of the subject property.

This report is intended to satisfy the Phase I ESA portion of "*all appropriate inquiry*" into the previous ownership and uses of the subject property as defined under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) at Title 42 of the United States Code (U.S.C.) §9601(35)(B) and in accordance with 40 Code of Federal Regulations (CFR) Part 312, Standards and Practices for All Appropriate Inquiries; Final Rule (AAI Rule).

1.2 Scope of Services

The scope of work for this ESA is in general accordance with the requirements of ASTM Standard E1527-13. This assessment included:

- Reconnaissance of the subject property and adjacent properties
- Review user-provided information
- Interviews with persons with significant knowledge of the subject property
- Review of a regulatory database report provided by a third-party vendor
- Review readily-available historical sources (including but not limited to: aerial photographs, fire insurance maps, property tax files, recorded land title records, and topographical maps)
- Prepare report of findings

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1.3 Limitations

No Phase I ESA can completely eliminate uncertainty regarding the potential for RECs in connection with a property. Conformance of this assessment with ASTM Standard E1527-13 is intended to reduce, but not eliminate uncertainty regarding the potential for RECs in connection with the Subject Property. While GS Lyon has made reasonable effort to discover and interpret available historical and current information on the property within the time available, the possibility of undiscovered contamination remains. Our assessment of the subject property and surrounding areas was conducted in accordance with ASTM guidelines and the *generally accepted environmental engineering standard of practice* which existed in Imperial County, California at the time that the report was prepared. No warranty, express or implied, is made.

GS Lyon Consultants, Inc. derived the data in this report primarily from visual inspections, examination of public records and information in the public domain, informal interviews with individuals, and readily available information about the subject property. The passage of time, manifestation of latent conditions or occurrence of future events may require further exploration of the subject property, analysis of the data, and reevaluation of the findings, observations, and conclusions expressed in this report.

The findings, observations, and conclusions expressed by GS Lyon Consultants in this report are not, and should not be considered, an opinion concerning the compliance of any past or present owner or operator of the subject property with any federal, state or local law or regulation.

This report should not be relied upon after **180 days** from the date of issuance, unless additional services are performed as defined in ASTM E1527-13 - Section 4.7.

1.4 Deviations or Data Gaps

ASTM Standard E1527-13 requires any significant data gaps, deviations, and deletions from the ASTM Standard to be identified and addressed in the Phase I ESA. A significant data gap would be one that affected the ability to identify a REC on the subject property or adjacent properties.

Through the course of this assessment, *data failures* or *data gaps* may have been encountered. These failures or gaps, if any, are discussed below. The following provides the opinion of the Environmental Professional as to the significance of the data gaps in terms of defining *recognized environmental conditions* at the subject property. Data failures may or may not be significant data gaps, and the discussion also provides information pertaining to whether the data failures resulted in significant data gaps.

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1.4.1 Data Failures

Data failure is a failure to achieve the historical (property use) research objectives specified in the ASTM Standard Practice even after reviewing the eight standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

No *data failures w*ere encountered during this investigation.

1.4.2 Data Gaps

A *data gap* is a lack of or inability to obtain information required by the ASTM Standard Practice, despite good faith efforts by the Environmental Professional to gather such information. This could include any component of the Practice, e.g., standard environmental records, interviews, or a complete reconnaissance. A data gap by itself is not inherently significant, but if other information and/or the EP's experience raises reasonable concerns about the gap, it may be judged to be significant.

Due to the location of the subject property, Sanborn Fire Insurance maps were not available for the subject property. Because there is no historical data or physical indications that the property has ever been developed or occupied by a business that would have produced hazardous materials, the lack of Sanborn Fire Insurance maps is not considered a significant data gap.

Aerial photographs and other historical records were not available at 5 year intervals as required under the ASTM E1527-13 standard. This resulted in a data gap for years that records were not available regarding the area of the subject property. However, based upon other historical information reviewed, the subject property has been vacant desert land. Therefore, this data gap is not considered to be significant.

Interviews with past owners, operators and occupants were not reasonably ascertainable and thus constitute a data gap. Based on information obtained from other historical sources (as discussed in Section 3.0), this data gap is not expected to alter the findings of this assessment.

1.5 Significant Assumptions

In preparing this report, GS Lyon Consultants, Inc. has relied upon and presumed accurate certain information (or the absence thereof) about the subject property and adjacent properties by governmental officials and agencies, the Client, and others identified herein. Except as otherwise stated in the report, GS Lyon Consultants has not attempted to verify the accuracy or completeness of any such information.

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1.6 User Reliance

This report has been prepared on behalf of and for the exclusive use of Apex Energy Solutions, LLC for the particular subject property identified in this report, and is subject to and issued in connection with the referenced Agreement and the provisions thereof. This report should not be relied upon by any party other than the client, its legal counsel, and financial institution without the express permission of GS Lyon Consultants, Inc. Any reliance on this report by other parties shall be at such party's sole risk. Any future consultation or provision of services to third parties related to the subject property requires written authorization from Apex Energy Solutions, LLC or their representatives. Any such services may be provided at GS Lyon Consultants sole discretion and under terms and conditions acceptable to GS Lyon Consultants, including potential additional compensation.

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2.0 SITE DESCRIPTION

2.1 Site Location and Legal Description

The approximately 1,713-acre subject property (APNs 025-260-011, 025-270-023 and 025-010-006) is located at Flowing Wells Road and PegLeg Well Road at the Coachella Canal approximately 9 miles southeast of Niland, California. The subject property location is depicted on Plate 1, Site Map.

2.2 Current Property Use and Description

The subject property currently consists of three distinct parcels consisting of vacant desert land located on the east side of the Union Pacific Railroad mainline tracks. Descriptions of the three parcels are provided below.

APN 025-260-011: This parcel is irregularly shaped area on the north side of the Union Pacific Railroad (UPRR) tracks which form the southern boundary of the parcel. A dry ephemeral wash bed (subject to flash flooding) crosses the southeast corner of this parcel in a northeast to southwest direction. Desert vegetation is scattered throughout the site. A high voltage powerline (230-kV) parallels the western boundary of the parcel. Scattered desert vegetation covers the subject site. The high stand shoreline at Elev. +43 ft. MSL of ancient Lake Cahuilla crosses diagonally (southeast to northwest) across the subject property and is expressed and a sharp change in elevation.

APN 025-010-006: This parcel is square in plan view and is comprised of approximately 640 acres of vacant desert land. The Coachella Canal, a concrete lined major irrigation supply canal to the Coachella Valley, crosses the southwest portion of this site. Flowing Wells Road and Coachella Canal Road, which are unpaved roads, are located in the southwest portion of this parcel. Desert vegetation is scattered throughout the site. A dry ephemeral wash bed (subject to periodic flooding) crosses the northwest corner of this parcel in a northeast to southwest direction. An earth flood diversion berm runs north-south within the eastern portion of this parcel to divert desert flood waters to the Siphon 5 crossing of the Coachella Canal.

APN 025-270-023: This parcel is approximately square in plan view and comprised of approximately 625 acres of vacant desert land. The Coachella Canal crosses the southwest portion of this site. PegLeg Well Road, an unpaved road, crosses the northern portion of this parcel. Ted Kipf Road (unpaved) spits southeasterly from PegLeg Road and diagonally crosses the northeastern portion of the parcel. Desert vegetation is scattered throughout the site.

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Dry ephemeral wash beds (subject to flash flooding) cross the northwest and southeast corners of this parcel in a northeast to southwest direction aligning to siphons 4 and 5 in the Coachella Canal.

2.3 Adjoining Property Use

The subject property is located near the boundary between the cultivated portion and the desert margins of the Imperial Valley southeast of Niland, California. Adjacent properties consist of agricultural fields and citrus orchards west of the East Highline (EHL) Canal and vacant desert lands east of the EHL Canal. The Coachella Canal, a large concrete lined supply canal, crosses through a portion of the subject properties. The Union Pacific Railroad mainline tracks form the southwestern boundary of the westernmost parcel of the subject site.

2.4 Physical Site Characteristics

Topography: Topographic maps (USGS 7.5 minute Iris, CA Quadrangle) indicate that the subject property elevation is approximately 5 feet below to 190 feet above mean sea level (MSL) or Elevation 995 to 1190 (local datum). The Imperial Irrigation District, which supplies power and raw (irrigation) water to the area, established local datum by equating mean sea level to El. 1000.00 feet.

Geologic Setting: The subject property is located in the Colorado Desert Physiographic province of southern California. The dominant feature of the Colorado Desert province is the Salton Trough, a geologic structural depression resulting from large-scale regional faulting. The trough is bounded on the northeast by the San Andreas Fault and the southwest by faults of the San Jacinto Fault Zone. The Salton Trough represents northward extension of the Gulf of California, which has experienced continual in-filling with both marine and non-marine sediments since the Miocene Epoch (25 million years before present). The tectonic activity that formed the trough continues at a high rate as evidenced by deformed young sedimentary deposits and high levels of historic seismicity.

The subject property is directly underlain by Holocene (0-11,000 years before present) Cahuilla Lake sediments, which consist of interbedded lenticular and tabular sand, silt, and clay. The predominant surface soil is silty clay. The Holocene lake deposits are considered to be less than 100 feet thick and are characterized by surficial clay and silt deposits with varying amounts of fine sand. The topography of the Imperial Valley is relatively flat, with few significant land features. The valley floor slopes gently to the north (less than 0.5 percent) from an elevation of sea level at Calexico to approximately 225 feet below sea level at the Salton Sea.

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Soil Conditions: The U. S. Soil Conservation Service compiled a map of surface soil conditions and published a soil survey report including maps in 1980. The soil survey maps indicate that surficial deposits at the subject property and surrounding area consist predominantly of sandy loams of the Carsitas and Rositas soil groups (see Appendix B). These loams are formed in sediment and alluvium of mixed origin (Colorado River overflows, fresh-water lake-bed sediments, and alluvial fan deposits). Based on Unified Soil Classification System presented in the Soils Survey Report, the permeability of these soils is expected to be low to moderate.

Groundwater Conditions: The groundwater adjacent to the Coachella Canal is encountered at a depth of approximately 40 feet below the ground surface and gets deeper to the east. Little seepage is expected downslope from the canal due to the concrete canal lining.

Groundwater levels may fluctuate with precipitation, drainage, and site grading. Based on the regional topography, groundwater flow is assumed to be generally towards the southwest within the subject property area. Flow directions may also vary locally in the vicinity of the subject property.

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3.0 USER PROVIDED INFORMATION

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *Brownfields Amendments*), the *User* must provide the following information (if available) to the *environmental professional*. Failure to provide this information could result in a determination that *all appropriate inquiry* is not complete. The user was asked to provide information or knowledge of the following:

- Environmental cleanup liens that are filed or recorded against the subject property.
- Activity and land use limitations that are in place on the subject property or that have been filed or recorded in a registry.
- Specialized knowledge or experience of the person seeking to qualify for the LLPs.
- Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.
- Commonly known or *reasonably ascertainable* information about the *property*.
- The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.
- The reason for preparation of this Phase I ESA.

A user questionnaire was provided to the user to aid in gathering information that may be pertinent to the evaluation of the subject property for environmental conditions. The completed user questionnaire is provided in Appendix I.

3.1 Title Records

GS Lyon reviewed preliminary title reports as part of this assessment and did not find past ownership or easements that would indicate environmentally hazardous uses on the parcels.

3.2 Environmental Liens or Activity and Use Limitations

An environmental lien is a charge, security, or encumbrance upon the title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous substances or petroleum products upon the property. According to the User Questionnaire, Ms. Jamie Nagel of Apex Energy Solutions, LLC is not aware of any Environmental Liens or Activity and Use Limitations associated with the subject property that have been filed or recorded under federal, tribal, state or local law (Appendix I).

GS Lyon Consultants contracted Environmental Data Resources, Inc. (EDR) of Shelton, Connecticut to conduct a search of environmental liens for the subject property. According to the EDR environmental lien report, there are no environmental liens associated with the subject property. The EDR environmental lien report is included in Appendix I.

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3.3 Specialized Knowledge

According to the User Questionnaire, Ms. Nagel is not aware of any specialized knowledge or experience associated with the subject property or nearby properties. GS Lyon does not have any personal knowledge of the subject property.

3.4 Commonly Known or Reasonable Ascertainable Information

No information was provided by the Client regarding any commonly known or reasonably ascertainable information within the local community that is material to RECs in connection with the subject property.

3.5 Valuation Reduction for Environmental Issues

The client indicated that the purchase price of this property reasonably reflects the fair market value of the property with no discounts for environmental issues.

3.6 Owner, Property Manager, and Occupant Information

The current owners for APN 025-260-011 are The Marjorie A. Hoffmeister Gardner Trust, Bay Family Trust, and the Joseph G. Clark Revocable Trust. The current owner of APN 025-010-006 is Mesa West Ranch, LLC. The current owners for APN 025-270-023 are Ernest and Traci Lo Living Trust 1999 and the Wang Family Trust and Tien-shih Lin.

The subject property is currently undeveloped desert land. No property manager or occupant information is available.

3.7 Previous Reports and Other Provided Documentation

No previous reports or other pertinent documentation was provided to GS Lyon for review during the course of this assessment.

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4.0 RECORDS REVIEW

A review of historic aerial photographs (Appendix C), historic topographic maps (Appendix D), historic Sanborn Fire Insurance maps (Appendix E), governmental regulatory databases (Appendix F), other regulatory and agency databases (Appendix G), and historic telephone and city directories (Appendix H) was performed to evaluate potentially adverse environmental conditions resulting from previous ownership and uses of the subject property. The details of the review are presented in Sections 4.1 through 4.5 of this report.

4.1 Regulatory Database Review

4.1.1 Standard Environmental Record Sources

GS Lyon Consultants contracted Environmental Data Resources, Inc. (EDR) of Shelton, Connecticut which queries and maintains comprehensive environmental databases and historical information, including proprietary databases, aerial photography, topographic maps, Sanborn Maps, and city directories to generate a compilation of Federal, State and Tribal regulatory lists containing information regarding hazardous materials occurrences on or within the prescribed radii of ASTM E1527-13. The search of each database was conducted using the approximate minimum search distances from the subject property defined by the ASTM E1527-13 Standard. The purpose of the records review is to obtain and review *reasonably ascertainable* records that will help identify *recognized environmental conditions* or *historical recognized environmental conditions* in connection with the subject property.

EDR‘s Phase I ESA search package was ordered and performed on August 28, 2020. The search package included: Radius Map with Geocheck, aerial photographs, and historic topographic maps.

The results of EDR’s search were used to evaluate if the subject property and/or properties within prescribed search distances are listed as having a past or present record of actual or potential environmental impact. Inclusion of a property in a government database list does not necessarily indicate that the property has an environmental problem.

The following is a brief synopsis of sites identified in the EDR Radius Map with Geocheck report. The government record search report is included in its entirety in Appendix F.

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Federal NPL List

The Environmental Protection Agency's (EPA) National Priorities List (NPL) of uncontrolled or abandoned hazardous waste sites was reviewed for risk sites within a 1 mile radius of the subject property. The NPL identifies sites for priority cleanup and long-term care of properties under the Superfund Program that are contaminated with hazardous substances.

The database search did not identify any NPL sites within 1 mile of the subject property.

Federal CERCLIS List

The EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) listings were reviewed to determine if risks sites within ½ mile are listed for investigation. The CERCLIS database identifies hazardous waste sites that are on or proposed to be included in the NPL and sites that require investigation and possible remedial action to mitigate potential negative impacts on human health or the environment.

The CERCLIS database search did not identify any risk sites within 0.5 mile of the subject property.

Federal CERCLIS – No Further Remedial Action Planned

The EPA's CERCLIS – No Further Remedial Action Planned (NFRAP) database was reviewed to determine if risks sites within ½ mile are listed. CERCLIS NFRAP site are risk sites that have been removed from and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at the subject property has been completed and the EPA has determined that no further steps will be taken to list this subject property on the NPL, unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time.

This designation is for sites where no contamination was found, contamination was quickly removed without the need for the subject property to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

The CERCLIS – NFRAP database search did not identify any risk sites within ½mile of the subject property.

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Federal RCRA List

The Federal Resource Conservation Recovery Act (RCRA) Notifiers List was reviewed to determine if RCRA treatment, storage or disposal sites (TSD) are located within 1 mile of the subject property. The RCRA Correction Action Sites List (CORRACTS) is maintained for risk sites which are undergoing "a corrective action". A corrective action order is issued when there has been a release of hazardous waste constituents into the environment from a RCRA facility.

The RCRA and RCRA CORRACTS database searches did not identify any RCRA TSD or RCRA CORRACTS risk sites within ½ mile of the subject property.

The RCRA regulated hazardous waste generator notifiers list was reviewed to determine if RCRA generator facilities are located on or adjoining the subject property. No RCRA generator facilities within ¼ mile of the subject property were identified in the database.

Federal ERNS List

The Federal Emergency Response Notification System (ERNS) List was reviewed to determine if reported release of oil and/or hazardous substances occurred on the subject property.

The ERNS database searches did not identify any reported releases for the subject property.

State and Tribal NPL List

The Environmental Protection Agency's (EPA) National Priorities List (NPL) of uncontrolled or abandoned hazardous waste sites was reviewed for risk sites within a 1 mile radius of the subject property. The NPL identifies sites for priority cleanup and long-term care of properties under the Superfund Program that are contaminated with hazardous substances.

The database search did not identify any NPL sites within 1 mile of the subject property.

State and Tribal equivalent CERCLIS

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites.

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EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

The EnviroStor database search did not identify and risk sites within 1 mile of the subject property.

State and Tribal Leaking Underground Storage Tank Sites
The California State Water Resources Control Board (SWRCB) maintains a list of information concerning reported leaking underground storage tanks (LUST). The LUST inventory list was reviewed to determine if any LUSTs are located within ½ mile the subject property.

The SWRCB LUST database did not identify any risk sites within ½ mile of the subject property.

State and Tribal Underground and Aboveground Storage Tank Sites
The California State Water Resource Control Board (SWRCB) underground storage tank (UST) and above ground storage tank (AST) inventory list was reviewed to determine if any UAST's are located on or adjacent to the subject property.

The SWRCB UST and AST databases did not identify any risk sites within ¼ mile of the subject property.

Solid Waste Disposal/Landfill Facilities
The Solid Waste Disposal/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data comes from the Integrated Waste Management Board's Solid Waste Information System (SWIS) database.

A review of the SWF/LF list database did not identify any risk sites within ½ mile of the subject property.

Unmapped (Orphan) Sites
Not all sites or facilities identified in the database records can be accurately located in relation to the Subject Property due to incomplete information being supplied to the regulatory agencies and are referred to as "orphan sites" by EDR.

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The "Orphan Summary" section of the EDR Radius Map Report identified several orphan sites. Based on a drive-by reconnaissance of the Subject Property vicinity and review of location and status information provided in the database report, none of the identified orphan sites are located within the search radii for databases specified by the Standard.

4.1.2 Additional Environmental Record Sources

California Department of Toxic Substances Control (DTSC) Records – Envirostor Database: EnviroStor is an online search and Geographic Information System tool for identifying sites that have known contamination or sites for which there may be reasons to investigate further. Public Access to EnviroStor is accessible via the DTSC Web Page located at: http://www.envirostor.dtsc.ca.gov/public/. The EnviroStor database includes the following site types: Federal Superfund sites (National Priority List); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. The information includes site name, site type, status, address, any restricted use (recorded deed restrictions), past use(s) that caused contamination, potential contaminants of concern, potential environmental media affected, site history, planned and completed activities. The EnviroStor database also contains current and historical information relating to Permitted and Corrective Action facilities. The EnviroStor database includes current and historical information on the following permit-related documents: facility permits; permit renewal applications; permit modifications to an existing permit; closure of hazardous waste management units (HWMUs) or entire facilities; facility corrective action (investigation and/or cleanup); and/or post-closure permits or other required post-closure activities.

The EnviroStor database was queried on September 10, 2020. A map showing the results of the query is provided in Appendix G. No reported cases were found on the subject property. No risk sites were located within ½ mile of the subject property.

California State Water Resources Control Board Records – GeoTracker Database: GeoTracker is a geographic information system (GIS) maintained by the California State Water Resources Control Board (SWRCB) that provides online access to environmental data at http://www.geotracker.swrcb.ca.gov\. GeoTracker tracks regulatory data about underground fuel tanks, fuel pipelines, and public drinking water supplies. Site information from the Spills, Leaks, Investigations, and Cleanups (SLIC) Program is also included in GeoTracker.

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The GeoTracker database was queried for environmental data pertaining to the Subject property on September 10, 2020. A map showing the results of the query is provided in Appendix G. No reported cases were found on the subject property. No risk sites were located within ½ mile of the subject property.

CUPA Records Search: The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. Cal/EPA and other state agencies set the standards for their programs while local governments implement the standards—these local implementing agencies are called Certified Unified Program Agencies (CUPA).

The DTSC Imperial CUPA office was contacted (Veronica Lopez) by email on September 16, 2020. CUPA records were searched for environmental issues related to the subject property. The DTSC indicated that records are filed per address, and with no known address associated with the subject property, no records were found associated with the subject property.

4.2 Historical Use Records

ASTM E1527-13 requires the environmental professional to identify all obvious uses of the property from the present back to the property's first developed use or 1940, whichever is earliest. This information is collected to identify the likelihood that past uses have led to RECs in connection with the property. This task is accomplished by reviewing standard historical sources to the extent that they are necessary, reasonably ascertainable, and likely to be useful. These standard records include aerial photographs, fire insurance maps, property tax files, land title records, topographic maps, city directories, telephone directories, building department records, and zoning/land use records.

The general type of historical use (i.e., commercial, retail, residential, industrial, undeveloped, office) should be identified at 5-year intervals, unless the specific use of the property appears to be unchanged over a period longer than 5 years. The historical research is complete when the use is defined or when data failure occurs. Data failure occurs when all of the standard historical sources have been reviewed, yet the property use cannot be identified back to its first developed use or to 1940. Data failure is not uncommon in trying to identify the use of the property at 5-year intervals back to first use or 1940, whichever is earlier.

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GS Lyon reviewed the following historical records to identify obvious uses of the subject property from the present back to the property's first developed use, or to 1940, whichever is earlier. The results of this research and data failure, if encountered, are presented in the following sections.

4.2.1 Title Records

GS Lyon was provided with preliminary title records for review as part of this assessment.

4.2.2 Sanborn Fire Insurance Maps

Sanborn Fire Insurance Maps are large scale maps depicting the commercial, industrial, and residential sections of various cities across the United States. Since the primary use of the fire insurance maps was to assess the buildings that were being insured, the existence and location of fuel storage tanks, flammable or other potentially toxic substances, and the nature of businesses are often shown on these maps.

Due to the rural undeveloped nature of the subject property and vicinity for the years the Sanborn Fire Insurance Maps were available for this subject property, no maps are available for the subject property. An "Unmapped Property" letter for the Sanborn Fire Insurance Maps is included in Appendix E.

4.2.3 Aerial Photographs

Aerial photographs obtained from Environmental Data Resources (EDR) dating back to 1937 and Google Earth aerial photographs dating back to 1996 were reviewed for historical development of the subject property. Reproductions of the historical aerial photographs reviewed are included in Appendix C.

The 1937 aerial photograph shows the subject sites as being vacant desert ground with dry washes crossing the parcels from a northeast to southwest direction. Adjacent parcels appear to be vacant desert lands. The Union Pacific railroad mainline tracks are visible on the southwest boundary of APN 025-260-011. The high stand shoreline (45' elevation contour) of ancient Lake Cahuilla is visible crossing APN 025-260-011 from northwest to southeast.

The 1940, 1953 and 1976 aerial photographs show the subject sites being similar to the 1937 aerial photograph except the Coachella Canal had been constructed and is visible adjacent to APN 025-270-023 and crossing through the western portion of APN 025-010-006.

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The 1984 aerial photograph shows the subject sites being similar to the 1976 aerial photograph except the Coachella Canal channel had been shifted to the east and concrete lined.

The 2004, 2008, 2012 and 2016 aerial photographs show the subject site as being similar to the 1984 aerial photograph and at the present time.

4.2.4 Street Directories

City directories are used for locating individuals and businesses in a particular urban or suburban area. City directories are generally divided into three sections: a business index, a list of resident names and addresses, the name and type of businesses (if unclear from the name). While city directory coverage is comprehensive for major cities, it may be spotty for rural and small towns.

Polk City Directories: The Polk City Directories for the years 1965 and 1983 were reviewed. No listings for the subject properties were found.

4.2.5 Historic Topographic Maps

Historic topographic maps (1940, 1945, 1947, 1956, 1965, 1976, 1992, 2002, and 2012), USGS 7.5 Min. Iris, CA Quadrangle, showed the subject property the subject property as being vacant. The historical topographic maps showed powerlines crossing the northern and western sites from 1940 to 1947 and several unpaved roads crossing the sites.

4.2.6 Historical Telephone Directories

Telephone Directories: Telephone directories for the Imperial County, which included the City of Niland businesses published in 1941, 1955, 1965, 1974, 1994, and 2004 were reviewed. No service stations, chemical manufacturers, petroleum manufacturers, distributors, or automotive repair facilities were noted at or in the immediate vicinity of the subject property. No listings for the subject site were found.

4.3 Historical Use Summary

4.3.1 Summary of the Historical Use of Property

Based on a review of the historical information, the subject sites have been vacant desert land since 1937.

4.3.2 Summary of the Historical Use of Adjacent Properties

Historically, the properties located immediately adjacent to the subject property have been comprised of agricultural field to the west and south and vacant desert lands to the east and north. Development of the agricultural fields began in the 1930s.

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5.0 SITE RECONNAISSANCE

5.1 Methodology and Limiting Conditions

A site reconnaissance was performed by Mr. Pete LaBrucherie, a consulting engineer to GS Lyon Consultants, on September 29, 2020. The site visit consisted of a walking the perimeter of the subject property and randomly crossing the subject property. The reconnaissance included visual observations of surficial conditions at the subject property and observation of adjoining properties to the extent that they were visible from public areas. Mr. LaBrucherie was unaccompanied during the site reconnaissance.

The site reconnaissance was limited to visual and/or physical observation of the exterior and interior of the subject property and its improvements, the current uses of the property and adjoining properties, and the current condition of the property. The site visit evaluated the subject property and adjoining properties for potential hazardous materials/waste and petroleum product use, storage, disposal, or accidental release, including the following: presence of tank and drum storage; mechanical or electrical equipment likely to contain liquids; evidence of soil or pavement staining or stressed vegetation; ponds, pits, lagoons, or sumps; suspicious odors; fill and depressions; or any other condition indicative of potential contamination. The site visit did not evaluate the presence of asbestos-containing materials, radon, lead-based paint, mold, indoor air quality, or structural defects, or other non-scope items.

A site reconnaissance can be limited by weather conditions, bodies of water, adjacent buildings, or other obstacles. The weather was warm and sunny and no access limitations were placed on the site visit.

5.2 General Site Setting

The subject property currently consists of three separate parcels, all of which are vacant desert land. Descriptions of the three individual parcels are provided below.

APN 025-260-011: This parcel is irregularly shaped area on the north side of the Union Pacific Railroad (UPRR) tracks which form the southern boundary of the parcel. A dry ephemeral wash bed (subject to flash flooding) crosses the southeast corner of this parcel in a northeast to southwest direction. Desert vegetation is scattered throughout the site. A high voltage powerline (230-kV) parallels the western boundary of the parcel. Scattered desert vegetation covers the subject site. The high stand shoreline at Elev. +43 ft. MSL of ancient Lake Cahuilla crosses diagonally (southeast to northwest) across the subject property and is expressed and a sharp change in elevation.

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APN 025-010-006: This parcel is square in plan view and is comprised of approximately 640 acres of vacant desert land. The Coachella Canal, a concrete lined major irrigation supply canal to the Coachella Valley, crosses the southwest portion of this site. Flowing Wells Road and Coachella Canal Road, which are unpaved roads, are located in the southwest portion of this parcel. Desert vegetation is scattered throughout the site. A dry ephemeral wash bed (subject to periodic flooding) crosses the northwest corner of this parcel in a northeast to southwest direction. An earth flood diversion berm runs north-south within the eastern portion of this parcel to divert desert flood waters to the Siphon 5 crossing of the Coachella Canal.

APN 025-270-023: This parcel is approximately square in plan view and comprised of approximately 625 acres of vacant desert land. The Coachella Canal crosses the southwest portion of this site. PegLeg Well Road, an unpaved road, crosses the northern portion of this parcel. Ted Kipf Road (unpaved) spits southeasterly from PegLeg Road and diagonally crosses the northeastern portion of the parcel. Desert vegetation is scattered throughout the site. Dry ephemeral wash beds (subject to flash flooding) cross the northwest and southeast corners of this parcel in a northeast to southwest direction aligning to siphons 4 and 5 in the Coachella Canal.

Photographs of the subject property taken on September 29, 2020 during our site reconnaissance are included in Appendix A.

5.3 Adjacent Properties

The subject property is located near the boundary between the cultivated portion and the desert margins of the Imperial Valley southeast of Niland, California. Adjacent properties consist of agricultural fields and citrus orchards west of the East Highline (EHL) Canal and vacant desert lands east of the EHL Canal. The Coachella Canal, a large concrete lined supply canal, crosses through a portion of the subject properties. The Union Pacific Railroad mainline tracks form the southwestern boundary of the westernmost parcel of the subject site.

5.4 Exterior and Interior Observations

The following conditions were specifically assessed for their potential to indicate RECs and may include conditions inside or outside structures on the subject property.

5.4.1 Hazardous Substances and Petroleum Products

GS Lyon did not observe operations that use, treat, store, dispose of, or generate hazardous materials or petroleum products on the subject property.

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5.4.2 Storage Tanks

Underground Storage Tanks (USTs) – No obvious visual evidence indicating the current presence of USTs (i.e. vent pipes, fill ports, etc.) was noted.

Aboveground Storage Tanks (ASTs) – No obvious visual evidence indicating the historical presence of ASTs (i.e. secondary containments, concrete saddles, etc.) was observed.

5.4.3 Odors

No obvious strong, pungent, or noxious odors were noted during the site reconnaissance.

5.4.4 Pools of Liquid

Pools of liquid were not observed during the site reconnaissance.

5.4.5 Drums and Containers

GS Lyon did not observe drums or storage containers on the subject property.

5.4.6 Unidentified Substance Containers

GS Lyon did not observe open or damaged containers containing unidentified substances at the subject property.

5.4.7 Suspect Polychlorinated Biphenyl (PCB) Containing Equipment

No potential PCB containing equipment such as electrical transformers, capacitors, and hydraulic equipment were observed during the site reconnaissance on the subject property or immediate vicinity.

5.5 Interior Observations

The subject property is currently vacant with no structures; therefore, no interior observations were made.

5.6 Exterior Observations

5.6.1 Pits, Ponds, and Lagoons

No pits, ponds, or lagoons were noted on the subject property.

5.6.2 Stained Soils or Pavement

No evidence of significantly stained soil or pavement was noted on the subject property.

5.6.3 Stressed Vegetation

No evidence of stressed vegetation attributed to potential contamination was noted on the subject property.

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5.6.4 Solid Waste

No dumpsters or solid waste containers exist on the subject property.

5.6.5 Wastewater

No wastewater is generated at the subject property

5.6.6 Wells

No evidence of wells (dry wells, drinking water, observation wells, groundwater monitoring wells, irrigation wells, injection wells or abandoned wells) was noted on the subject property.

5.6.7 Septic Systems

No septic systems are present on the subject property.

5.7 Non-Scope Issues

ASTM guidelines identify non-scope issues, which are beyond the scope of a Phase I ESA as defined by ASTM. These issues may affect environmental risk at the subject property and may warrant discussion and/or assessment. Some of these non-scope issues include; asbestos-containing building materials, radon, lead-based paint, and wetlands which are discussed below.

5.7.1 Asbestos-Containing Building Materials

The potential for asbestos containing materials (ACM) existing at the subject property is very low due to the lack of subject property structures.

5.7.2 Lead-Based Paint

The potential or lead based paint residues existing at the subject property is very low due to the lack of subject property development.

5.7.3 Radon

The subject property is located in Zone 3 as shown on the EPA Map of Radon Zones indicating a predicted average indoor radon screening level of less than 2 pCi/L; therefore, r gas is not believed to be a potential hazard at the subject property.

5.7.4 Wetlands

No wetlands are located within one (1) mile of the subject property.

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5.7.5 Agricultural Use

Based on our review of environmental records and historical documents, the subject property has been vacant desert land.

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6.0 INTERVIEWS

GS Lyon interviewed various individuals familiar with the subject property, as identified to us, and/or government officials in order to evaluate historical uses and identify potential RECs existing on the subject property. The individuals interviewed were asked to provide responses in good faith and to the best of their knowledge. The following sections identify the individuals interviewed and summarize the information each provided; however, additional information provided by these individuals may be presented in other sections of this report.

6.1 Interview with Owner

GS Lyon we not able to contact the current property owner; therefore, no interview was conducted.

6.2 Interview with the Site Manager

The subject property is vacant, undeveloped land; therefore, there is no site manager.

6.3 Interview with Occupants

The subject property is vacant, undeveloped land; therefore, there are no occupants.

6.4 Interview with Local Government Officials

The DTSC Imperial CUPA office was contacted (Veronica Lopez) by email on September 16, 2020. CUPA records were searched for environmental issues related to the subject property. The DTSC indicated that records are filed per address, and with no known address associated with the subject property, no records were found associated with the subject property.

Interviews with past owners, operators and occupants were not reasonably ascertainable and thus constitute a data gap.

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7.0 EVALUATION

7.1 Summary of Findings

The approximately 1,713-acre subject property located at Flowing Wells Road and PegLeg Well Road at the Coachella Canal approximately 9 miles southeast of Niland, California. The subject property has been undeveloped desert lands since at least 1937 according to the historical information obtained and reviewed during this site assessment. The subject property is generally planar, with surface water drainage toward the southwest. The regional topographic gradient is generally toward the west to the Salton Sea.

7.2 Conclusions

GS Lyon has performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM E1527-13 of the property located at Flowing Wells Road and PegLeg Well Road at the Coachella Canal approximately 9 miles southeast of Niland, California. Any exceptions to, or deviations from, this practice are described in Section 1.4 of this Phase I ESA report. This assessment has not revealed recognized environmental conditions (RECs) in connection with the subject property.

7.2.1 Recognized Environmental Conditions

A *recognized environmental condition (REC)* refers to the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term REC includes hazardous substances and petroleum products even under conditions that might be in compliance with laws. The term is not intended to include "de minimis" conditions as defined in Section 7.2.3 of this report.

This Phase I ESA has revealed no evidence of *recognized environmental conditions* in connection with the subject property.

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7.2.2 Historical Recognized Environmental Conditions

A *historical recognized environmental condition (HREC)* refers to a past *release* of any *hazardous substances* or *petroleum products* that has occurred in connection with the *property* and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the *property* to any required controls (for example, *property* use restrictions, *activity and use limitations*, *institutional controls*, or *engineering controls*).

This Phase I ESA has revealed no evidence of *historical recognized environmental conditions* in connection with the subject property.

7.2.3 Environmental Concerns and De Minimis Conditions

A *de minimis condition* is a condition that generally does not present a threat to human health or the *environment* and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis conditions* are not *recognized environmental conditions* nor *controlled recognized environmental conditions*.

This Phase I ESA has revealed no *de minimis* conditions or environmental concerns in connection with the subject property.

7.3 Recommendations

Based on the scope of work performed for this assessment, it is our professional opinion that no RECs have been identified in connection with the subject property that would warrant further environmental study (Phase II) at this time.

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8.0 REFERENCES

40 CFR 312, Standards and Practices for All Appropriate Inquiries; Final Rule, November 2005 (AAI Rule).

American Society for Testing and Materials. 2013. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. Designation E 1527-13. West Conshohocken, Pennsylvania. 35 pp.

Department of Toxic Substances Control. 2020. EnviroStor Database Website, http://www.envirostor.dtsc.ca.gov/public/ .

Environmental Data Resources, Inc., *The EDR Radius Map with Geocheck*. Inquiry number 6210343, dated September 30, 2020

Environmental Data Resources, Inc., *EDR Historical Topographic Map Report*. Inquiry number 6210343, dated September 30, 2020

Environmental Data Resources, Inc., *The EDR Aerial Photo Decade Package*. Inquiry number 6210343, dated September 30, 2020

State Water Resources Control Board. 2020. GeoTracker Database Website, http://geotracker.swrcb.ca.gov/

United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey, accessed via the Internet, October 2020

United States Environmental Protection Agency, EPA Map of Radon Zones (Document EPA-402-R-93-071), accessed via the Internet, October 2020

United States Geological Survey Topographic Map 1997, 7.5 minute series

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APPENDIX A

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Photo 1: Looking south from the northwest corner of the Clark portion of the subject site at Noffsinger Road and the IID 230kv KN&KS power line.

Photo 2: Looking at metal debris (car hood) located along the western boundary of the southwest portion of the Clark portion of the subject site.

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Photo 3: Looking southeast along the railroad that forms the southern boundary of the southwestern portion of the Clark portion of the subject site.

Photo 4: Looking northeast across the southwestern portion of the Clark portion of the subject site from the southern boundary.

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Photo 5: Looking south-southeast along the ridge that bisects the southwestern portion of the Clark portion of the subject site.

Photo 6: Looking north-northwest along the ridge toward the northwest corner of the southwest portion of the Clark portion of the subject site.

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Photo 7: Looking at the scattered debris located near the northwest corner (top of ridge) of the southwestern portion of the Clark portion of the subject site.

Photo 8: Looking at additional metal debris near same area as photo 7.

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Photo 9: Looking north across the eastern portion of the southwestern part of the Clark portion of the subject site from the west side of the large wash.

Photo 10: Looking east across the large wash that bisects the eastern portion of the southwest part of the Clark portion of the subject site.

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Photo 11: Looking south across the southeastern corner of the southwest part of the Clark portion of the subject site.

Photo 12: Looking west across the southern portion of the southwestern part of the Clark portion of the subject site.

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Photo 13: Looking northwest across the southwestern portion of the Clark portion of the subject site from the large wash at the southeast corner.

Photo 14: Looking at additional area of debris near northwest corner of southwestern part of the Clark portion of the subject site.

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Photo 15: Looking at burn pile near northwest corner of southwestern part of the Clark portion of the subject site.

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Photo 16: Looking northwest along the east side of the Coachella Canal from the southern boundary of the subject site.

Photo 17: Looking northeast across the subject site from the east side of the Coachella Canal and the southern boundary of the subject site.

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Photo 18: Looking east across the subject site from the east side of the Coachella Canal at the southern boundary of the site.

Photo 19: Looking west across the subject site from the berm that bisects the site.

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Photo 20: Looking north across the subject site from the berm that bisects the site.

Photo 21: Looking at one of the wildlife water drinkers (SP-8) located within the subject site east of the berm.

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Photo 22: Looking north across the subject site from the wildlife drinker SP-8

Photo 23: Looking at used tire and metal debris located within the subject site west of the berm.

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Photo 24: Looking northwest across the northern portion of the subject site from the berm.

Photo 25: Looking northeast across the northern portion of the subject site from the berm.

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Photo 26: Looking southeast across the subject site from the north end of the berm.

Photo 27: Looking south along the berm that bisects the subject site from the north end of the berm.

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Photo 28: Looking southwest across the subject site from the north end of the berm.

Photo 29: Looking west along the northern boundary of the subject site from approximate mid boundary.

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Photo 30: Looking east along the northern boundary of the subject site from approximately mid boundary.

Photo 31: Looking south along across the subject site from approximately mid northern boundary.

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Photo 32: Looking east along the northern boundary of the subject site from near the northwest corner of the site.

Photo 33: Looking southeast across the subject site from near the northwest corner of the site.

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Photo 34: Looking south along the berm near the western boundary of the subject site from near the northwest corner of the site.

Photo 35: Looking at some debris located at the southeast corner of the Coachella Canal siphon within the subject site.

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Photo 36: Looking at a wildlife water drinker (SP-9) located east of the Coachella Canal near the siphon within the subject site.

Photo 37: Looking southeast along Coachella Canal Road from Flowing Wells Road.

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Photo 38: Looking north along Coachella Canal Road from Flowing Wells Road.

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Photo 39: Looking east across the northern portion of site 2B from the western boundary along Ted Kipf Road.

Photo 40: Looking south across subject site 2B western boundary from Ted Kipf Road.

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Photo 41: Looking north across the northwest corner subject site 2B from Ted Kipf Road.

Photo 42: Looking east across the northeast corner of subject site 2B from the north bend in Ted kipf Road.

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Photo 43: Looking southeast along Ted Kipf Road from the north bend.

Photo 44: Looking south across subject site 2B from the north bend in Ted Kipf Road.

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Photo 45: Looking west along wash within subject site 2B from north bend in Ted Kipf Road.

Photo 46: Looking south along the eastern boundary of subject site 2B.

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Photo 47: Looking northwest along Ted Kipf Road from the eastern boundary of subject site 2B.

Photo 48: Looking south west along the large wash that bisects the southern portion of subject site 2B.

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Photo 49: Looking north from the edge of the large wash that bisects the southern portion of subject site 2B.

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APPENDIX B

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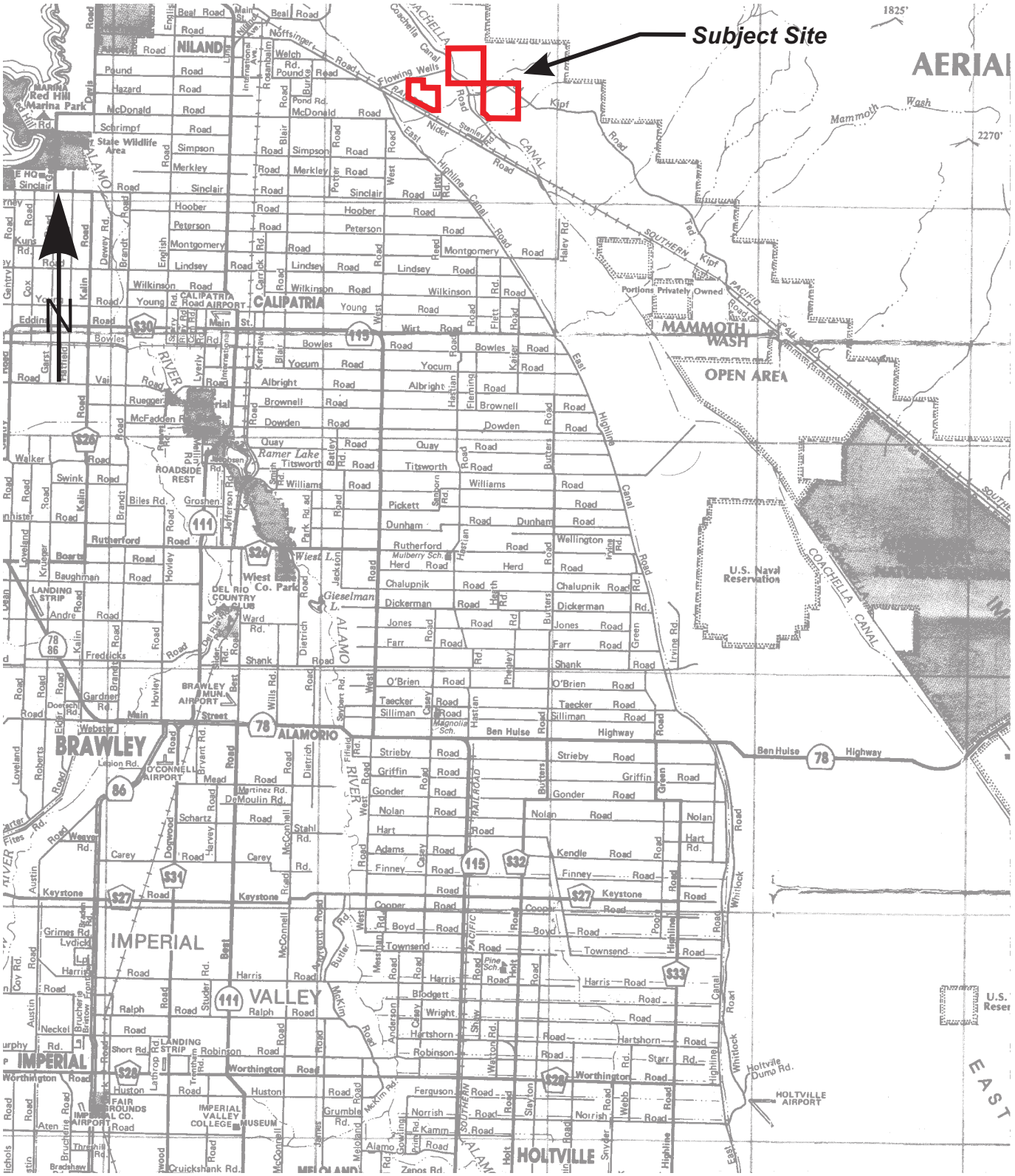

GS Lyon Project No.: GS2020	Vicinity Map	Plate 1

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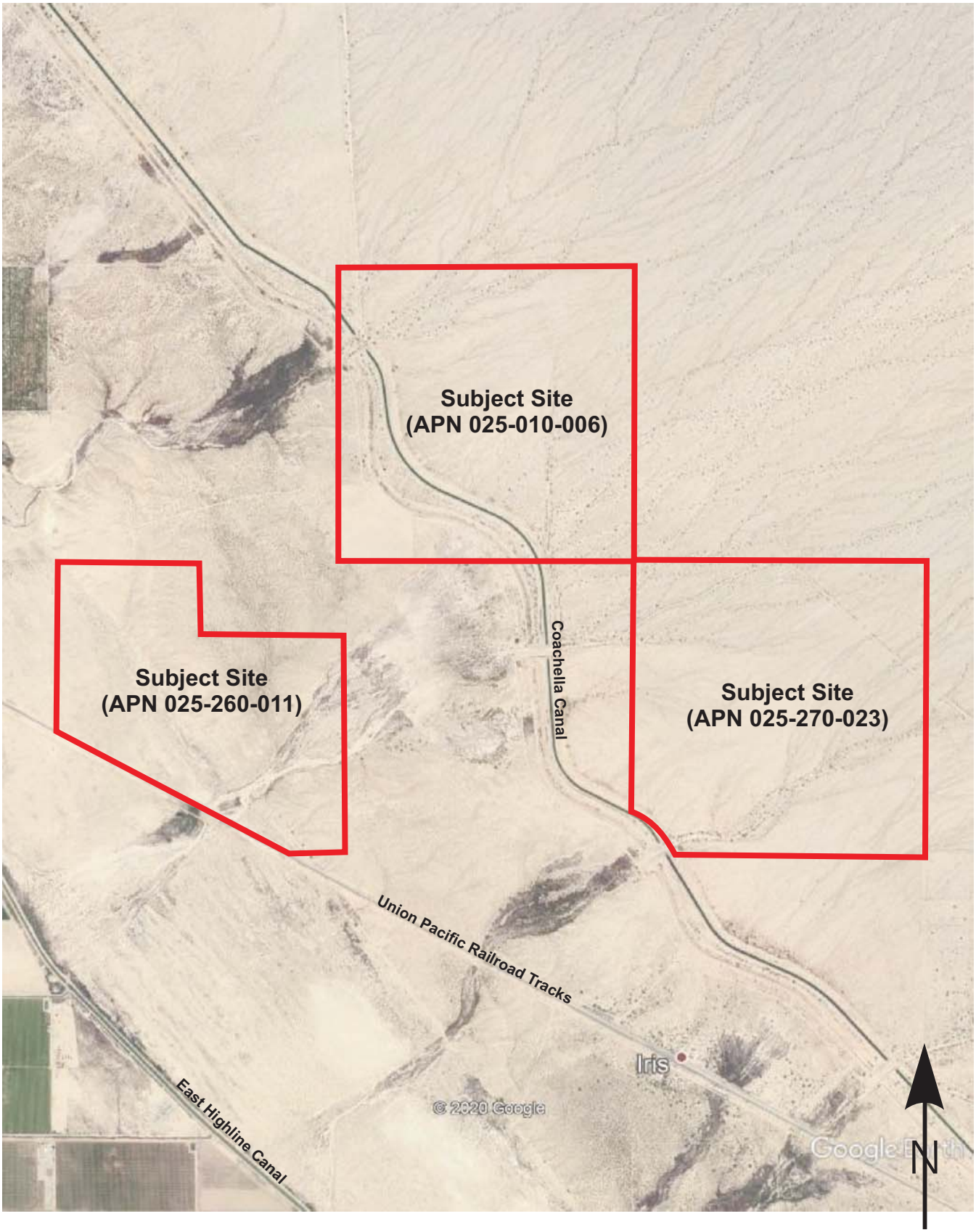

GS Lyon Project No.: GS2020	Site Map	Plate 2

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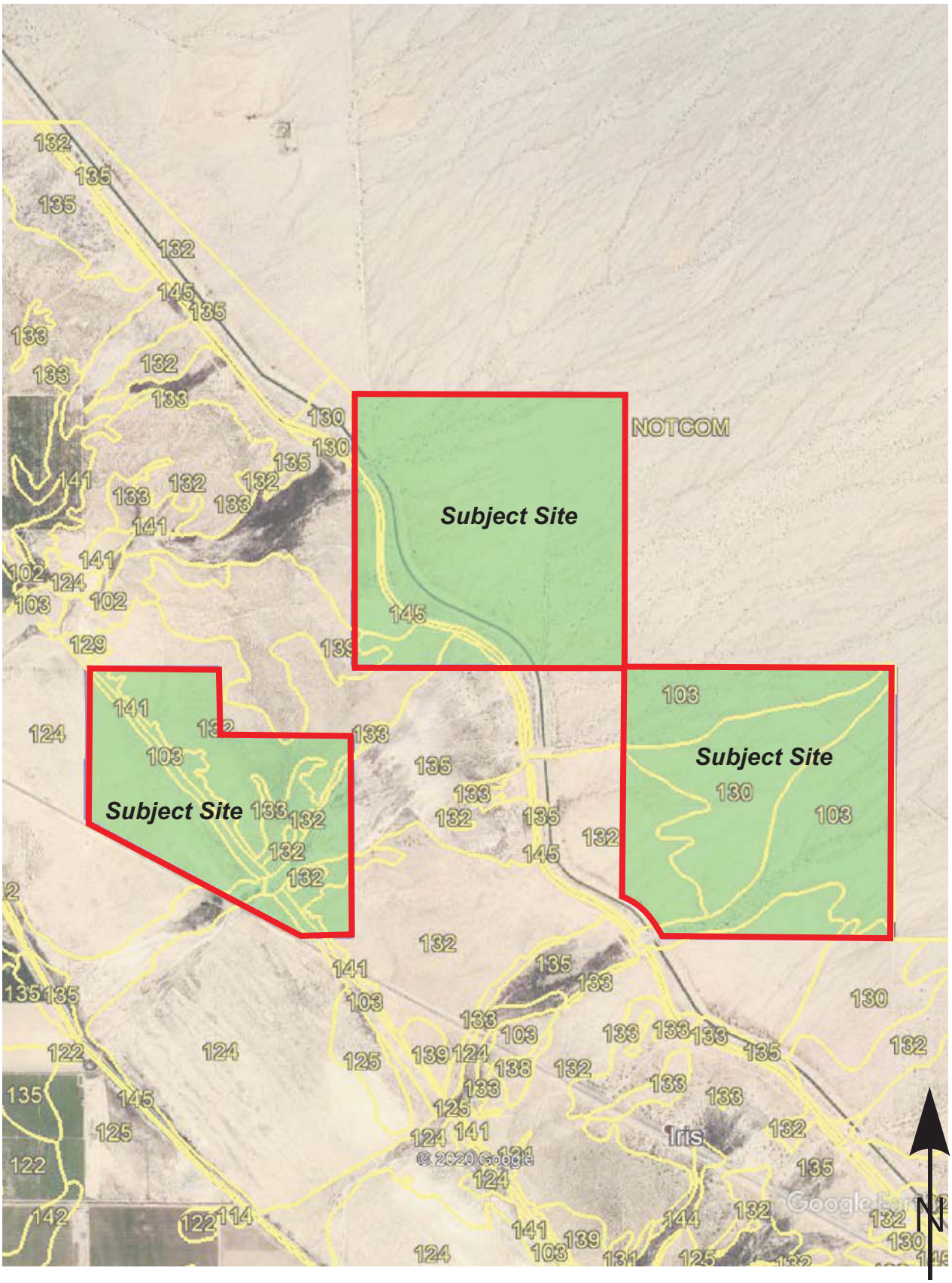

GS Lyon		
Project No.: GS2020	Soil Survey Map	Plate 3

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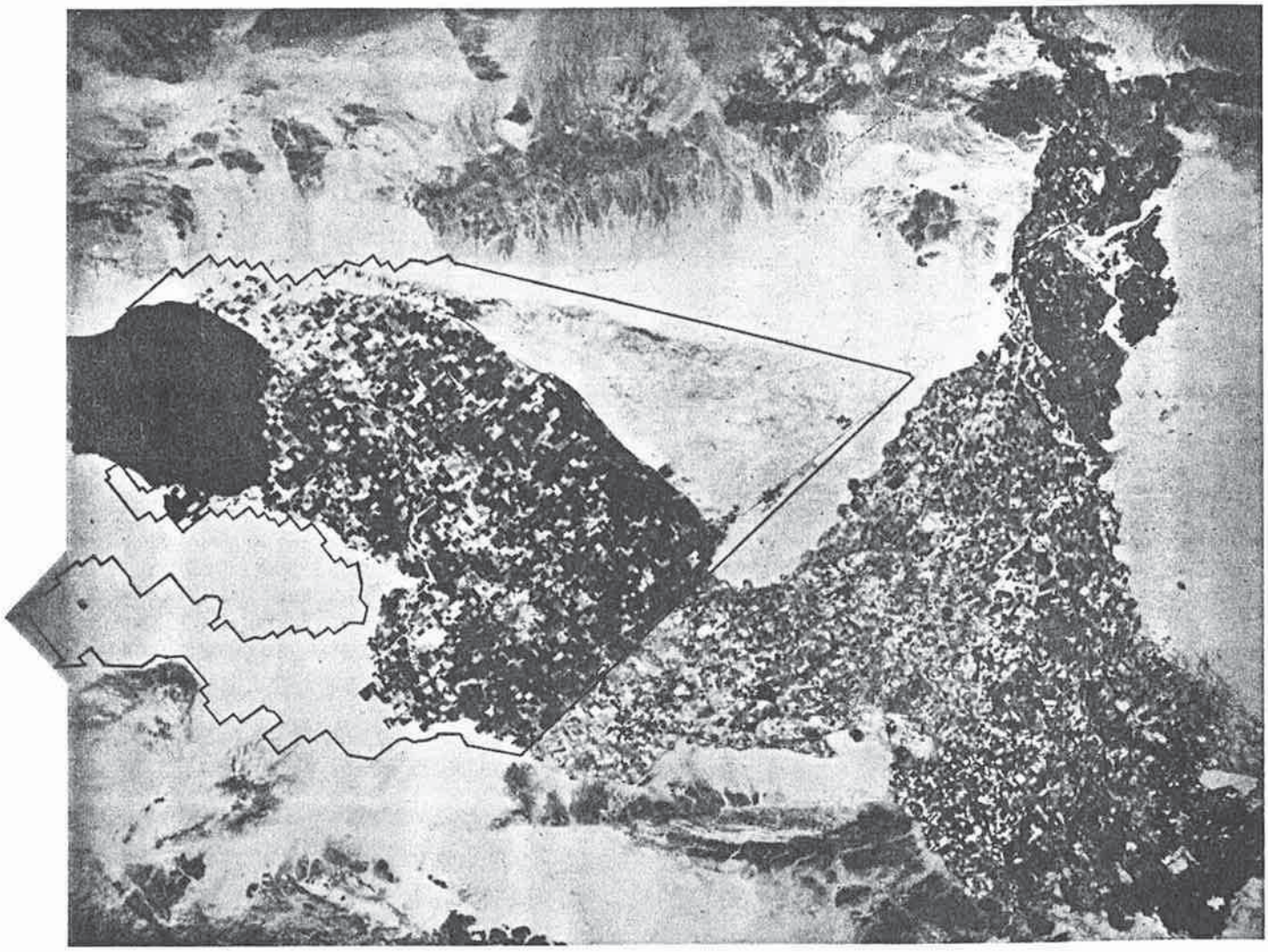
Soil Survey of

IMPERIAL COUNTY CALIFORNIA IMPERIAL VALLEY AREA



United States Department of Agriculture Soil Conservation Service
in cooperation with
University of California Agricultural Experiment Station
and
Imperial Irrigation District

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TABLE 11.--ENGINEERING INDEX PROPERTIES

[The symbol > means more than. Absence of an entry indicates that data were not estimated]

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
100---------- Antho	0-13	Loamy fine sand	SM	A-2	0	100	100	75-85	10-30	---	NP
	13-60	Sandy loam, fine sandy loam.	SM	A-2, A-4	0	90-100	75-95	50-60	15-40	---	NP
101*:											
Antho----------	0-8	Loamy fine sand	SM	A-2	0	100	100	75-85	10-30	---	NP
	8-60	Sandy loam, fine sandy loam.	SM	A-2, A-4	0	90-100	75-95	50-60	15-40	---	NP
Superstition------	0-6	Fine sand-------	SM	A-2	0	100	95-100	70-85	15-25	---	NP
	6-60	Loamy fine sand, fine sand, sand.	SM	A-2	0	100	95-100	70-85	15-25	---	NP
102*. Badland											
103---------- Carsitas	0-10	Gravelly sand---	SP, SP-SM	A-1, A-2	0-5	60-90	50-85	30-55	0-10	---	NP
	10-60	Gravelly sand, gravelly coarse sand, sand.	SP, SP-SM	A-1	0-5	60-90	50-85	25-50	0-10	---	NP
104* Fluvaquents											
105---------- Glenbar	0-13	Clay loam-------	CL	A-6	0	100	100	90-100	70-95	35-45	15-30
	13-60	Clay loam, silty clay loam.	CL	A-6	0	100	100	90-100	70-95	35-45	15-30
106---------- Glenbar	0-13	Clay loam-------	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
	13-60	Clay loam, silty clay loam.	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
107*---------- Glenbar	0-13	Loam----------	ML, CL-ML, CL	A-4	0	100	100	100	70-80	20-30	NP-10
	13-60	Clay loam, silty clay loam.	CL	A-6, A-7	0	100	100	95-100	75-95	35-45	15-30
108---------- Holtville	0-14	Loam----------	ML	A-4	0	100	100	85-100	55-95	25-35	NP-10
	14-22	Clay, silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	22-60	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	65-85	25-35	NP-10
109---------- Holtville	0-17	Silty clay------	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	17-24	Clay, silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	24-35	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	65-85	25-35	NP-10
	35-60	Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55	---	NP
110---------- Holtville	0-17	Silty clay------	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-35
	17-24	Clay, silty clay	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-35
	24-35	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	55-85	25-35	NP-10
	35-60	Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55	---	NP

See footnote at end of table.

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TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
111*:											
Holtville	0-10	Silty clay loam	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	10-22	Clay, silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	22-60	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	65-85	25-35	NP-10
Imperial	0-12	Silty clay loam	CL	A-7	0	100	100	100	85-95	40-50	10-20
	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
112	0-12	Silty clay	CH	A-7	0	100	100	100	85-95	50-70	25-45
Imperial	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
113	0-12	Silty clay	CH	A-7	0	100	100	100	85-95	50-70	25-45
Imperial	12-60	Silty clay, clay, silty clay loam.	CH	A-7	0	100	100	100	85-95	50-70	25-45
114	0-12	Silty clay	CH	A-7	0	100	100	100	85-95	50-70	25-45
Imperial	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
115*:											
Imperial	0-12	Silty clay loam	CL	A-7	0	100	100	100	85-95	40-50	10-20
	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
Glenbar	0-13	Silty clay loam	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
	13-60	Clay loam, silty clay loam.	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
116*:											
Imperial	0-13	Silty clay loam	CL	A-7	0	100	100	100	85-95	40-50	10-20
	13-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
Glenbar	0-13	Silty clay loam	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
	13-60	Clay loam, silty clay loam.	CL	A-6	0	100	100	90-100	70-95	35-45	15-30
117, 118	0-12	Loam	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
Indio	12-72	Stratified loamy very fine sand to silt loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
119*:											
Indio	0-12	Loam	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	12-72	Stratified loamy very fine sand to silt loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
Vint	0-10	Loamy fine sand	SM	A-2	0	95-100	95-100	70-80	25-35	---	NP
	10-60	Loamy sand, loamy fine sand.	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
120*	0-12	Loam	ML, CL-ML	A-4	0	100	95-100	75-85	55-65	20-30	NP-10
Laveen	12-60	Loam, very fine sandy loam.	ML, CL-ML	A-4	0	95-100	85-95	70-80	55-65	15-25	NP-10

See footnote at end of table.

PC ORIGINAL PKG

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
121---------- Meloland	0-12	Fine sand-------	SM, SP-SM	A-2, A-3	0	95-100	90-100	75-100	5-30	---	NP
	12-26	Stratified loamy fine sand to silt loam.	ML	A-4	0	100	100	90-100	50-65	25-35	NP-10
	26-71	Clay, silty clay, silty clay loam.	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-40
122---------- Meloland	0-12	Very fine sandy loam.	ML	A-4	0	95-100	95-100	95-100	55-85	25-35	NP-10
	12-26	Stratified loamy fine sand to silt loam.	ML	A-4	0	100	100	90-100	50-70	25-35	NP-10
	26-71	Clay, silty clay, silty clay loam.	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-40
123*: Meloland----------	0-12	Loam----------	ML	A-4	0	95-100	95-100	95-100	55-85	25-35	NP-10
	12-26	Stratified loamy fine sand to silt loam.	ML	A-4	0	100	100	90-100	50-70	25-35	NP-10
	26-38	Clay, silty clay, silty clay loam.	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-40
	38-60	Stratified silt loam to loamy fine sand.	SM, ML	A-4	0	100	100	75-100	35-55	25-35	NP-10
Holtville---------	0-12	Loam----------	ML	A-4	0	100	100	85-100	55-95	25-35	NP-10
	12-24	Clay, silty clay	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-35
	24-36	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	55-85	25-35	NP-10
	36-60	Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55	---	NP
124, 125---------- Niland	0-23	Gravelly sand---	SM, SP-SM	A-2, A-3	0	90-100	70-95	50-65	5-25	---	NP
	23-60	Silty clay, clay, clay loam.	CL, CH	A-7	0	100	100	85-100	80-95	40-65	20-40
126---------- Niland	0-23	Fine sand-------	SM, SP-SM	A-2, A-3	0	90-100	90-100	50-65	5-25	---	NP
	23-60	Silty clay------	CL, CH	A-7	0	100	100	85-100	80-95	40-65	20-40
127---------- Niland	0-23	Loamy fine sand	SM	A-2	0	90-100	90-100	50-65	15-30	---	NP
	23-60	Silty clay------	CL, CH	A-7	0	100	100	85-100	80-95	40-65	20-40
128*: Niland----------	0-23	Gravelly sand---	SM, SP-SM	A-2, A-3	0	90-100	70-95	50-65	5-25	---	NP
	23-60	Silty clay, clay, clay loam.	CL, CH	A-7	0	100	100	85-100	80-100	40-65	20-40
Imperial----------	0-12	Silty clay------	CH	A-7	0	100	100	100	85-95	50-70	25-45
	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
129*: Pits											
130, 131---------- Rositas	0-27	Sand----------	SP-SM	A-3, A-1, A-2	0	100	80-100	40-70	5-15	---	NP
	27-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP

See footnote at end of table.

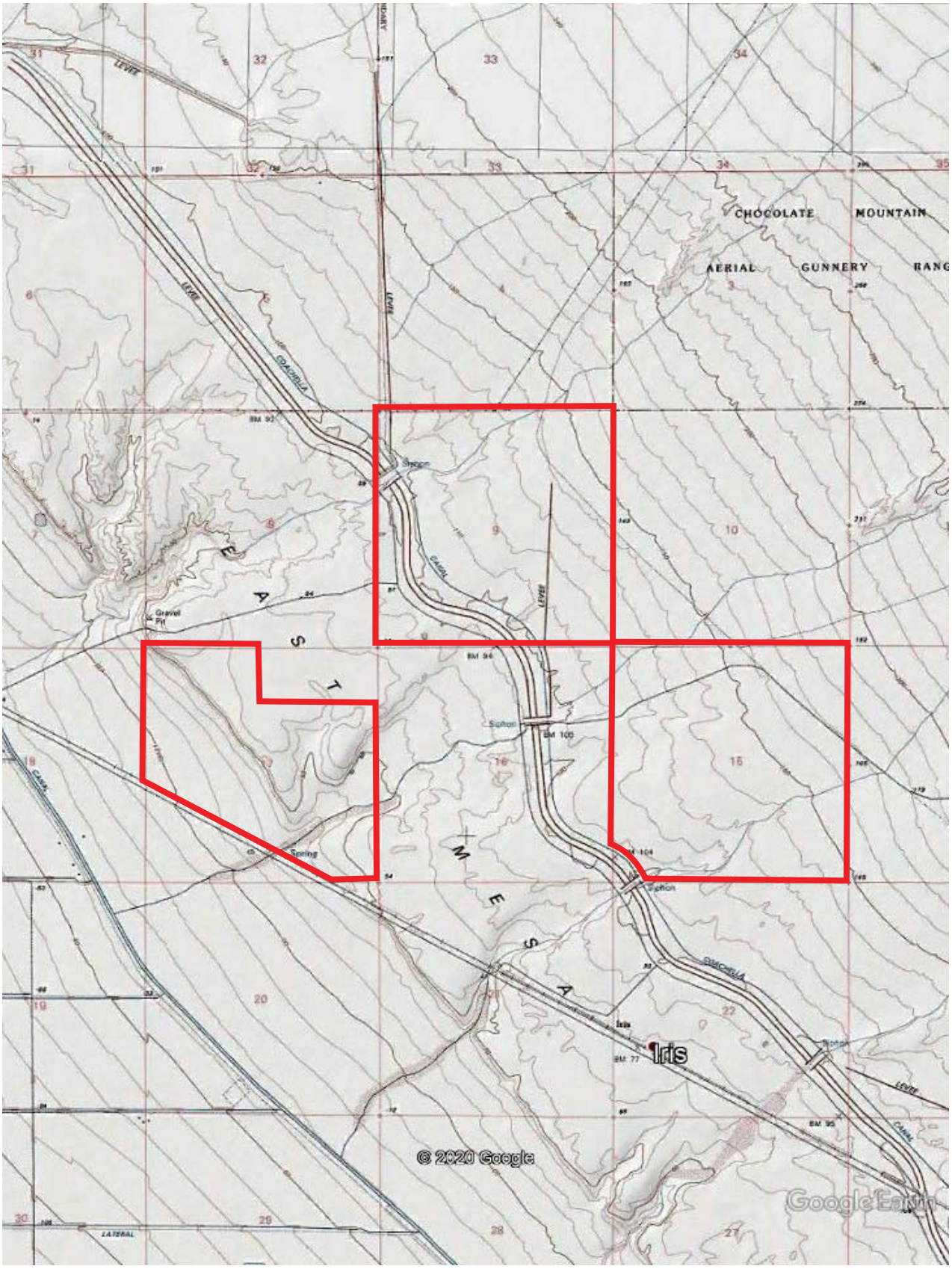
PC ORIGINAL PKG

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
132, 133, 134, 135-Rositas	0-9	Fine sand-------	SM	A-3, A-2	0	100	80-100	50-80	10-25	---	NP
	9-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
136----------	0-4	Loamy fine sand	SM	A-1, A-2	0	100	80-100	40-85	10-35	---	NP
Rositas	4-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
137----------	0-12	Silt loam-------	ML	A-4	0	100	100	90-100	70-90	20-30	NP-5
Rositas	12-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
138*:											
Rositas----------	0-4	Loamy fine sand	SM	A-1, A-2	0	100	80-100	40-85	10-35	---	NP
	4-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
Superstition------	0-6	Loamy fine sand	SM	A-2	0	100	95-100	70-85	15-25	---	NP
	6-60	Loamy fine sand, fine sand, sand.	SM	A-2	0	100	95-100	70-85	15-25	---	NP
139----------	0-6	Loamy fine sand	SM	A-2	0	100	95-100	70-85	15-25	---	NP
Superstition	6-60	Loamy fine sand, fine sand, sand.	SM	A-2	0	100	95-100	70-85	15-25	---	NP
140*:											
Torriorthents											
Rock outcrop											
141*:											
Torriorthents											
Orthids											
142----------	0-10	Loamy very fine sand.	SM, ML	A-4	0	100	100	85-95	40-65	15-25	NP-5
Vint	10-60	Loamy fine sand	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
143----------	0-12	Fine sandy loam	ML, CL-ML, SM, SM-SC	A-4	0	100	100	75-85	45-55	15-25	NP-5
Vint	12-60	Loamy sand, loamy fine sand.	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
144*:											
Vint----------	0-10	Very fine sandy loam.	SM, ML	A-4	0	100	100	85-95	40-65	15-25	NP-5
	10-40	Loamy fine sand	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
	40-60	Silty clay------	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
Indio----------	0-12	Very fine sandy loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	12-40	Stratified loamy very fine sand to silt loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	40-72	Silty clay------	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35

* See description of the map unit for composition and behavior characteristics of the map unit.

PC ORIGINAL PKG



GS Lyon Project No.: GS2020	Topographic Map	Plate 4

PC ORIGINAL PKG

APPENDIX C

PC ORIGINAL PKG

Cedar Solar 2

NEC Schrimpf and Wiest Rd. Imperial County

Calipatria, CA 92233

Inquiry Number: 6171651.2

September 01, 2020

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

Date EDR Searched Historical Sources:

Aerial Photography September 01, 2020

Target Property:

NEC Schrimpf and Wiest Rd. Imperial County

Calipatria, CA 92233

Year	Scale	Details	Source
1937	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1937	USDA
1940	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1940	USDA
1953	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1953	USDA
1976	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1976	USGS
1984	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1984	USGS
1996	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1996	USGS/DOQQ
2005	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2005	USDA/NAIP
2009	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2009	USDA/NAIP
2012	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2012	USDA/NAIP
2016	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2016	USDA/NAIP

PC ORIGINAL PKG

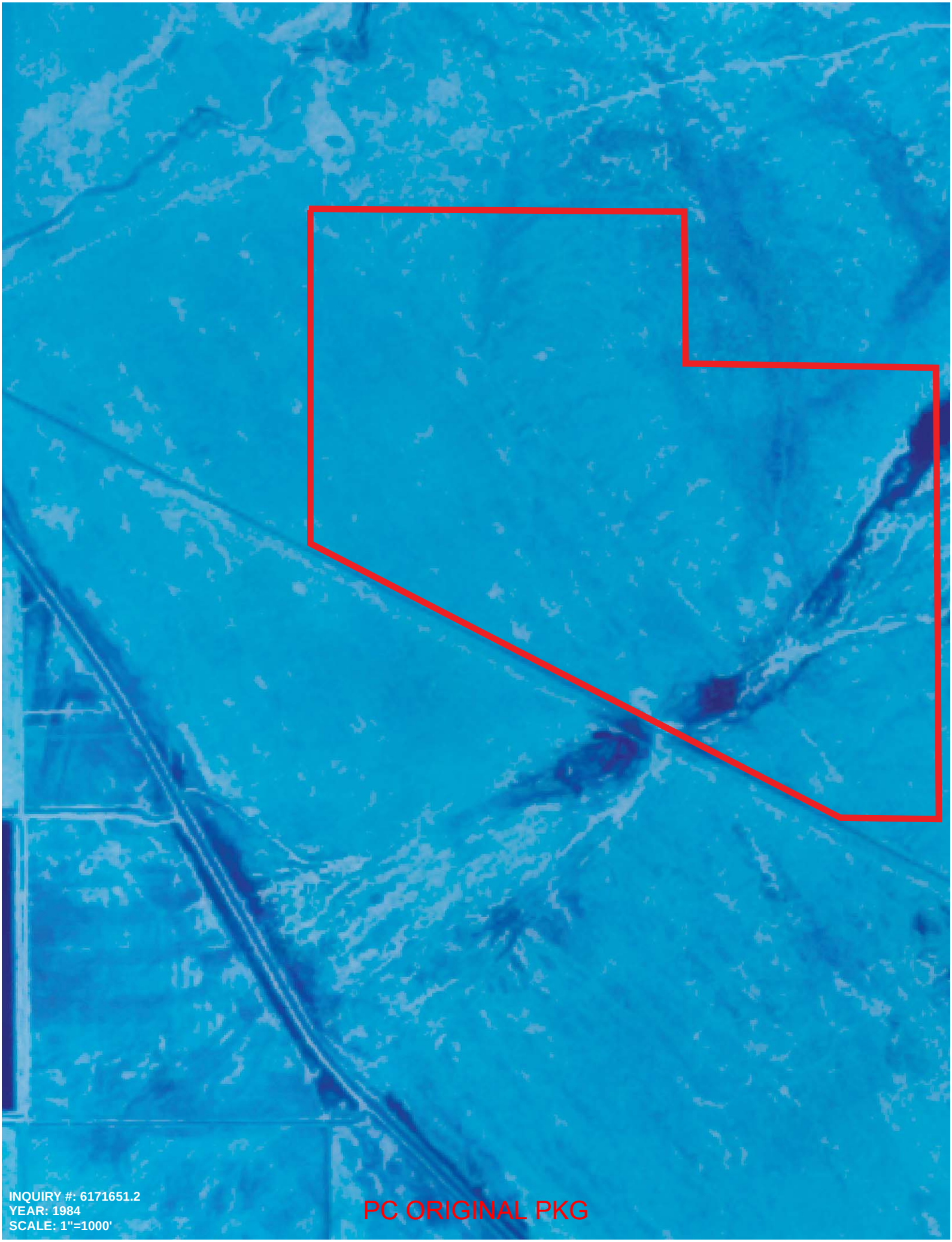
INQUIRY #: 6171651.2
YEAR: 1937
SCALE: 1"=1000'
PC ORIGINAL PKG

INQUIRY #: 6171651.2
YEAR: 1940
SCALE: 1"=1000'
PC ORIGINAL PKG

INQUIRY #: 6171651.2
YEAR: 1953
SCALE: 1"=1000'
PC ORIGINAL PKG

INQUIRY #: 6171651.2
YEAR: 1976
SCALE: 1"=1000'

PC ORIGINAL PKG



INQUIRY #: 6171651.2
YEAR: 1984
SCALE: 1"=1000'

PC ORIGINAL PKG

INQUIRY #: 6171651.2
YEAR: 1996
SCALE: 1"=1000'
PC ORIGINAL PKG

INQUIRY #: 6171651.2
YEAR: 2005
SCALE: 1"=1000'
PC ORIGINAL PKG

INQUIRY #: 6171651.2
YEAR: 2009
SCALE: 1"=1000'
PC ORIGINAL PKG

INQUIRY #: 6171651.2
YEAR: 2012
SCALE: 1"=1000'
PC ORIGINAL PKG

INQUIRY #: 6171651.2
YEAR: 2016
SCALE: 1"=1000'
PC ORIGINAL PKG

Vega 2/3

Flowing Wells Road

Winterhaven, CA 92283

Inquiry Number: 6210343.11

September 30, 2020

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

EDR Aerial Photo Decade Package

09/30/20

Site Name:

Vega 2/3
Flowing Wells Road
Winterhaven, CA 92283
EDR Inquiry # 6210343.11

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Steven Williams

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2016	1"=750'	Flight Year: 2016	USDA/NAIP
2012	1"=750'	Flight Year: 2012	USDA/NAIP
2009	1"=750'	Flight Year: 2009	USDA/NAIP
2006	1"=750'	Flight Year: 2006	USDA/NAIP
1996	1"=750'	Acquisition Date: January 01, 1996	DOQQ
1984	1"=750'	Flight Date: January 01, 1984	USGS
1976	1"=750'	Flight Date: October 12, 1976	USGS
1953	1"=750'	Flight Date: April 29, 1953	USDA
1940	1"=750'	Flight Date: February 17, 1940	USDA
1937	1"=750'	Flight Date: November 21, 1937	USDA

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PC ORIGINAL PKG

INQUIRY #: 6210343.11

YEAR: 1937

= 750'

N

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PC ORIGINAL PKG

INQUIRY #: 6210343.11

YEAR: 1940

= 750'

N

EDR

PC ORIGINAL PKG

INQUIRY #: 6210343.11

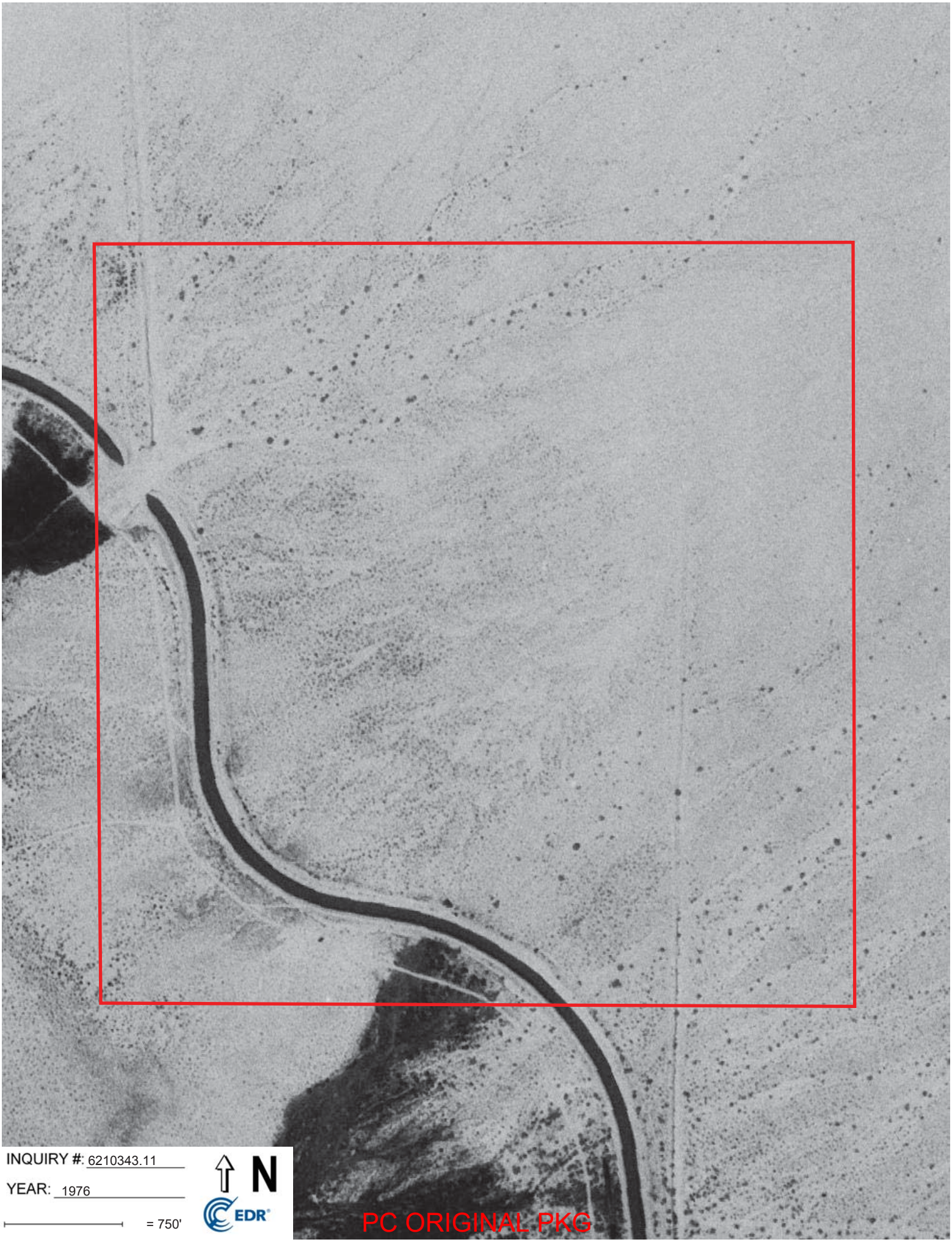
YEAR: 1953

= 750'

N

EDR

PC ORIGINAL PKG



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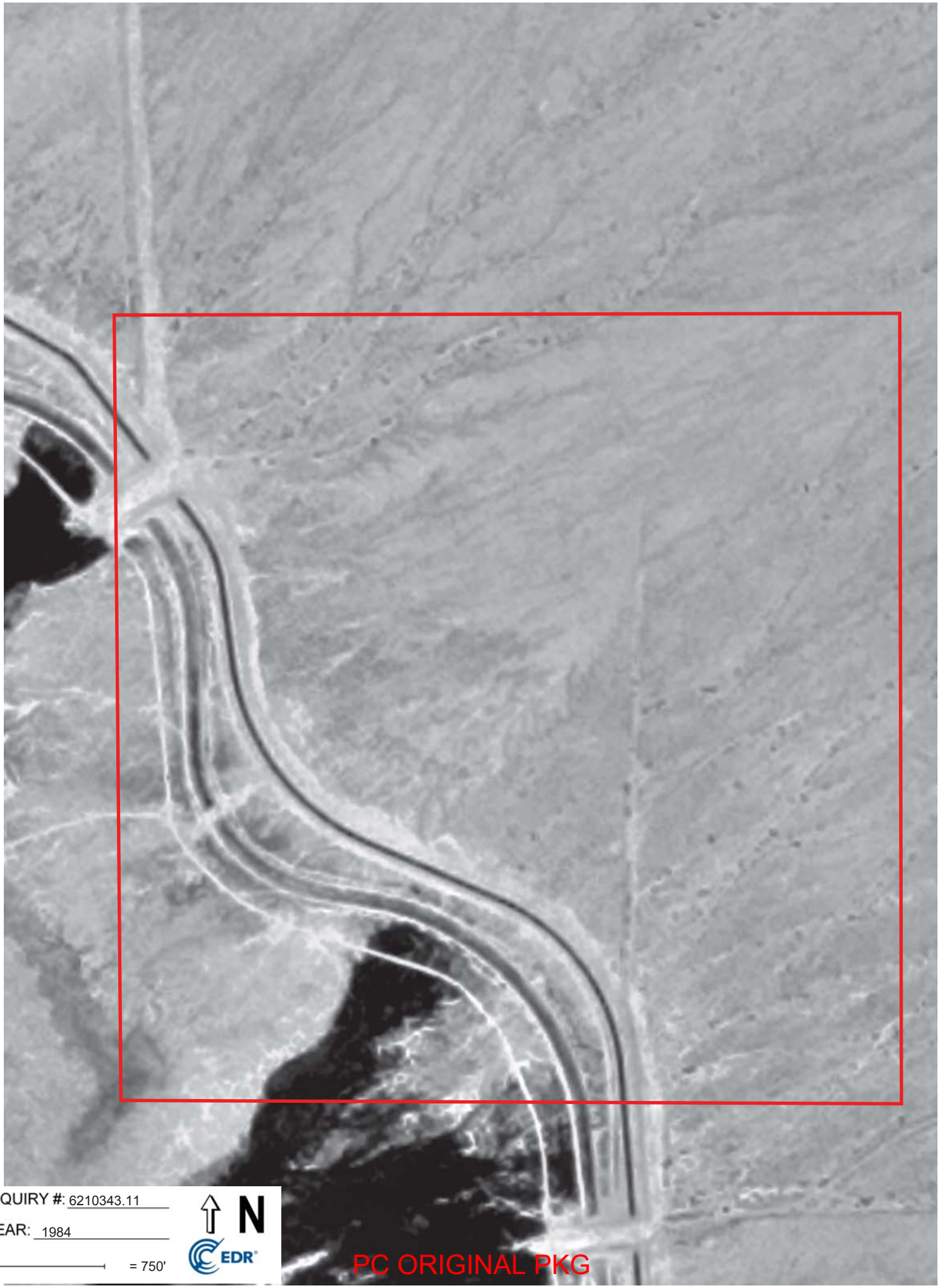
YEAR: 1976

= 750'

N

EDR

PC ORIGINAL PKG



INQUIRY #: 6210343.11

YEAR: 1984

= 750'

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PC ORIGINAL PKG

INQUIRY #: 6210343.11

YEAR: 1996

= 750'

N

EDR

PC ORIGINAL PKG

INQUIRY #: 6210343.11
YEAR: 2006
= 750'
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EDR
PC ORIGINAL PKG

INQUIRY #: 6210343.11
YEAR: 2009
= 750'
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EDR
PC ORIGINAL PKG

INQUIRY #: 6210343.11

YEAR: 2012

= 750'

N

EDR

PC ORIGINAL PKG

INQUIRY #: 6210343.11

YEAR: 2016

= 750'

N

EDR

PC ORIGINAL PKG

Vega 2B

Ted Kipf Road

Winterhaven, CA 92283

Inquiry Number: 6210349.11

September 30, 2020

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

EDR Aerial Photo Decade Package

09/30/20

Site Name:

Vega 2B
Ted Kipf Road
Winterhaven, CA 92283
EDR Inquiry # 6210349.11

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GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Steven Williams

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Search Results:

Year	*Scale*	*Details*	*Source*
2016	1"=750'	Flight Year: 2016	USDA/NAIP
2012	1"=750'	Flight Year: 2012	USDA/NAIP
2009	1"=750'	Flight Year: 2009	USDA/NAIP
2006	1"=750'	Flight Year: 2006	USDA/NAIP
1996	1"=750'	Acquisition Date: January 01, 1996	DOQQ
1984	1"=750'	Flight Date: January 01, 1984	USGS
1976	1"=750'	Flight Date: October 12, 1976	USGS
1953	1"=750'	Flight Date: April 29, 1953	USDA
1940	1"=750'	Flight Date: February 17, 1940	USDA
1937	1"=750'	Flight Date: November 21, 1937	USDA

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PC ORIGINAL PKG

INQUIRY #: 6210349.11

YEAR: 1937

= 750'

N

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PC ORIGINAL PKG

INQUIRY #: 6210349.11

YEAR: 1940

= 750'

N

EDR

PC ORIGINAL PKG

INQUIRY #: 6210349.11
YEAR: 1953
= 750'
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EDR
PC ORIGINAL PKG

INQUIRY #: 6210349.11
YEAR: 1976
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INQUIRY #: 6210349.11

YEAR: 1984

= 750'

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PC ORIGINAL PKG

INQUIRY #: 6210349.11

YEAR: 1996

= 750'

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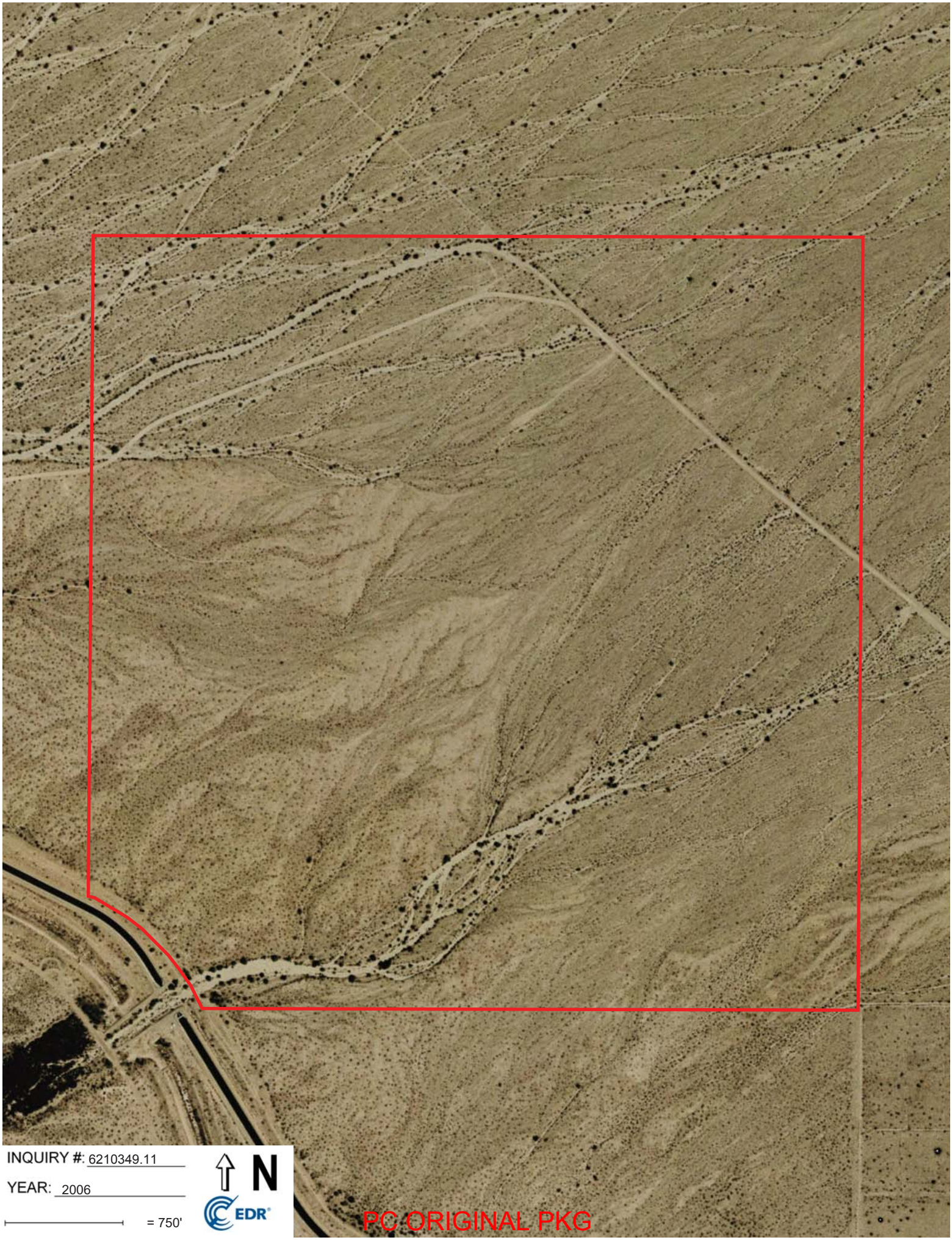
EDR

PC ORIGINAL PKG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INQUIRY #: 6210349.11
YEAR: 2009
= 750'
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PC ORIGINAL PKG

INQUIRY #: 6210349.11
YEAR: 2012
= 750'
N
EDR
PC ORIGINAL PKG

INQUIRY #: 6210349.11
YEAR: 2016
= 750'
N
EDR
PC ORIGINAL PKG

APPENDIX D

PC ORIGINAL PKG

Cedar Solar 2

NEC Schrimpf and Wiest Rd. Imperial County

Calipatria, CA 92233

Inquiry Number: 6171651.1

August 28, 2020

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

EDR Historical Topo Map Report

08/28/20

Site Name:

Cedar Solar 2
NEC Schrimpf and Wiest Rd. Ir
Calipatria, CA 92233
EDR Inquiry # 6171651.1

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Peter E. Labrucherie

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by GS Lyon Consultants were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# NA
Project: GS2016

Coordinates:

Latitude:	33.208248 33° 12' 30" North
Longitude:	-115.438914 -115° 26' 20" West
UTM Zone:	Zone 11 North
UTM X Meters:	645493.86
UTM Y Meters:	3675459.43
Elevation:	-4.02' below sea level

Maps Provided:

2012	1940
2002	
1992	
1976	
1965	
1956	
1947	
1945	

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PC ORIGINAL PKG

Topo Sheet Key

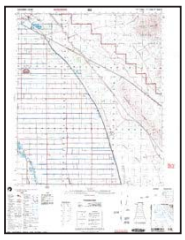
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets

Iris

7.5-minute, 24000

2002 Source Sheets



Iris

15-minute, 50000

1992 Source Sheets

Iris

7.5-minute, 24000
Aerial Photo Revised 1992

1976 Source Sheets

Iris

7.5-minute, 24000
Aerial Photo Revised 1953

PC ORIGINAL PKG

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1965 Source Sheets

Iris

7.5-minute, 24000
Aerial Photo Revised 1953

1956 Source Sheets

Iris

7.5-minute, 24000
Aerial Photo Revised 1953

1947 Source Sheets

IRIS

15-minute, 50000

1945 Source Sheets

Iris

15-minute, 62500
Aerial Photo Revised 1940

PC ORIGINAL PKG

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1940 Source Sheets

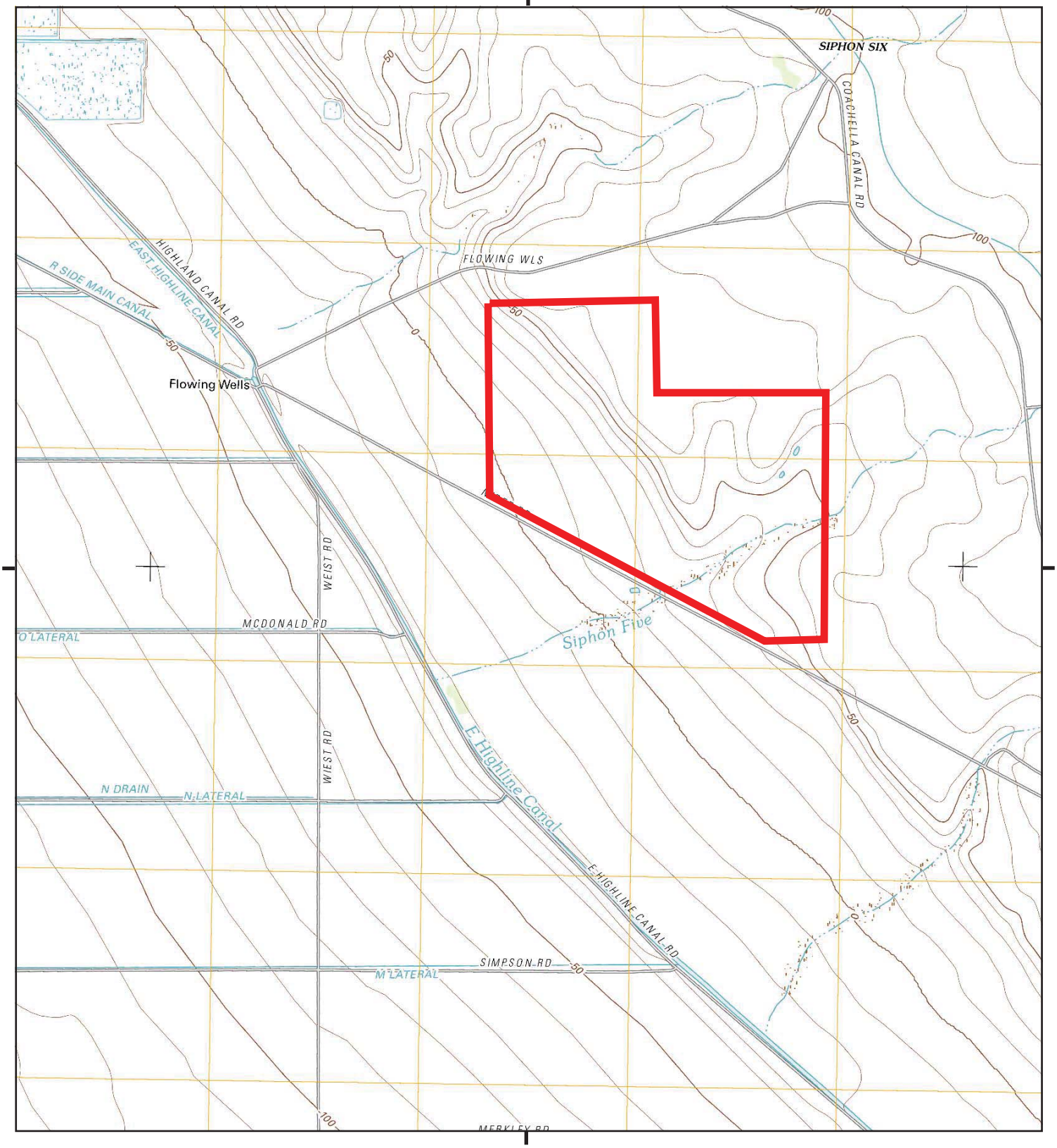
Iris

15-minute, 62500
Aerial Photo Revised 1940

PC ORIGINAL PKG

Historical Topo Map

2012



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

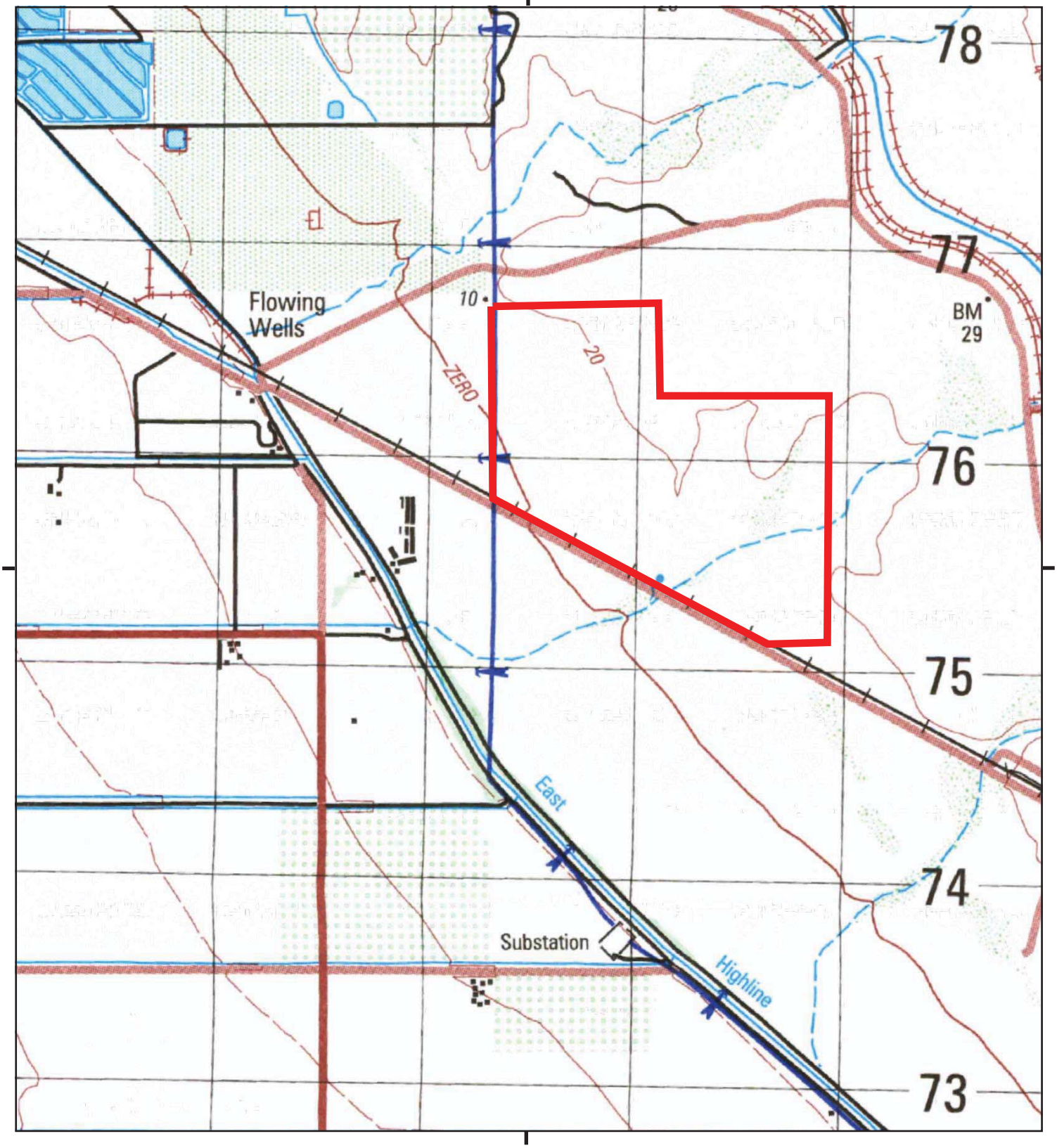
NW N NE
W E
SW S SE

TP, Iris, 2012, 7.5-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 2002, 15-minute

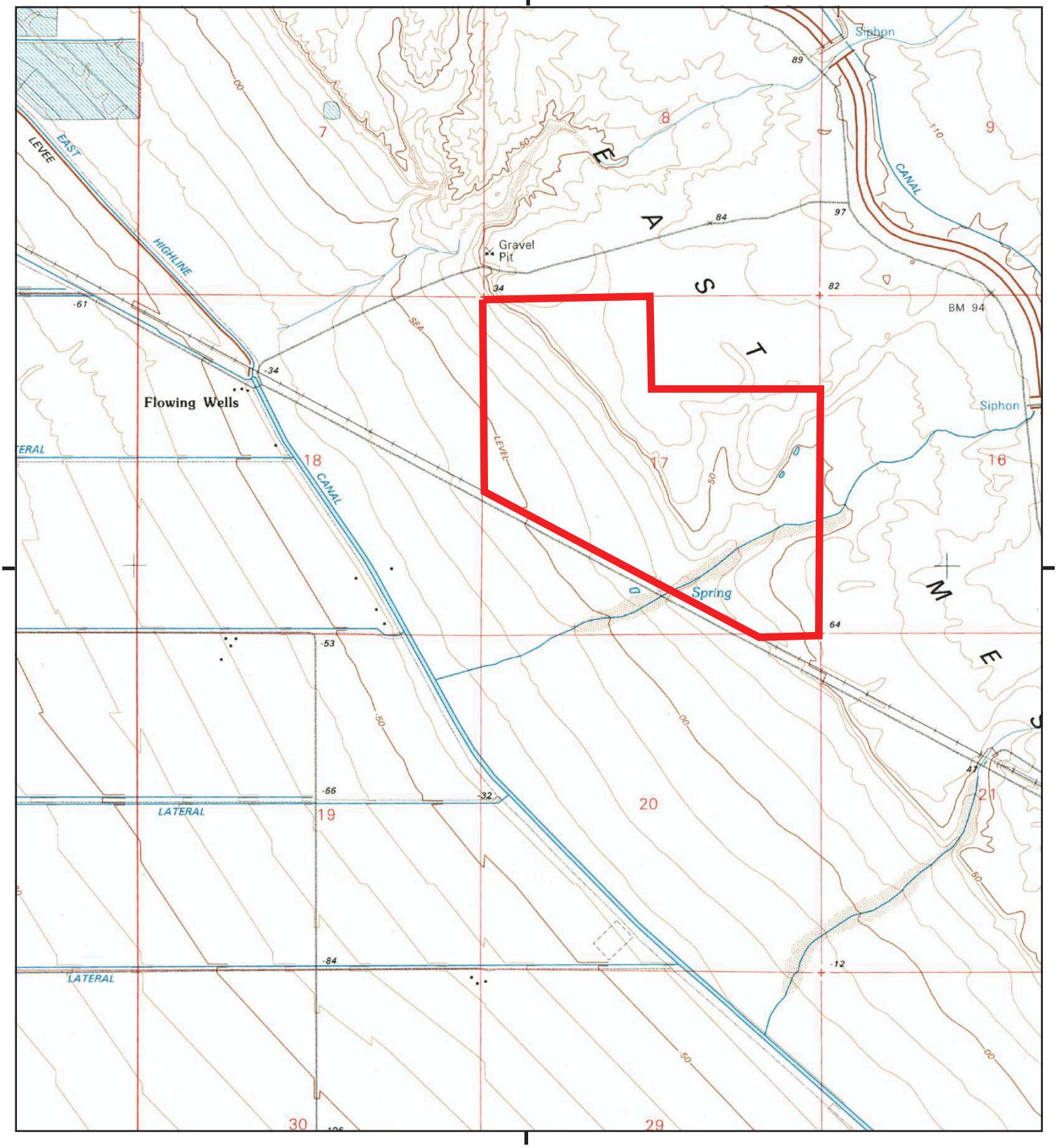
SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1992



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1992, 7.5-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

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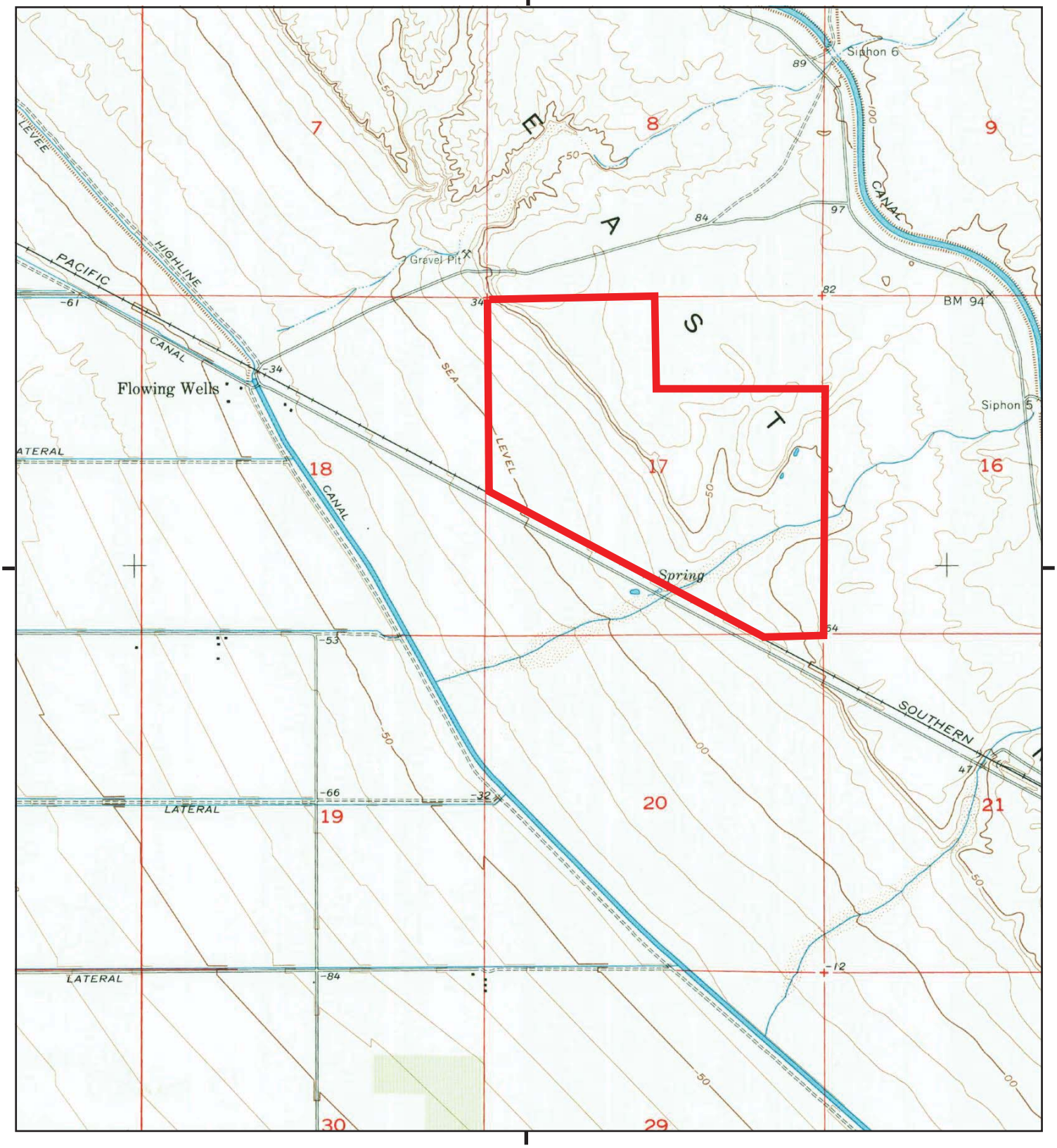
PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

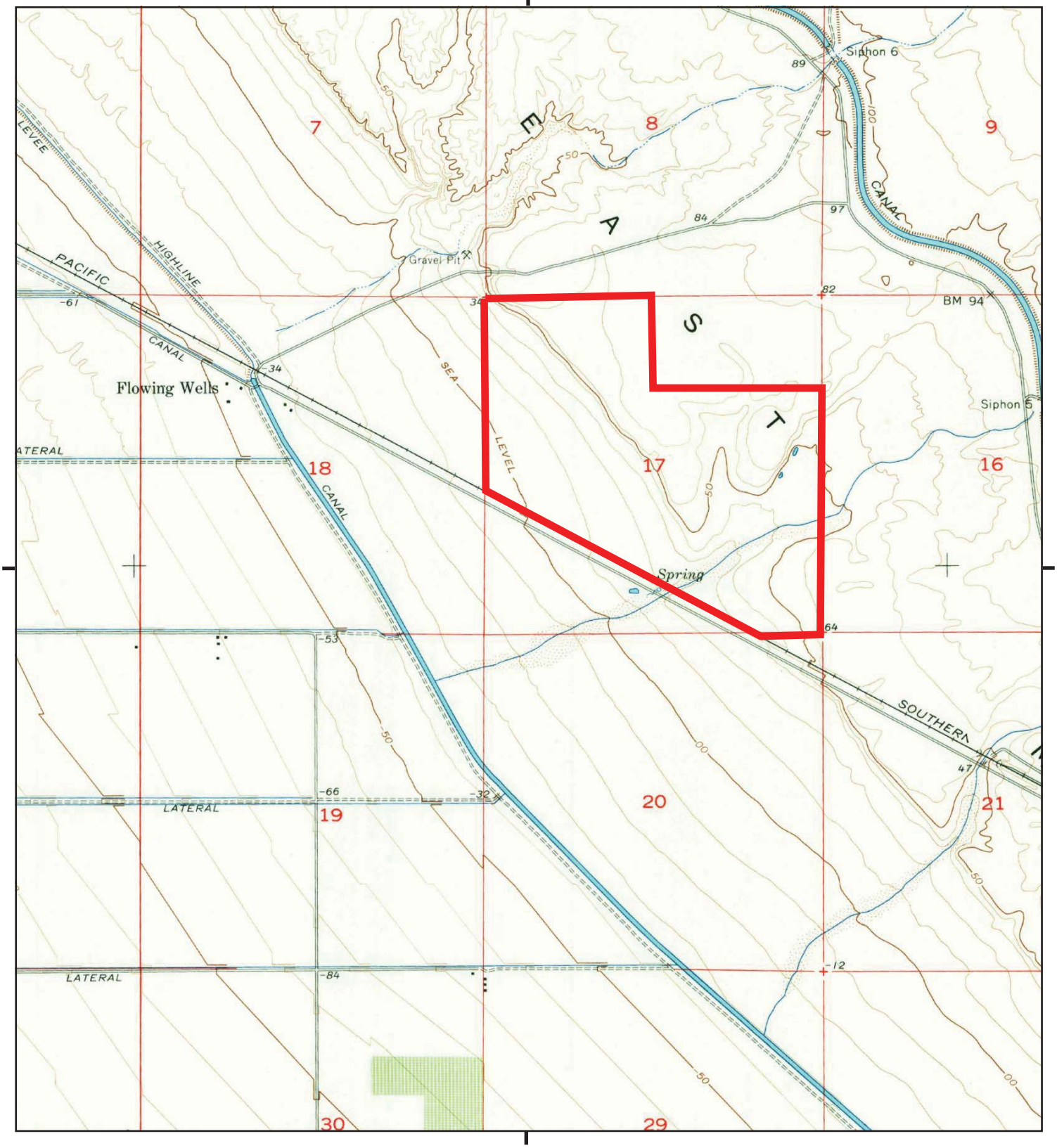
NW N NE
W E
SW S SE

TP, Iris, 1976, 7.5-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1965, 7.5-minute

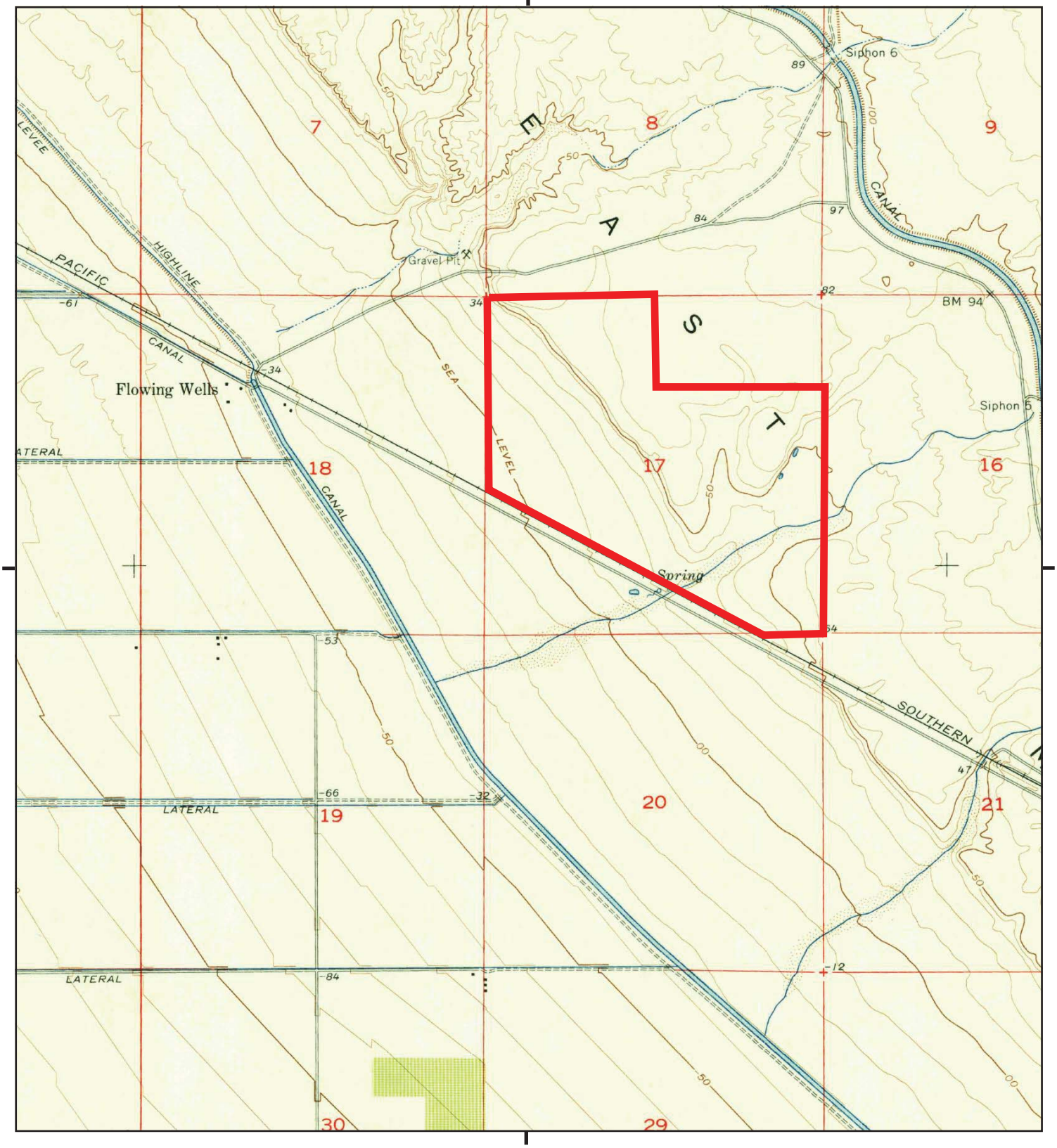
SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1956



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

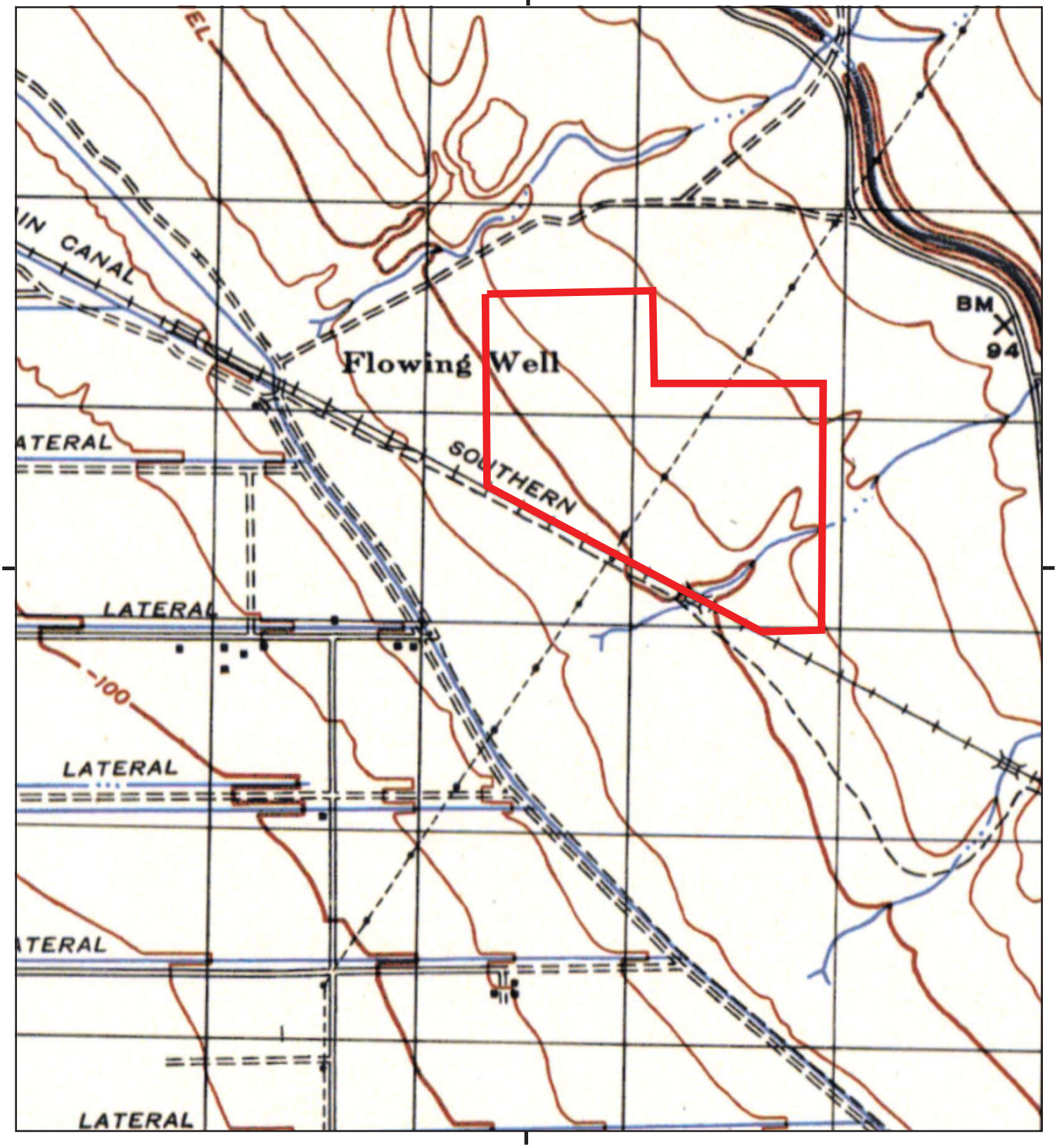
NW N NE
W E
SW S SE

TP, Iris, 1956, 7.5-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

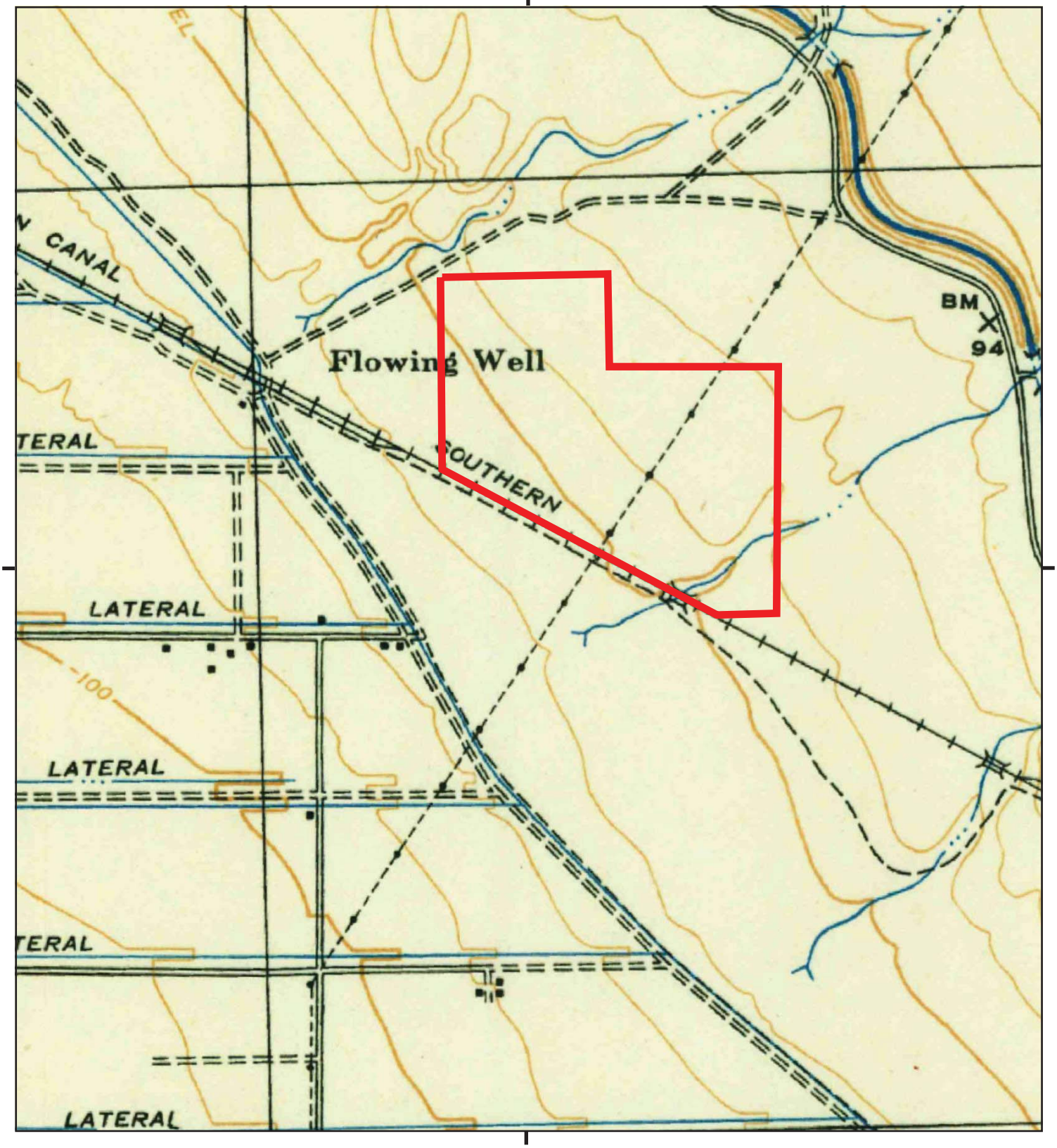
NW N NE
W E
SW S SE

TP, IRIS, 1947, 15-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

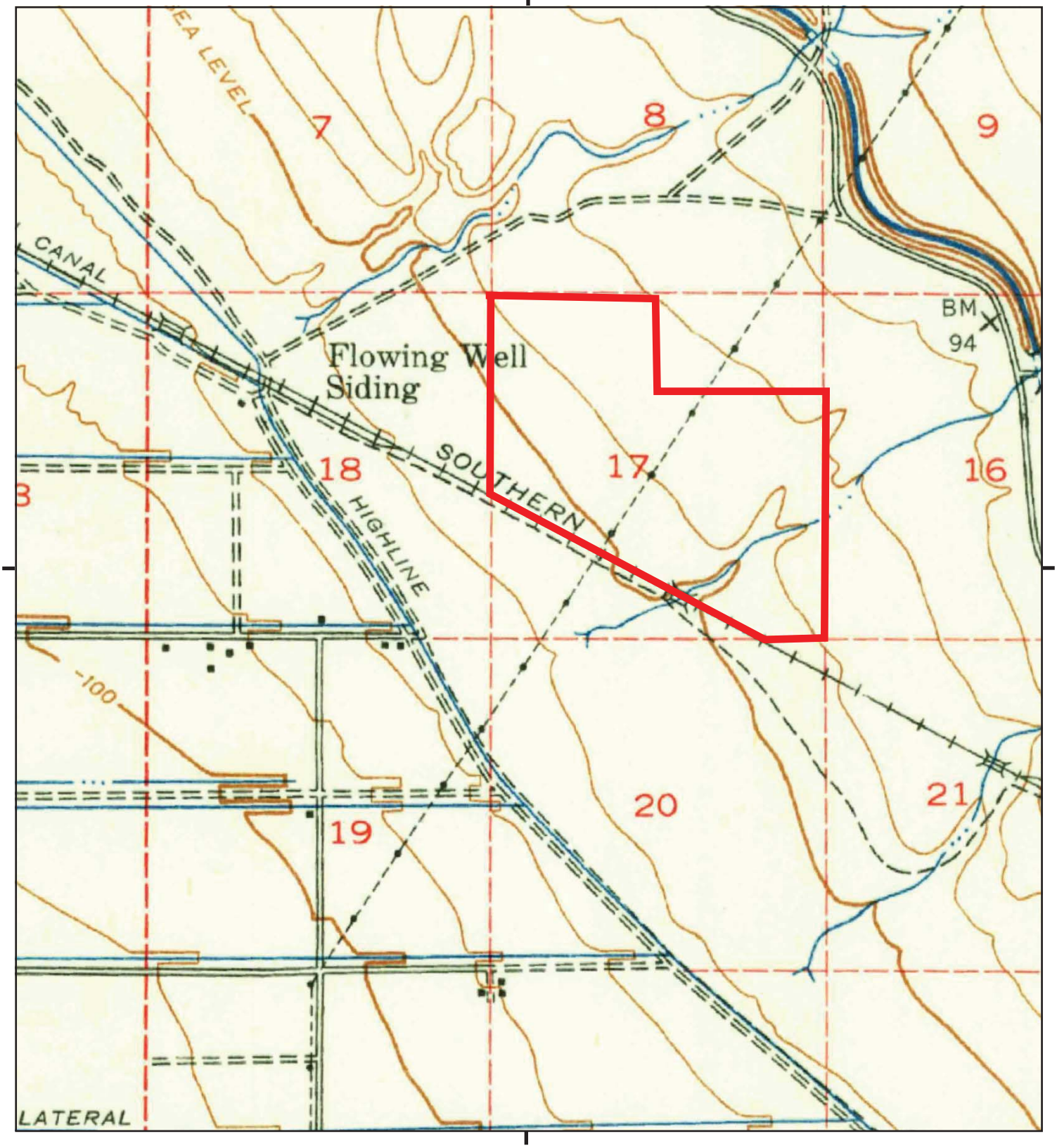
NW N NE
W E
SW S SE

TP, Iris, 1945, 15-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1940, 15-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Vega 2/3
Flowing Wells Road
Winterhaven, CA 92283

Inquiry Number: 6210343.4
September 30, 2020

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

EDR Historical Topo Map Report

09/30/20

Site Name:

Vega 2/3
Flowing Wells Road
Winterhaven, CA 92283
EDR Inquiry # 6210343.4

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Steven Williams

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Search Results:

P.O.# GS2022
Project: Vega 2/3 Solar

Coordinates:

Latitude:	33.2282 33° 13' 42" North
Longitude:	-115.4143 -115° 24' 51" West
UTM Zone:	Zone 11 North
UTM X Meters:	647754.58
UTM Y Meters:	3677706.25
Elevation:	126.00' above sea level

Maps Provided:

2012	1940
2002	
1992	
1976	
1965	
1956	
1947	
1945	

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PC ORIGINAL PKG

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets

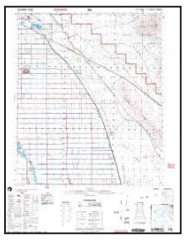
Iris

7.5-minute, 24000

Iris Wash

7.5-minute, 24000

2002 Source Sheets



Iris

15-minute, 50000

1992 Source Sheets

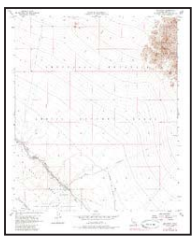
Iris

7.5-minute, 24000
Aerial Photo Revised 1992

1976 Source Sheets

Iris

7.5-minute, 24000
Aerial Photo Revised 1953



Iris Wash

7.5-minute, 24000
Aerial Photo Revised 1953

PC ORIGINAL PKG

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1965 Source Sheets

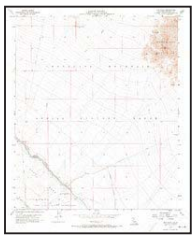
Iris

7.5-minute, 24000
Aerial Photo Revised 1953

1956 Source Sheets

Iris

7.5-minute, 24000
Aerial Photo Revised 1953



Iris Wash

7.5-minute, 24000
Aerial Photo Revised 1953

1947 Source Sheets

IRIS

15-minute, 50000

IRIS PASS

15-minute, 50000

1945 Source Sheets

Iris

15-minute, 62500
Aerial Photo Revised 1940

PC ORIGINAL PKG

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1940 Source Sheets

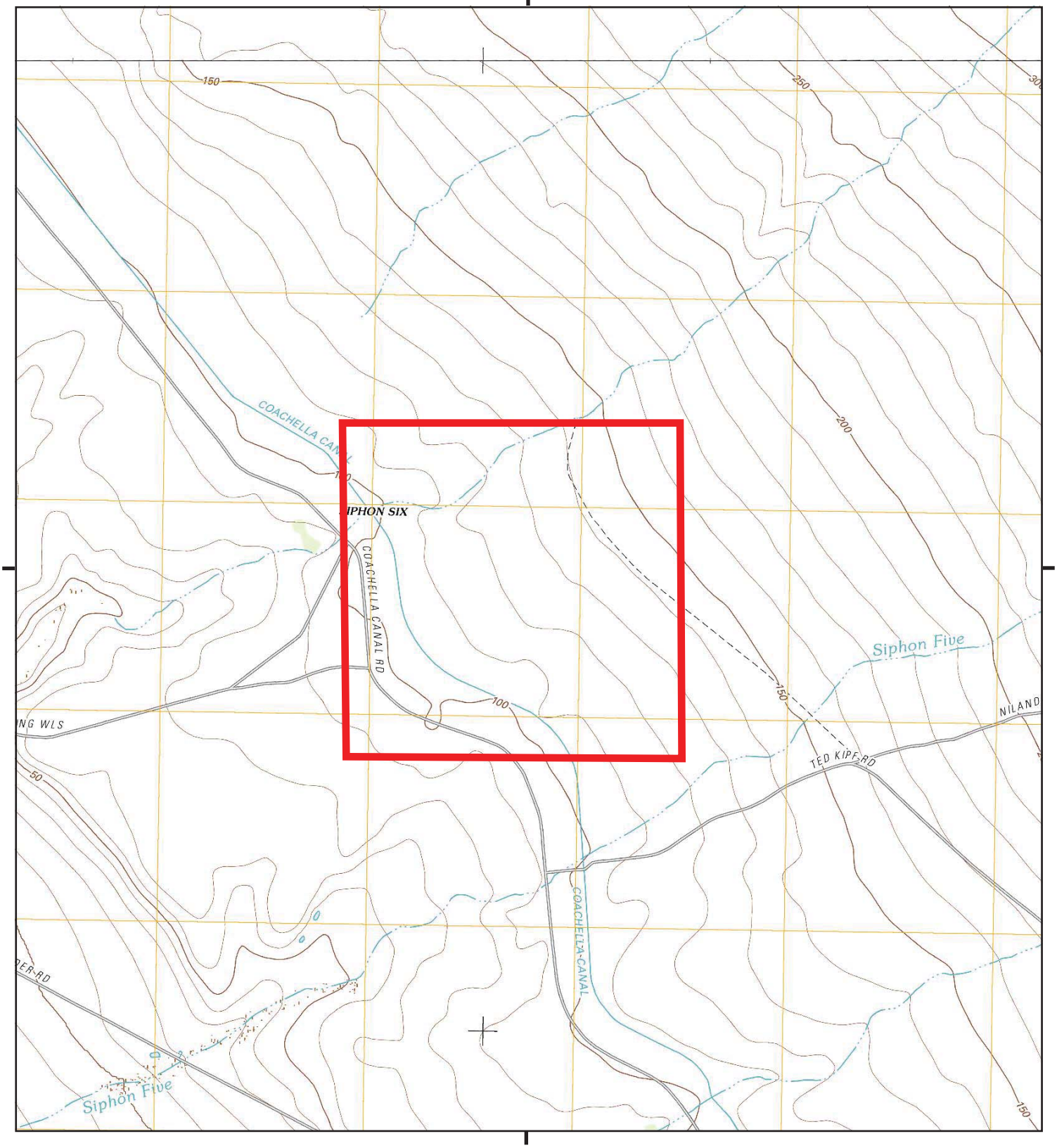
Iris

15-minute, 62500
Aerial Photo Revised 1940

Iris Pass

15-minute, 62500
Aerial Photo Revised 1940

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

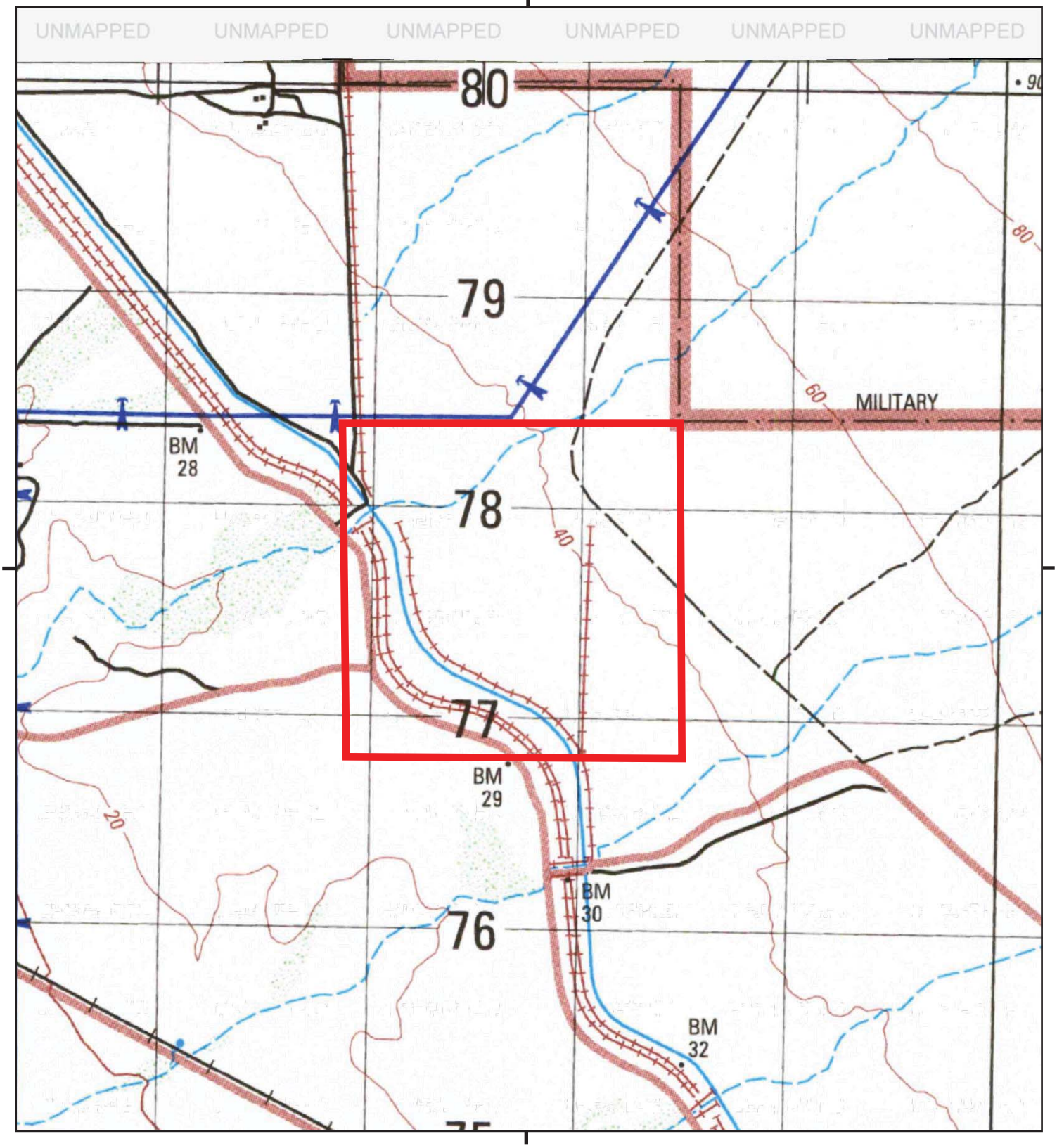
NW N NE
W E
SW S SE

TP, Iris, 2012, 7.5-minute
N, Iris Wash, 2012, 7.5-minute

SITE NAME: Vega 2/3
ADDRESS: Flowing Wells Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

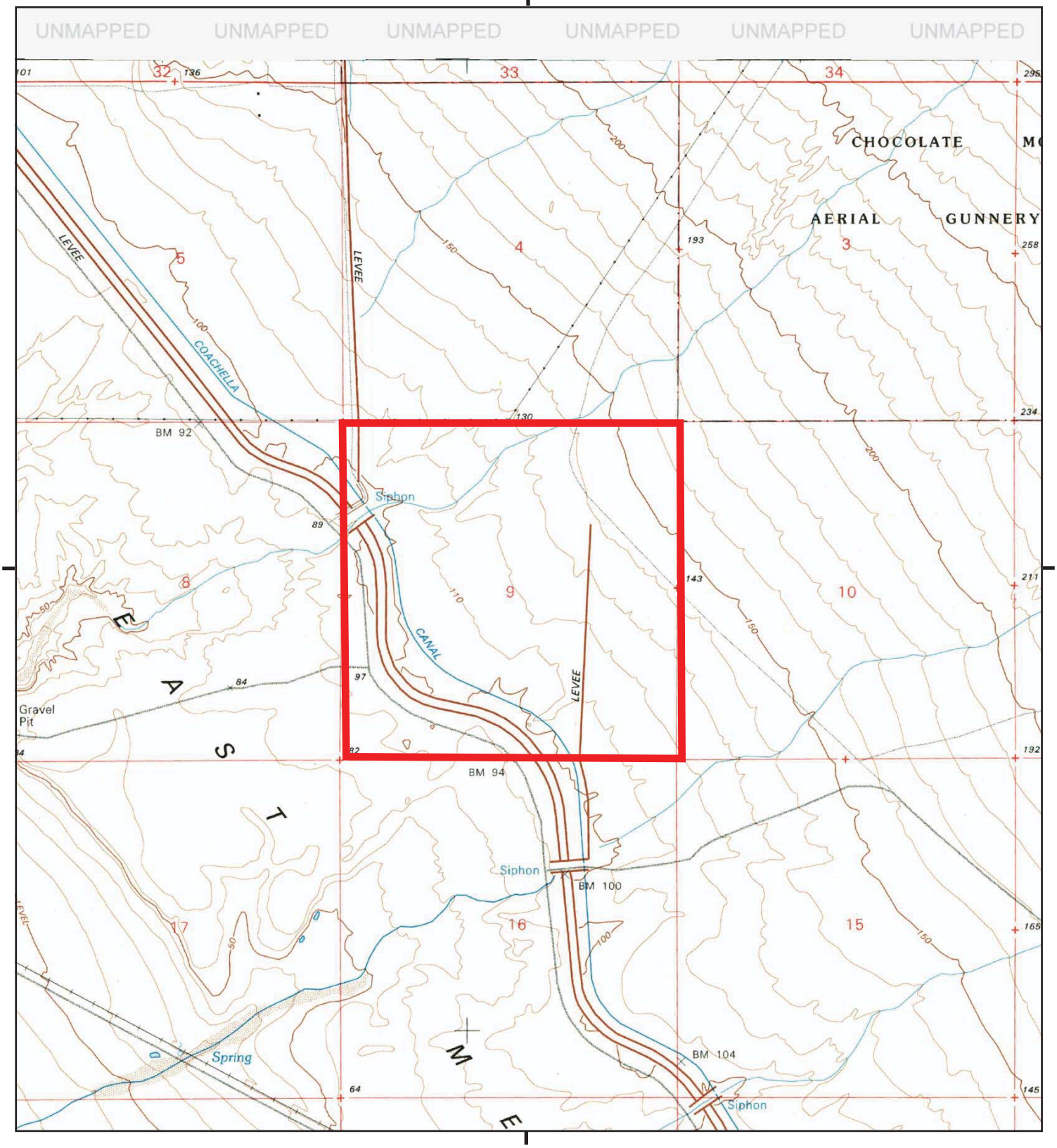
NW N NE
W E
SW S SE

TP, Iris, 2002, 15-minute

SITE NAME: Vega 2/3
ADDRESS: Flowing Wells Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1992, 7.5-minute

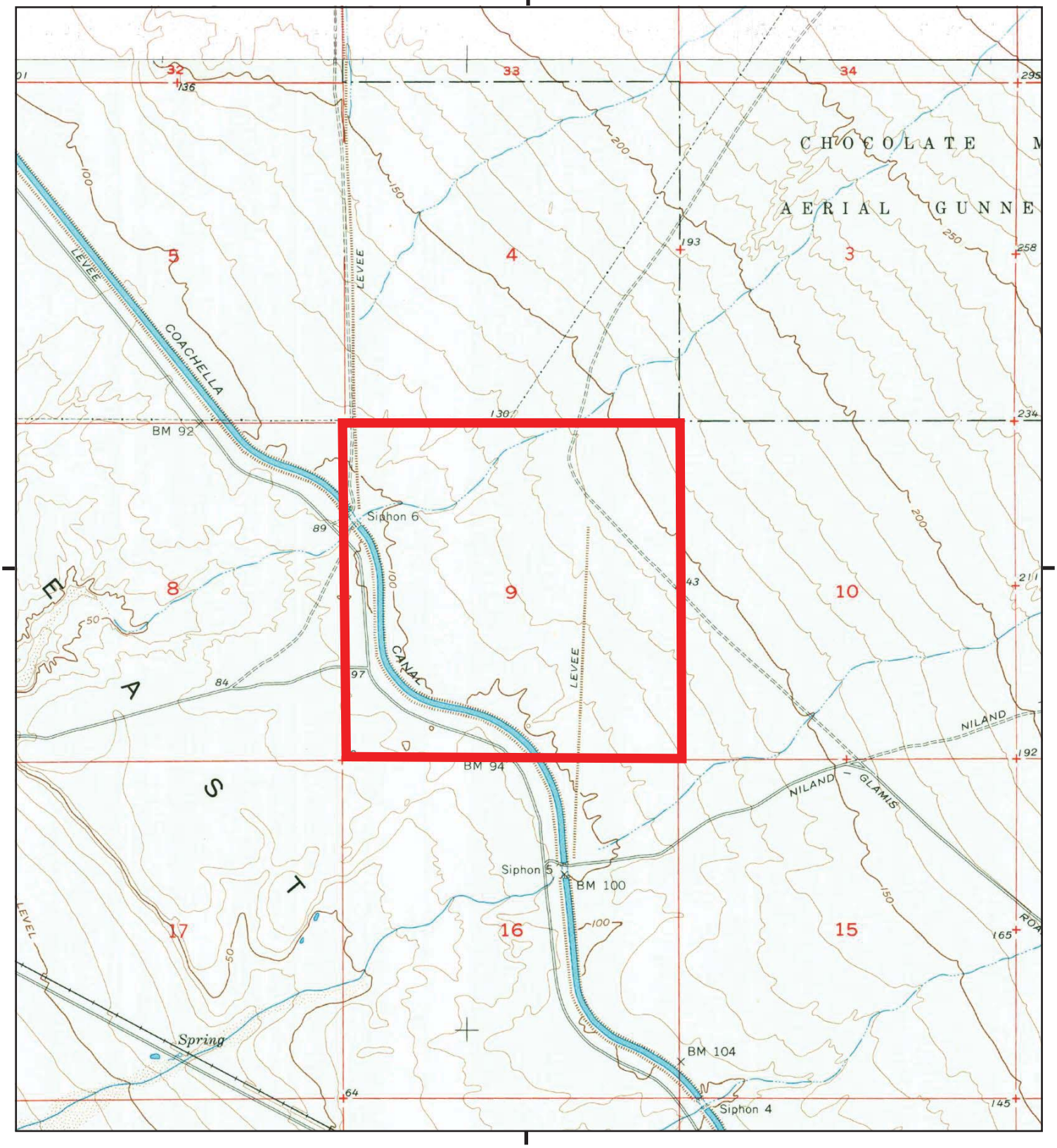
SITE NAME: Vega 2/3
ADDRESS: Flowing Wells Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1976



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

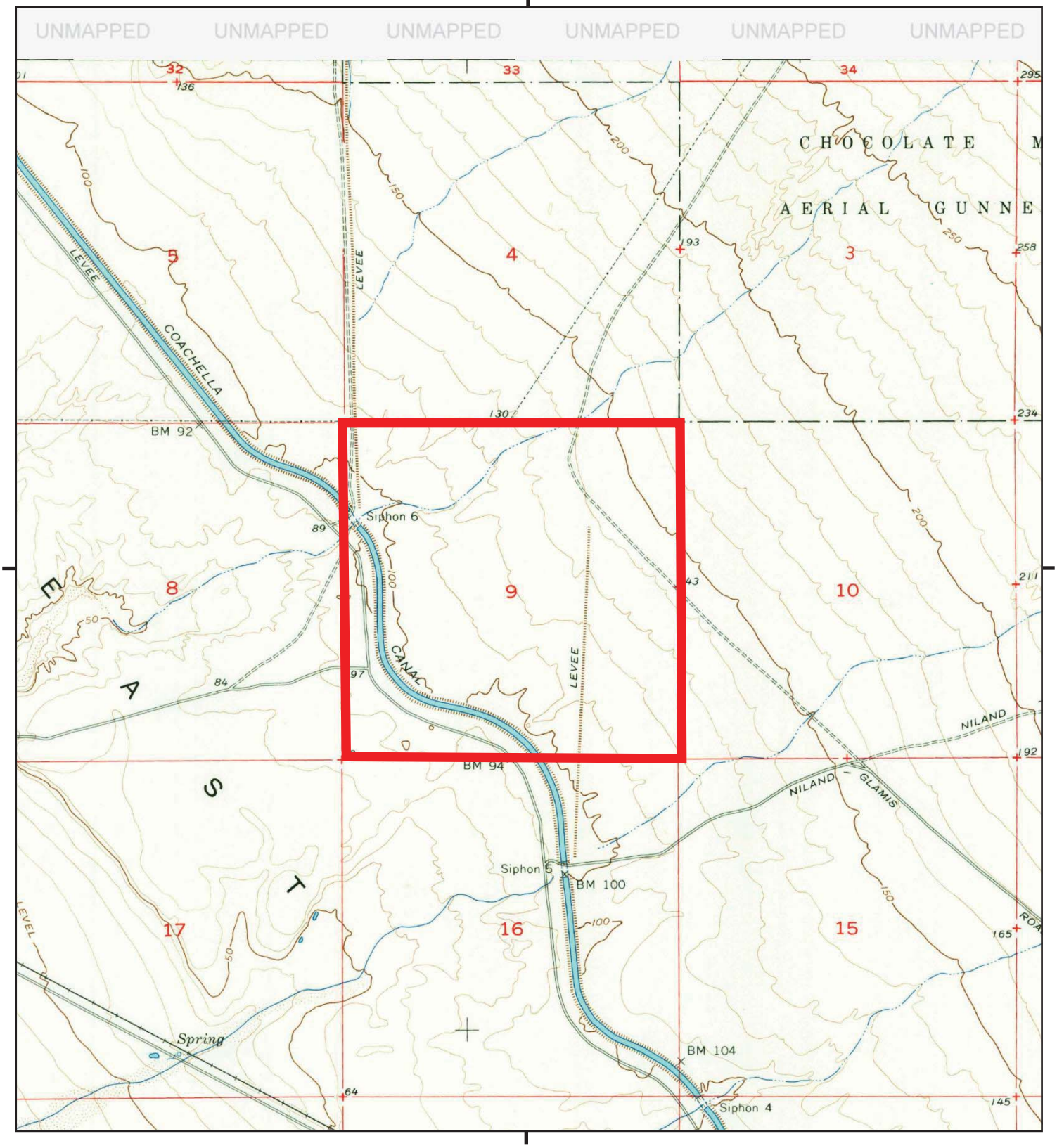
NW N NE
W E
SW S SE

TP, Iris, 1976, 7.5-minute
N, Iris Wash, 1976, 7.5-minute

SITE NAME: Vega 2/3
ADDRESS: Flowing Wells Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

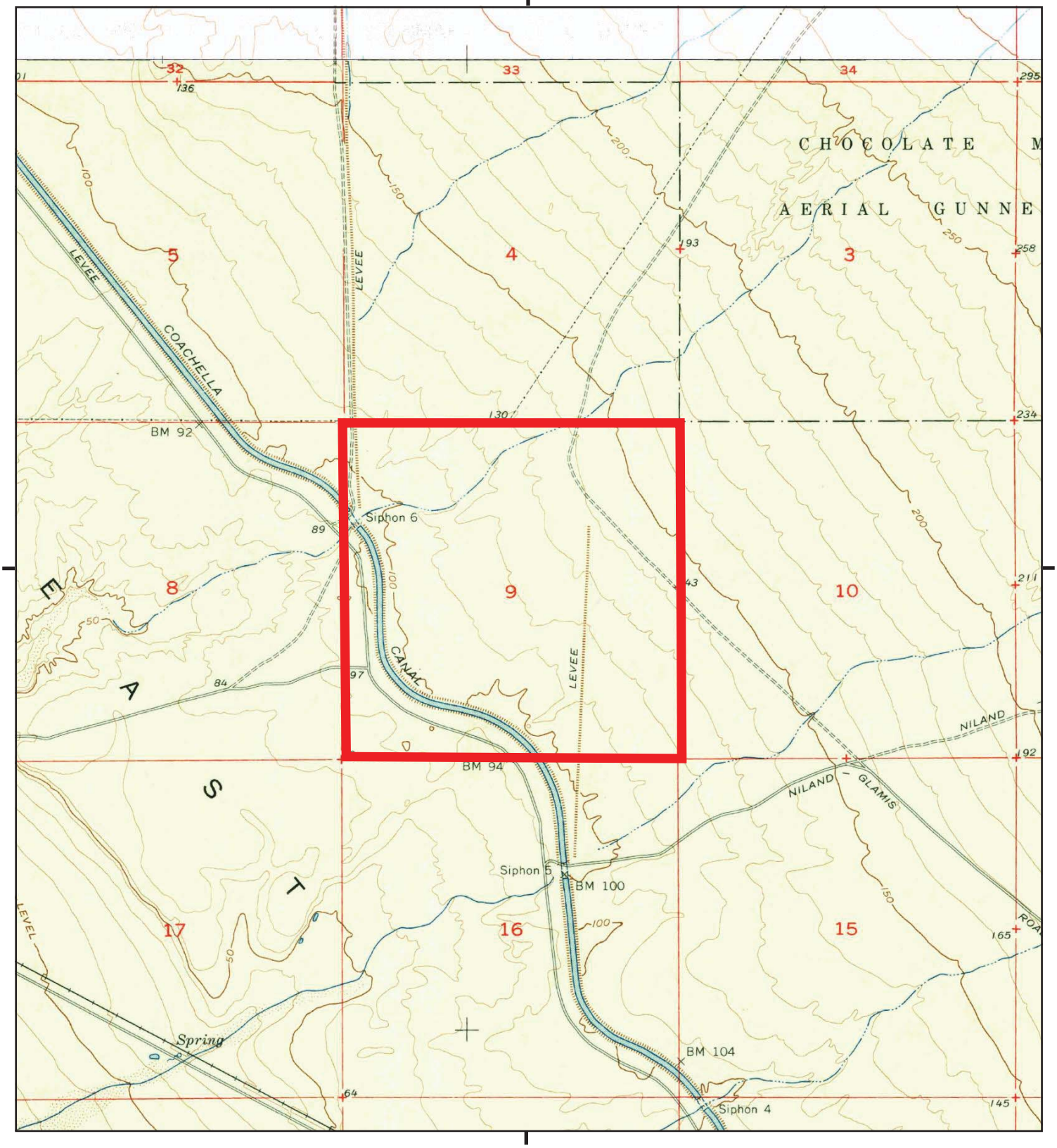
NW N NE
W E
SW S SE

TP, Iris, 1965, 7.5-minute

SITE NAME: Vega 2/3
ADDRESS: Flowing Wells Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

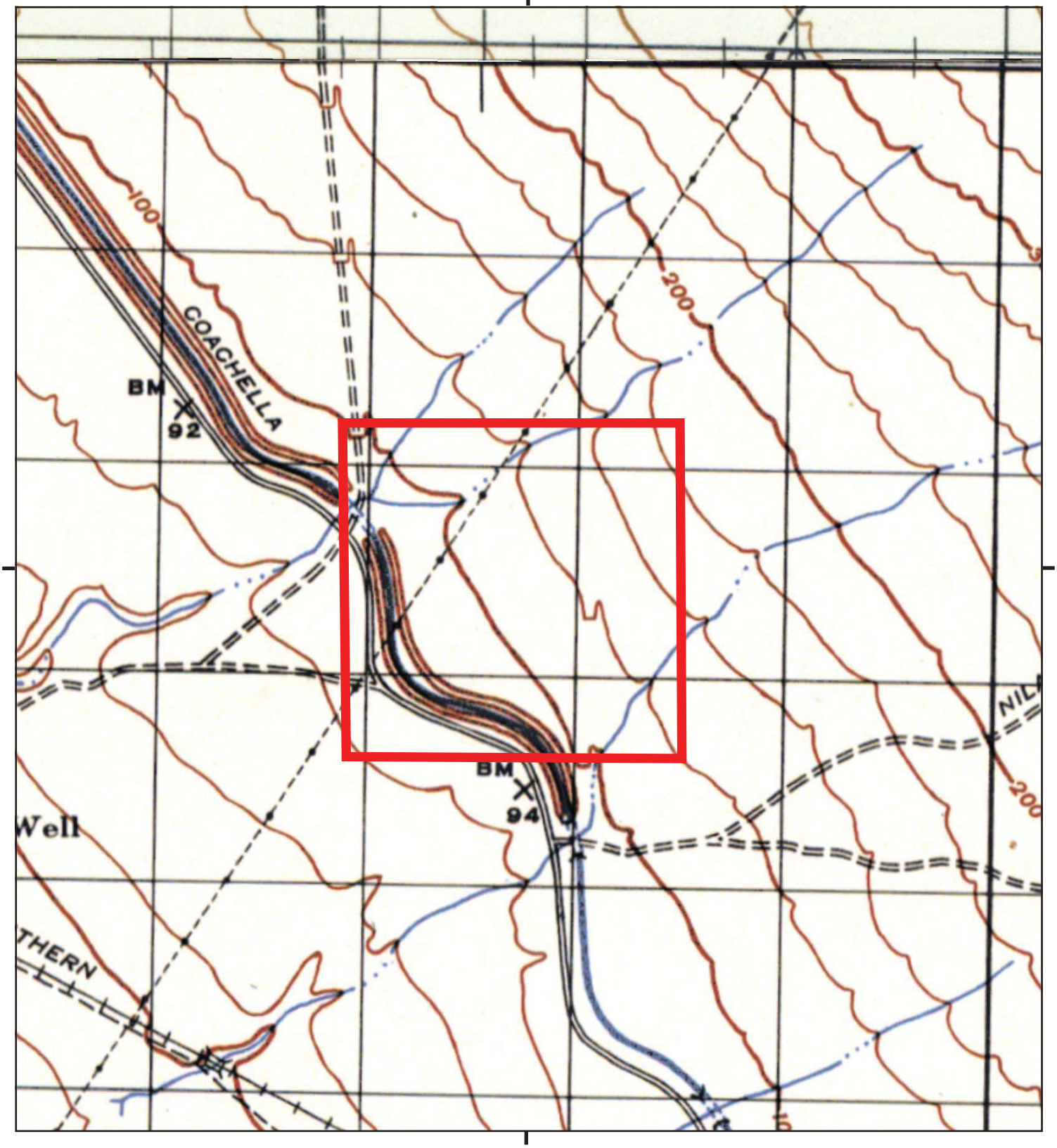
NW N NE
W E
SW S SE

TP, Iris, 1956, 7.5-minute
N, Iris Wash, 1956, 7.5-minute

SITE NAME: Vega 2/3
ADDRESS: Flowing Wells Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

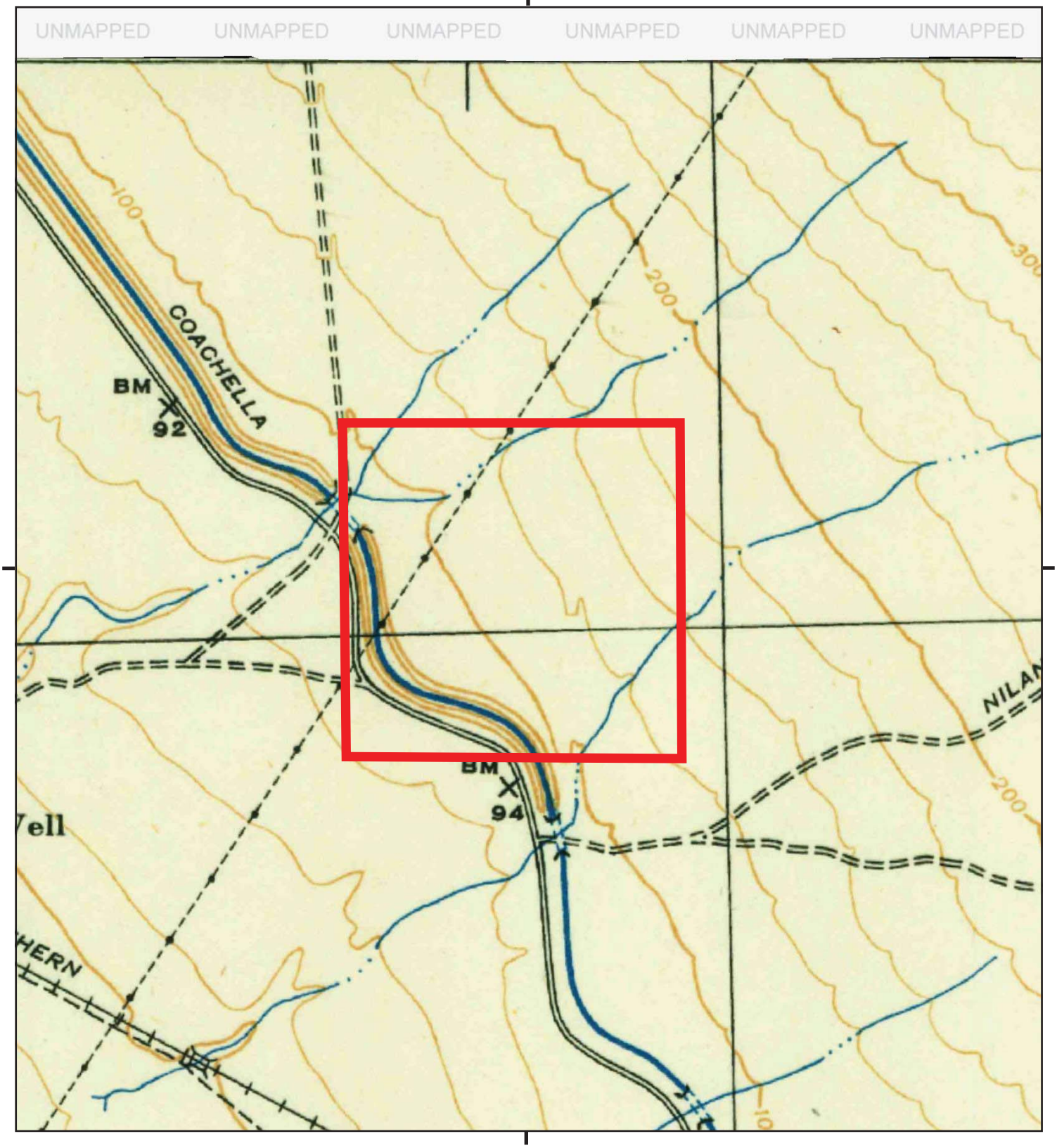
NW N NE
W E
SW S SE

TP, IRIS, 1947, 15-minute
N, IRIS PASS, 1947, 15-minute

SITE NAME: Vega 2/3
ADDRESS: Flowing Wells Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

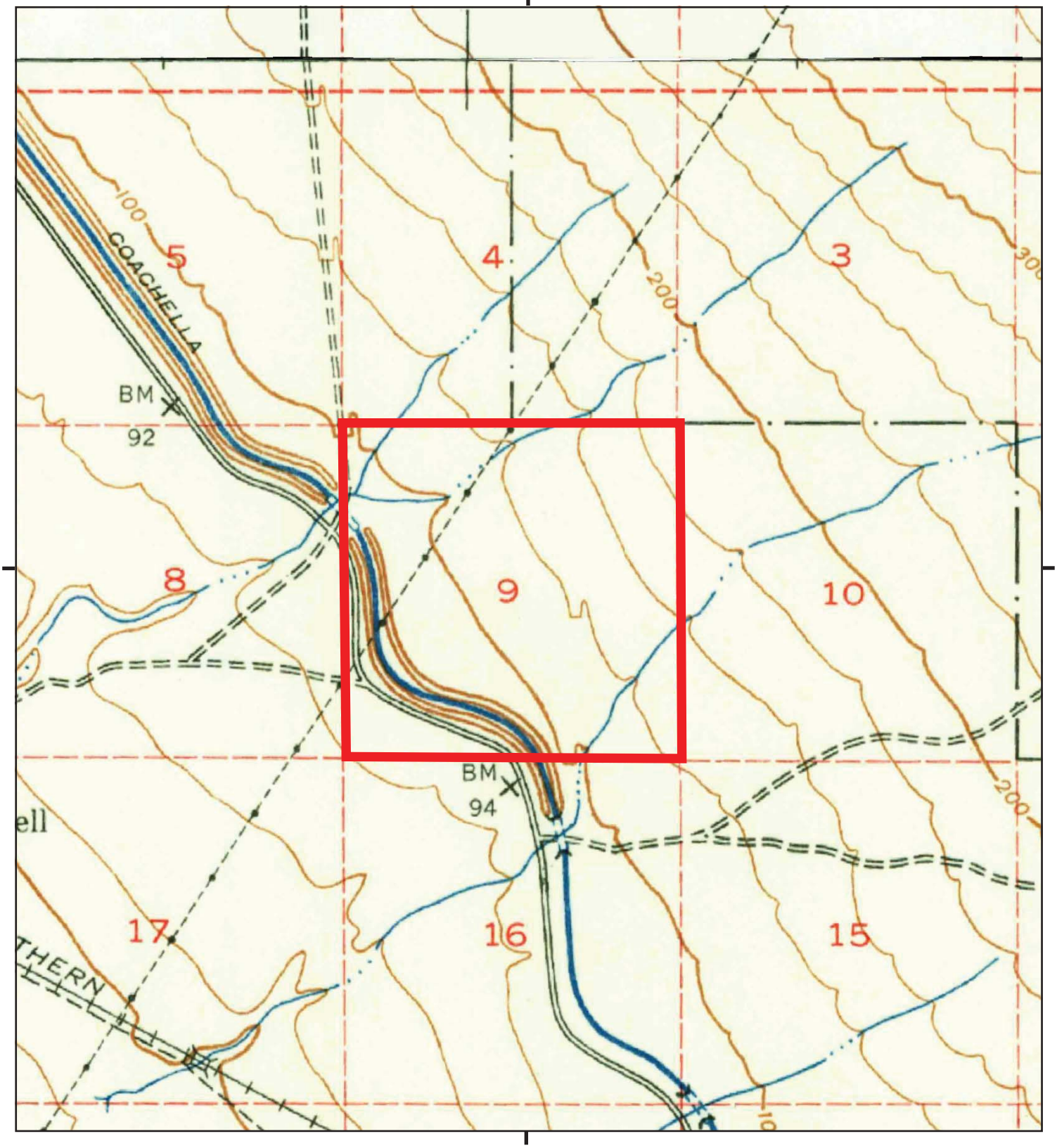
NW N NE
W E
SW S SE

TP, Iris, 1945, 15-minute

SITE NAME: Vega 2/3
ADDRESS: Flowing Wells Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1940, 15-minute
N, Iris Pass, 1940, 15-minute

SITE NAME: Vega 2/3
ADDRESS: Flowing Wells Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Vega 2B
Ted Kipf Road
Winterhaven, CA 92283

Inquiry Number: 6210349.4
September 30, 2020

EDR Historical Topo Map Report

with QuadMatch™

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Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

EDR Historical Topo Map Report

09/30/20

Site Name:

Vega 2B
Ted Kipf Road
Winterhaven, CA 92283
EDR Inquiry # 6210349.4

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Steven Williams

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Search Results:

P.O.# GS2021

Project: Vega 2B Solar

Coordinates:

Latitude:	33.212863 33° 12' 46" North
Longitude:	-115.397771 -115° 23' 52" West
UTM Zone:	Zone 11 North
UTM X Meters:	649320.96
UTM Y Meters:	3676029.15
Elevation:	145.01' above sea level

Maps Provided:

2012
2002
1992, 1995
1976
1965
1955, 1956
1947
1945
1940

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PC ORIGINAL PKG

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets

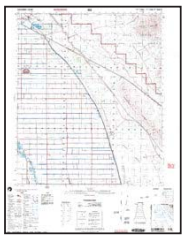
Iris

7.5-minute, 24000

Tortuga

7.5-minute, 24000

2002 Source Sheets



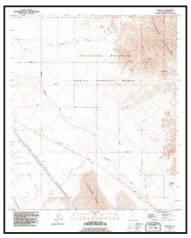
Iris

15-minute, 50000

1992, 1995 Source Sheets

Iris

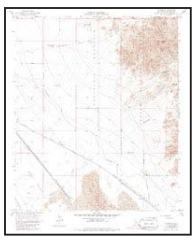
7.5-minute, 24000
Aerial Photo Revised 1992



Tortuga

7.5-minute, 24000
Aerial Photo Revised 1992

1976 Source Sheets



Tortuga

7.5-minute, 24000
Aerial Photo Revised 1953

Iris

7.5-minute, 24000
Aerial Photo Revised 1953

PC ORIGINAL PKG

Topo Sheet Key

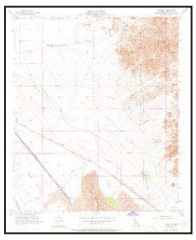
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1965 Source Sheets

Iris

7.5-minute, 24000
Aerial Photo Revised 1953

1955, 1956 Source Sheets



Tortuga

7.5-minute, 24000
Aerial Photo Revised 1953

Iris

7.5-minute, 24000
Aerial Photo Revised 1953

1947 Source Sheets

IRIS

15-minute, 50000

1945 Source Sheets

Iris

15-minute, 62500
Aerial Photo Revised 1940

PC ORIGINAL PKG

Topo Sheet Key

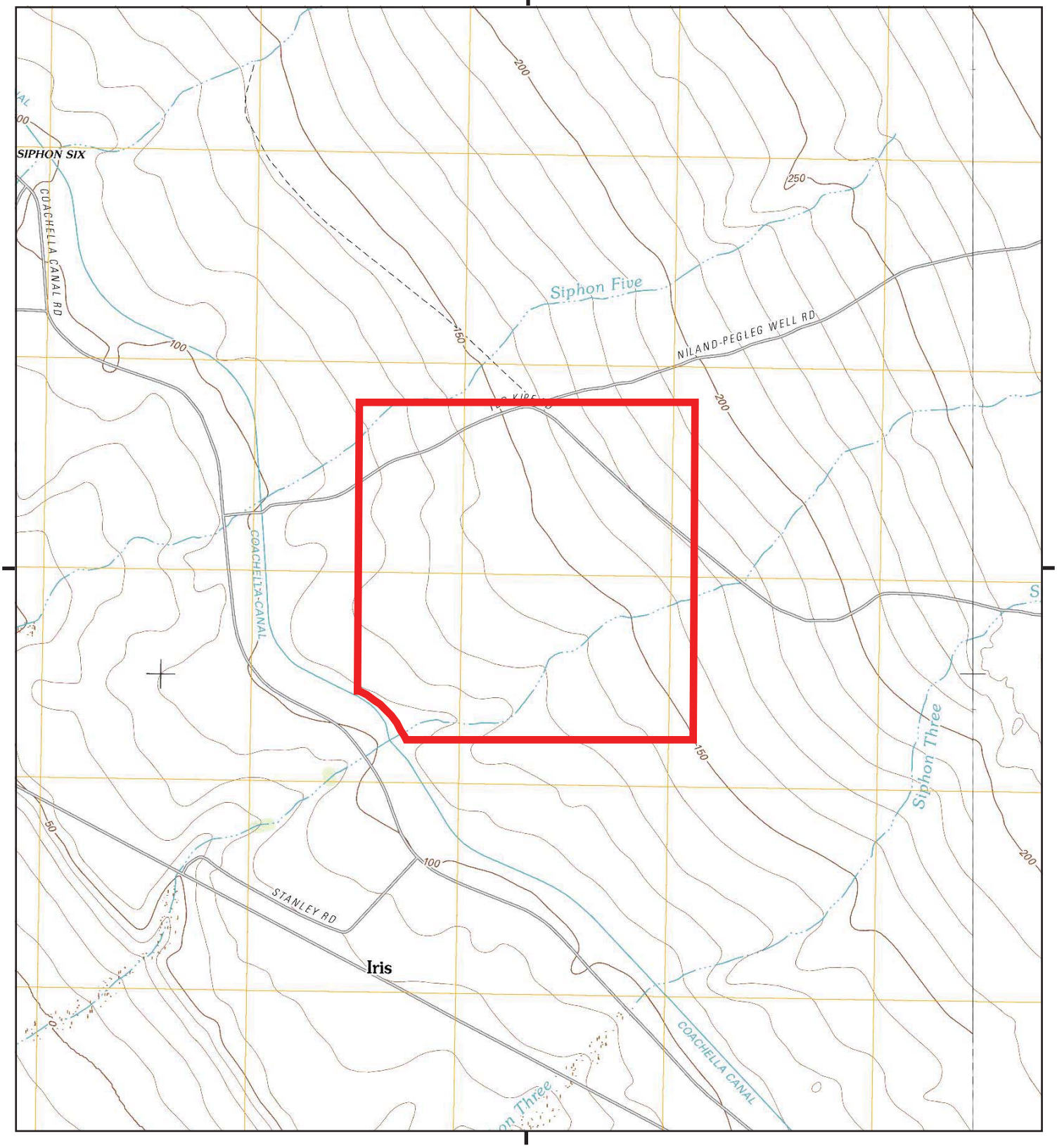
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1940 Source Sheets

Iris

15-minute, 62500
Aerial Photo Revised 1940

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 2012, 7.5-minute
E, Tortuga, 2012, 7.5-minute

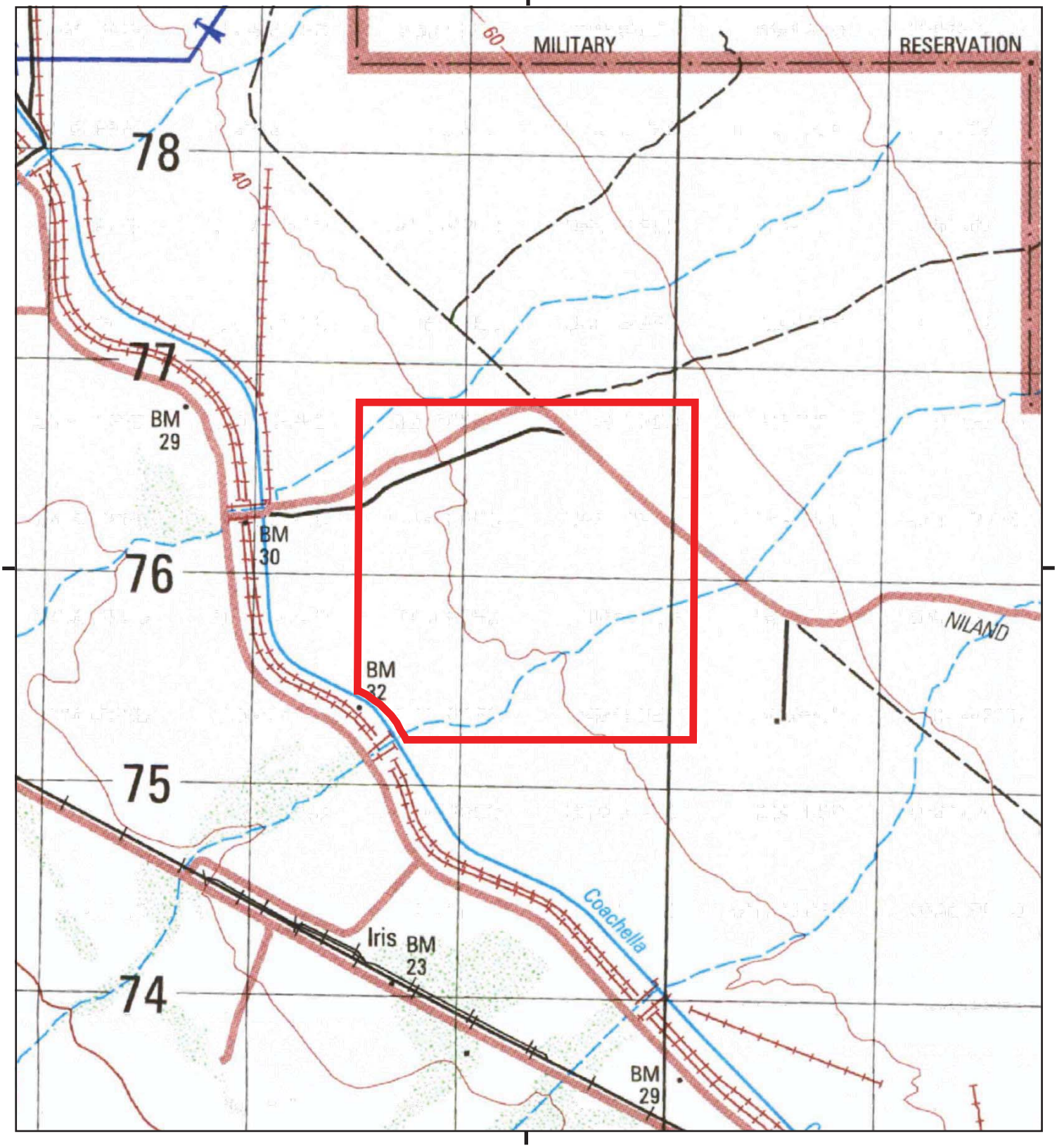
SITE NAME: Vega 2B
ADDRESS: Ted Kipf Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

2002



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 2002, 15-minute

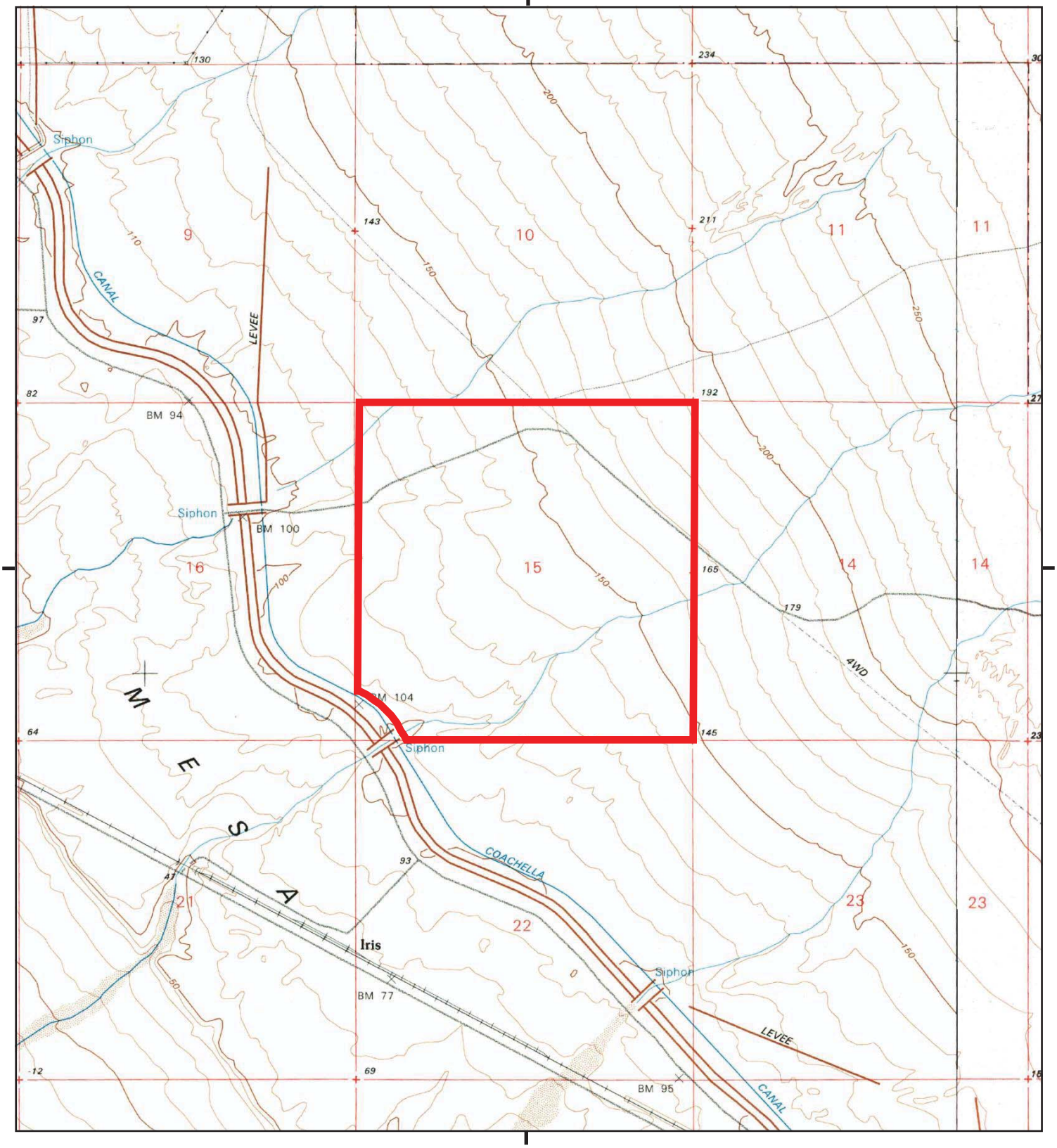
SITE NAME: Vega 2B
ADDRESS: Ted Kipf Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1992, 1995



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1992, 7.5-minute
E, Tortuga, 1995, 7.5-minute

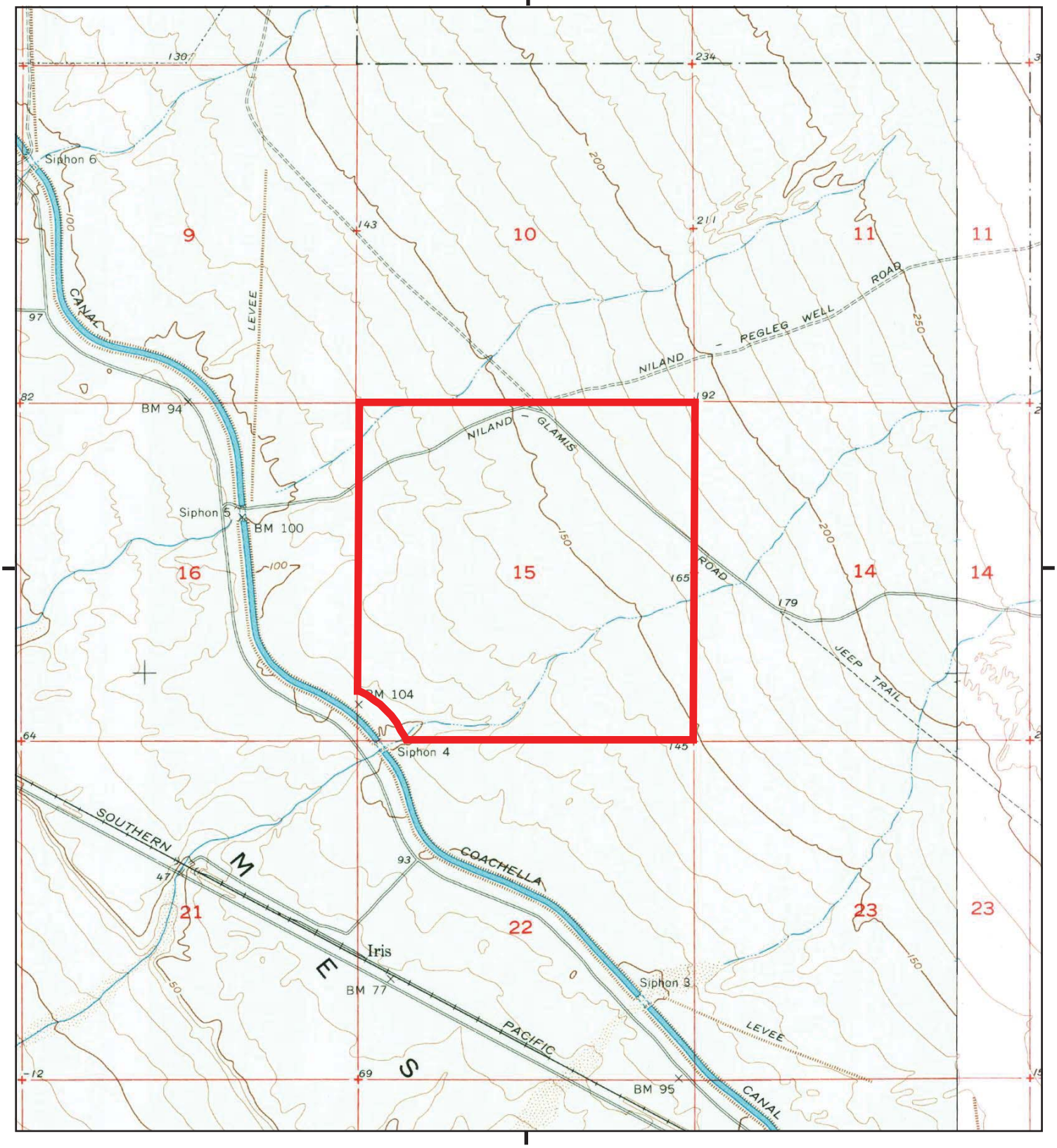
SITE NAME: Vega 2B
ADDRESS: Ted Kipf Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1976



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

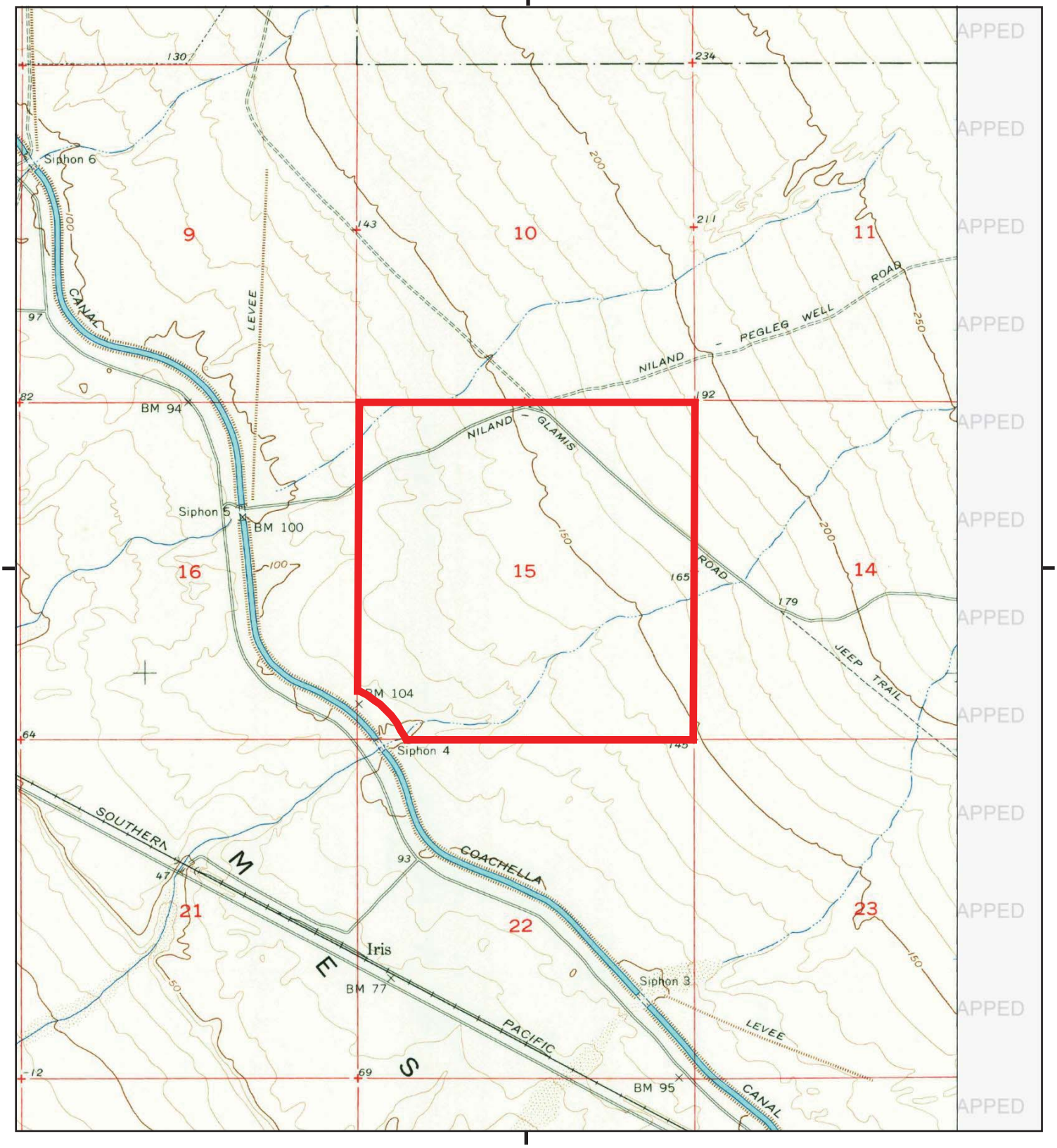
NW N NE
W E
SW S SE

TP, Iris, 1976, 7.5-minute
E, Tortuga, 1976, 7.5-minute

SITE NAME: Vega 2B
ADDRESS: Ted Kipf Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

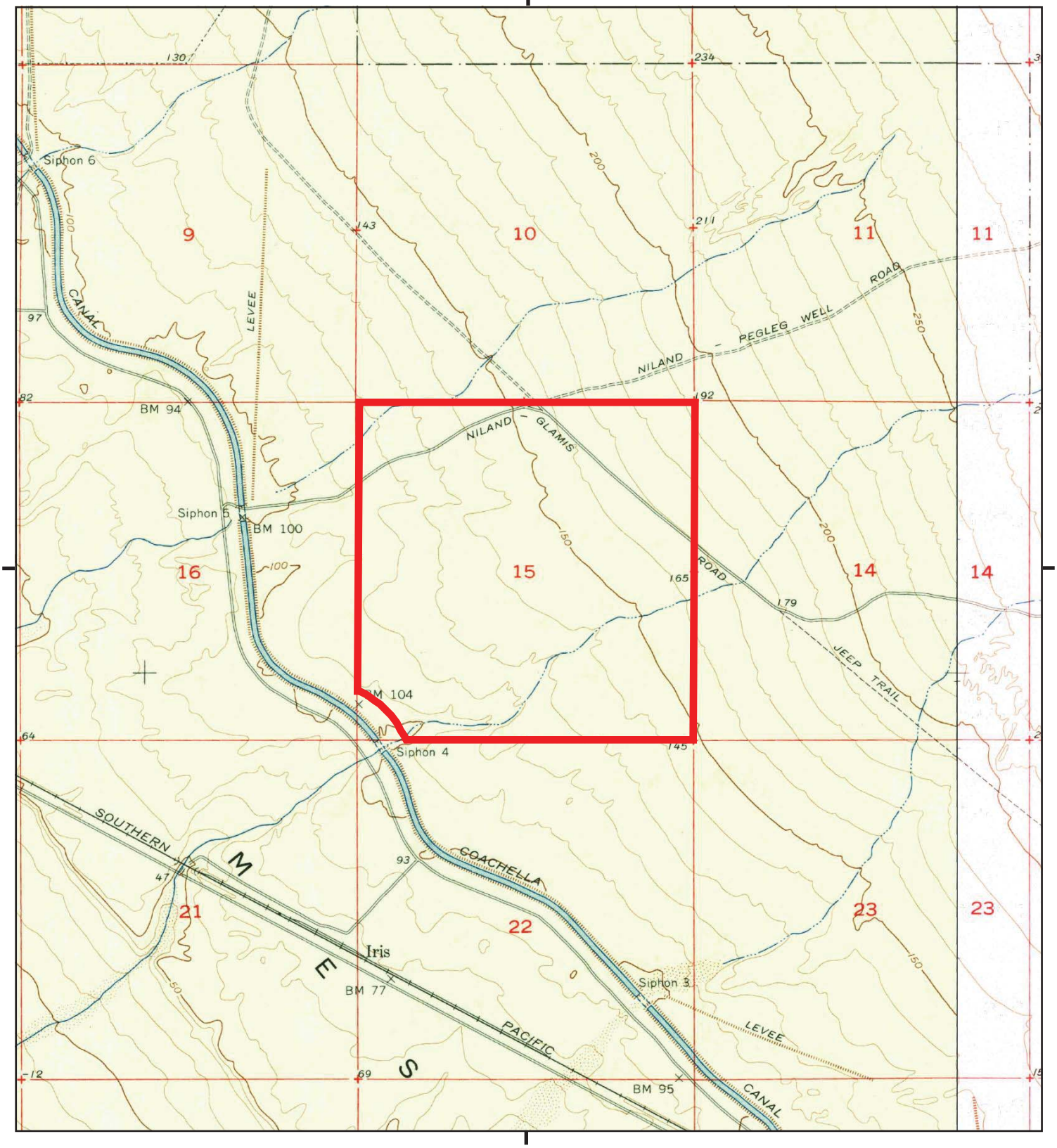
NW N NE
W E
SW S SE

TP, Iris, 1965, 7.5-minute

SITE NAME: Vega 2B
ADDRESS: Ted Kipf Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

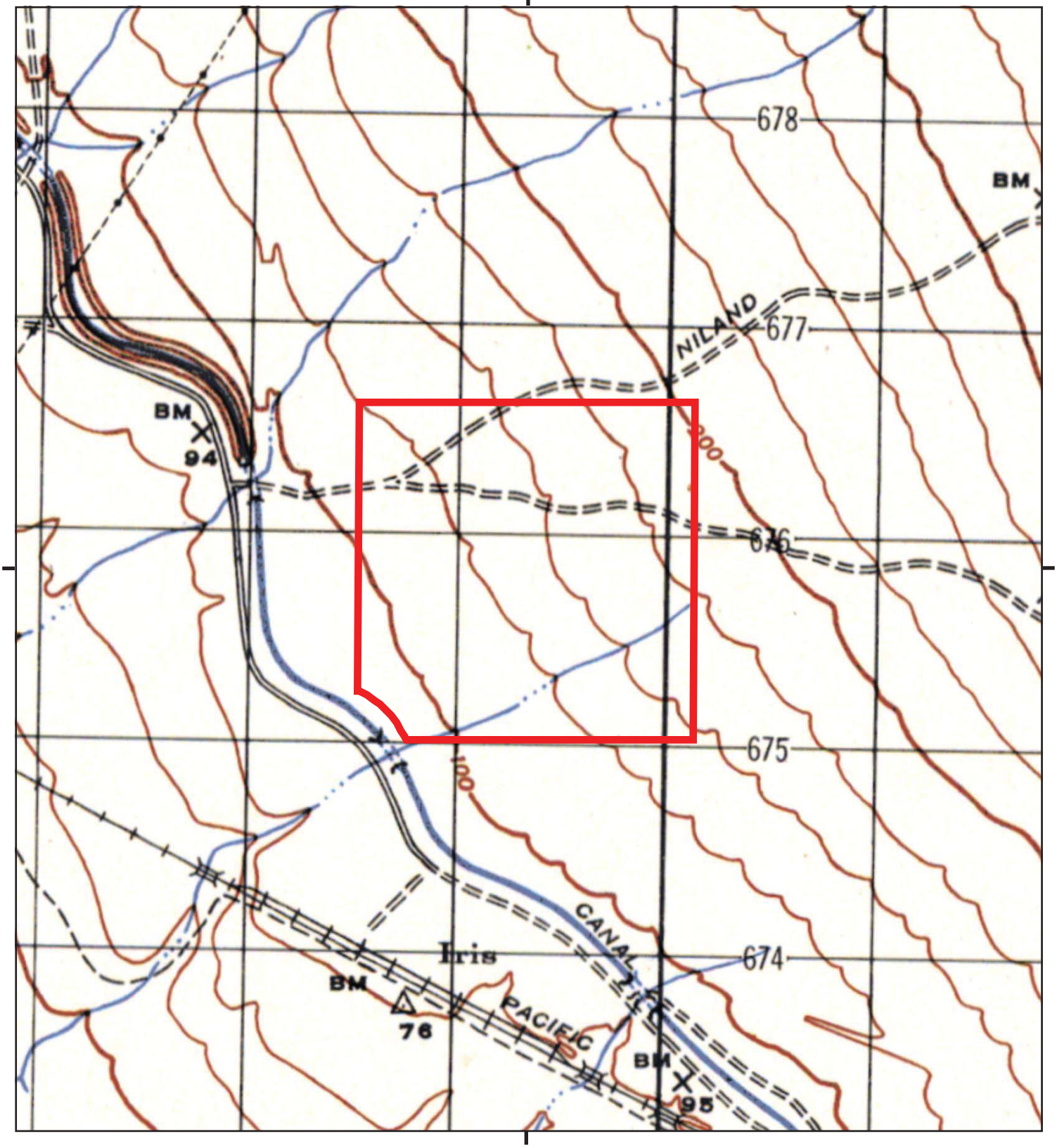
NW N NE
W E
SW S SE

TP, Iris, 1956, 7.5-minute
E, Tortuga, 1955, 7.5-minute

SITE NAME: Vega 2B
ADDRESS: Ted Kipf Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

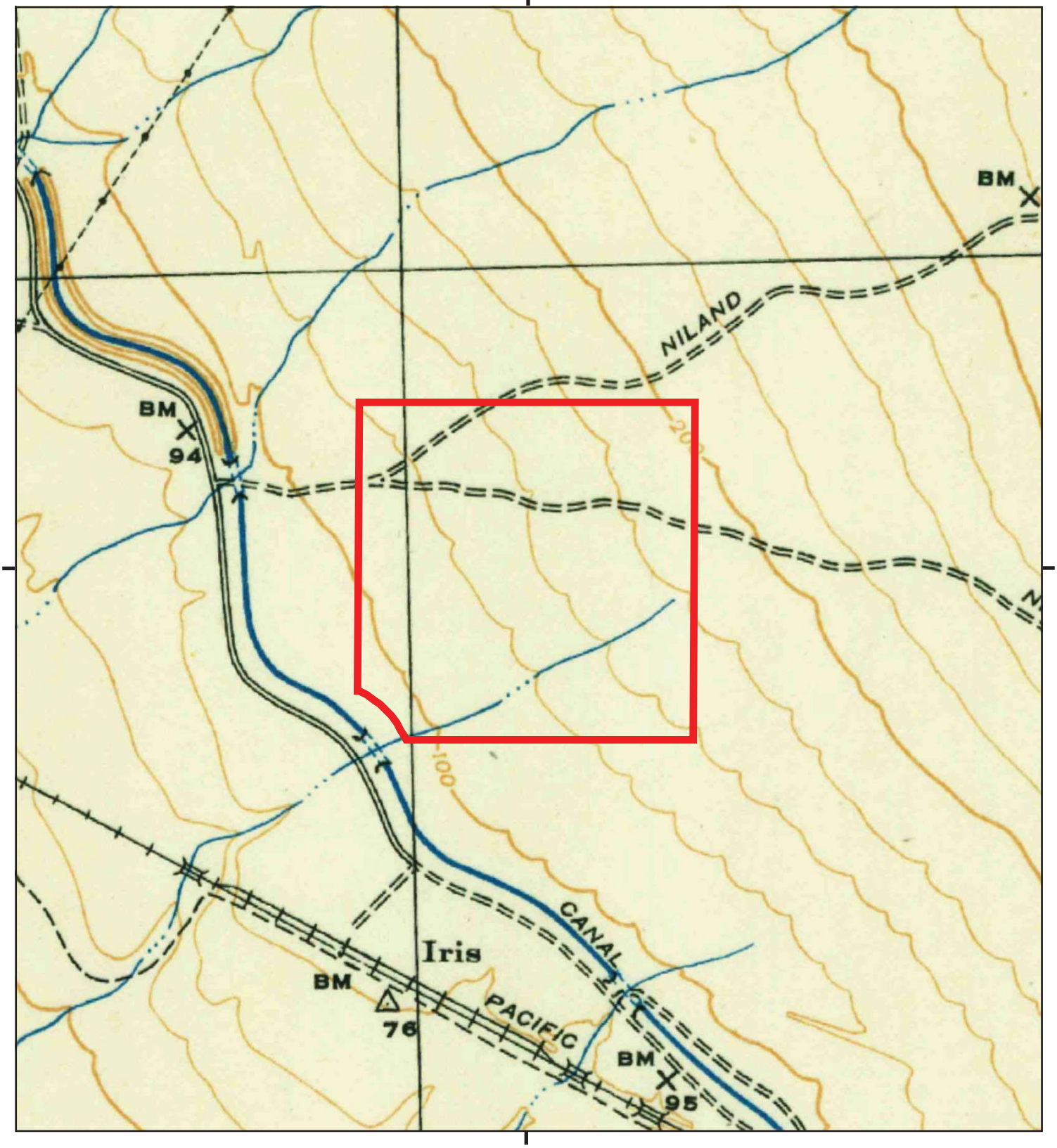
NW N NE
W E
SW S SE

TP, IRIS, 1947, 15-minute

SITE NAME: Vega 2B
ADDRESS: Ted Kipf Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

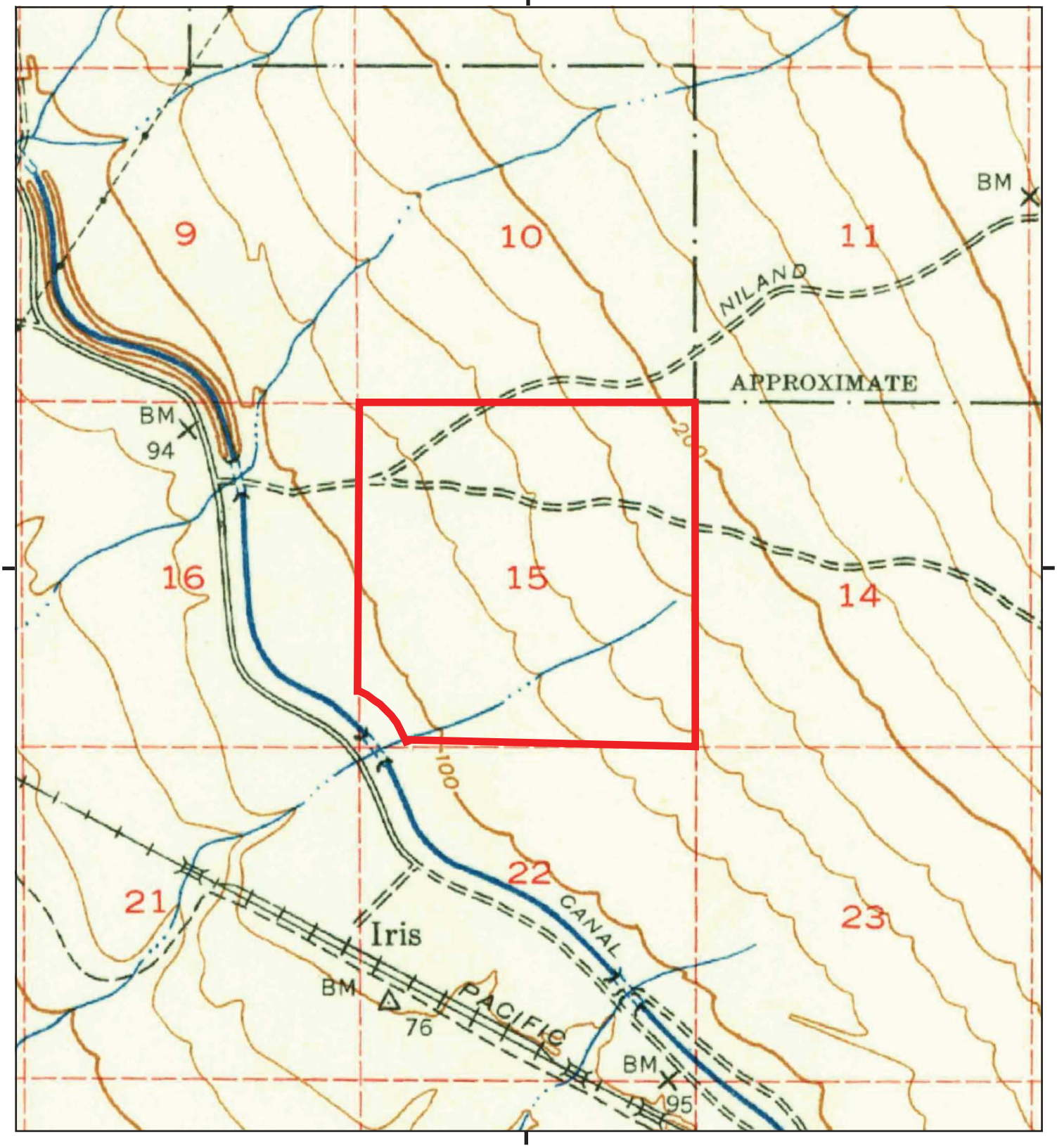
NW N NE
W E
SW S SE

TP, Iris, 1945, 15-minute

SITE NAME: Vega 2B
ADDRESS: Ted Kipf Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1940, 15-minute

SITE NAME: Vega 2B
ADDRESS: Ted Kipf Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

APPENDIX E

PC ORIGINAL PKG

Vega 2/3
Flowing Wells Road
Winterhaven, CA 92283

Inquiry Number: 6210343.3
September 30, 2020

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

Certified Sanborn® Map Report

09/30/20

Site Name:

Vega 2/3
Flowing Wells Road
Winterhaven, CA 92283
EDR Inquiry # 6210343.3

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Steven Williams

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Certification # A692-41B2-923E

PO # GS2022

Project Vega 2/3 Solar

UNMAPPED PROPERTY

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Sanborn® Library search results

Certification #: A692-41B2-923E

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- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

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PC ORIGINAL PKG

Vega 2B
Ted Kipf Road
Winterhaven, CA 92283

Inquiry Number: 6210349.3
September 30, 2020

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

Certified Sanborn® Map Report

09/30/20

Site Name:

Vega 2B
Ted Kipf Road
Winterhaven, CA 92283
EDR Inquiry # 6210349.3

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Steven Williams

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Certified Sanborn Results:

Certification # AC1F-49D9-8869

PO # GS2021

Project Vega 2B Solar

UNMAPPED PROPERTY

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Sanborn® Library search results

Certification #: AC1F-49D9-8869

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✓ Library of Congress
- ✓ University Publications of America
- ✓ EDR Private Collection

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APPENDIX F

PC ORIGINAL PKG

Cedar Solar 2
NEC Schrimpf and Wiest Rd. Imperial County
Calipatria, CA 92233

Inquiry Number: 6171651.3s
August 27, 2020

EDR Area / Corridor Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

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Mapped Sites Summary	2
Key Map	2
Map Findings Summary	3
Focus Maps	8
Map Findings	26
Orphan Summary	OR-1
Government Records Searched/Data Currency Tracking	GR-1

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Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

SUBJECT PROPERTY INFORMATION

ADDRESS

NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

TARGET PROPERTY SEARCH RESULTS

The Target Property was identified in the following databases.

Page Numbers and Map Identifcations refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

MINES: Mines Site Location Listing

A review of the MINES list, as provided by EDR, and dated 06/08/2020 has revealed that there is 1 MINES site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
FLOWING WELLS	2095 HIGHWAY 111	2 / 5	26

MINES MRDS: Mineral Resources Data System

A review of the MINES MRDS list, as provided by EDR, and dated 04/06/2018 has revealed that there is 1 MINES MRDS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
FLOWING WELLS PIT		1 / 5	25

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

PC ORIGINAL PKG

EXECUTIVE SUMMARY

Page Numbers and Map Identifcations refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

A review of the MINES list, as provided by EDR, and dated 06/08/2020 has revealed that there is 1 MINES site within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
FLOWING WELLS		N 0 - 1/8 (0.073 mi.)	3 / 2	26

PC ORIGINAL PKG

MAPPED SITES SUMMARY

Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
1 / 5	FLOWING WELLS PIT		MINES MRDS	TP
2 / 5	FLOWING WELLS	2095 HIGHWAY 111	MINES	TP
3 / 2	FLOWING WELLS		MINES	388 0.073 North

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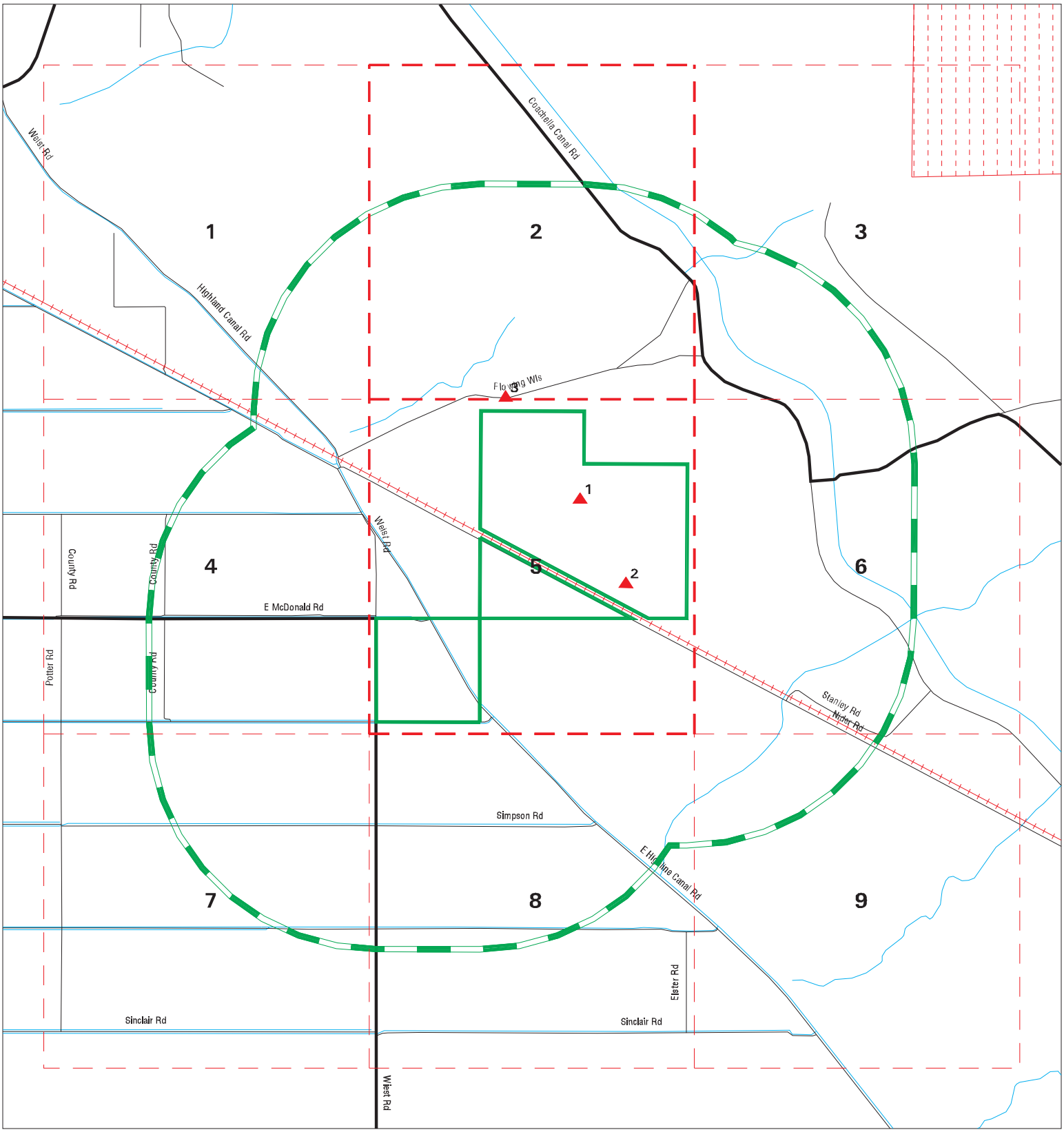
Key Map - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20 4:50 PM

PC ORIGINAL PKG

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250	1	1	0	NR	NR	NR	2
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
WDR	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
CERS	TP		NR	NR	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
MINES MRDS	TP	1	NR	NR	NR	NR	NR	1
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		2	1	0	0	0	0	3

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

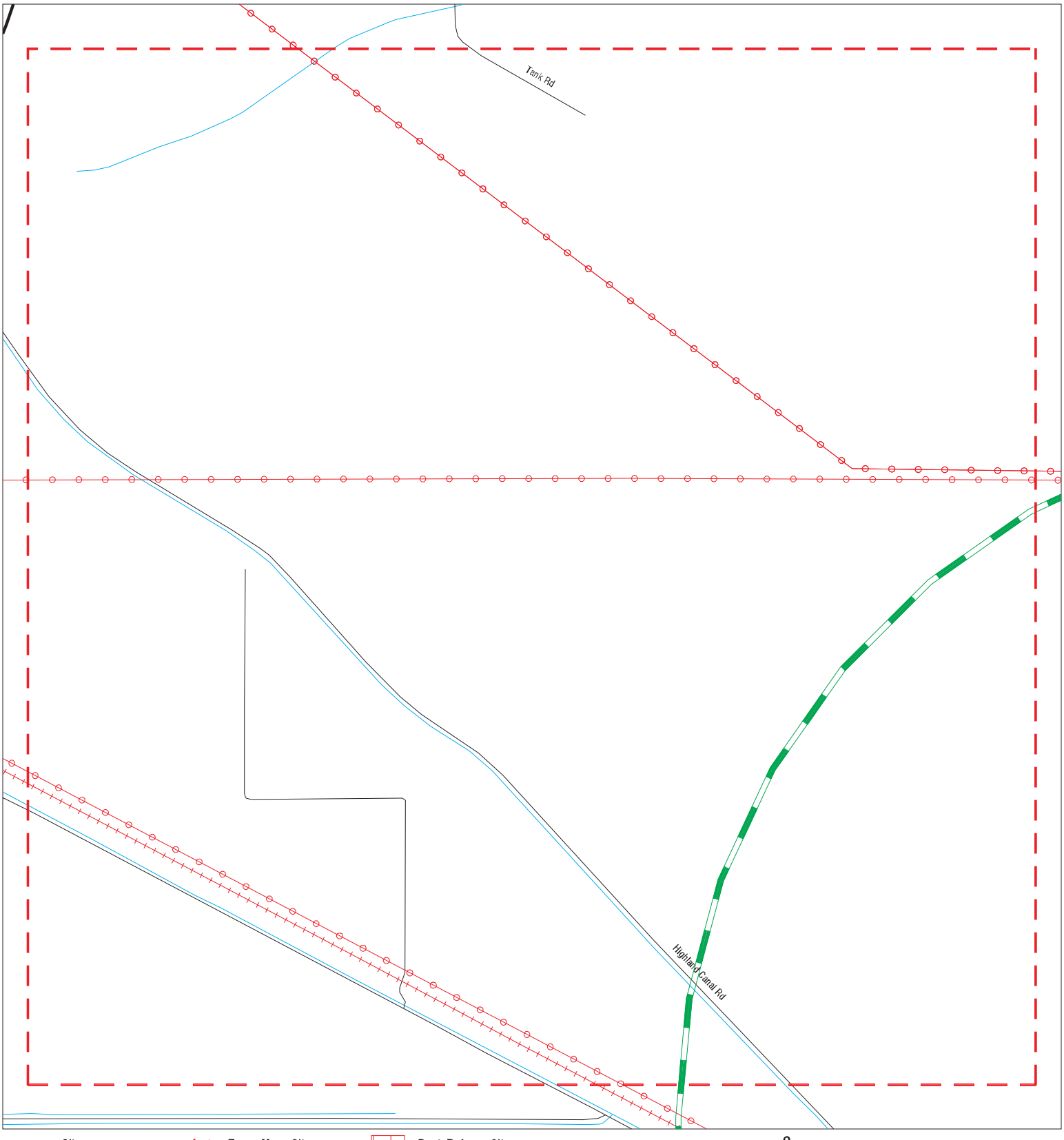
TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

PC ORIGINAL PKG

Focus Map - 1 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 1

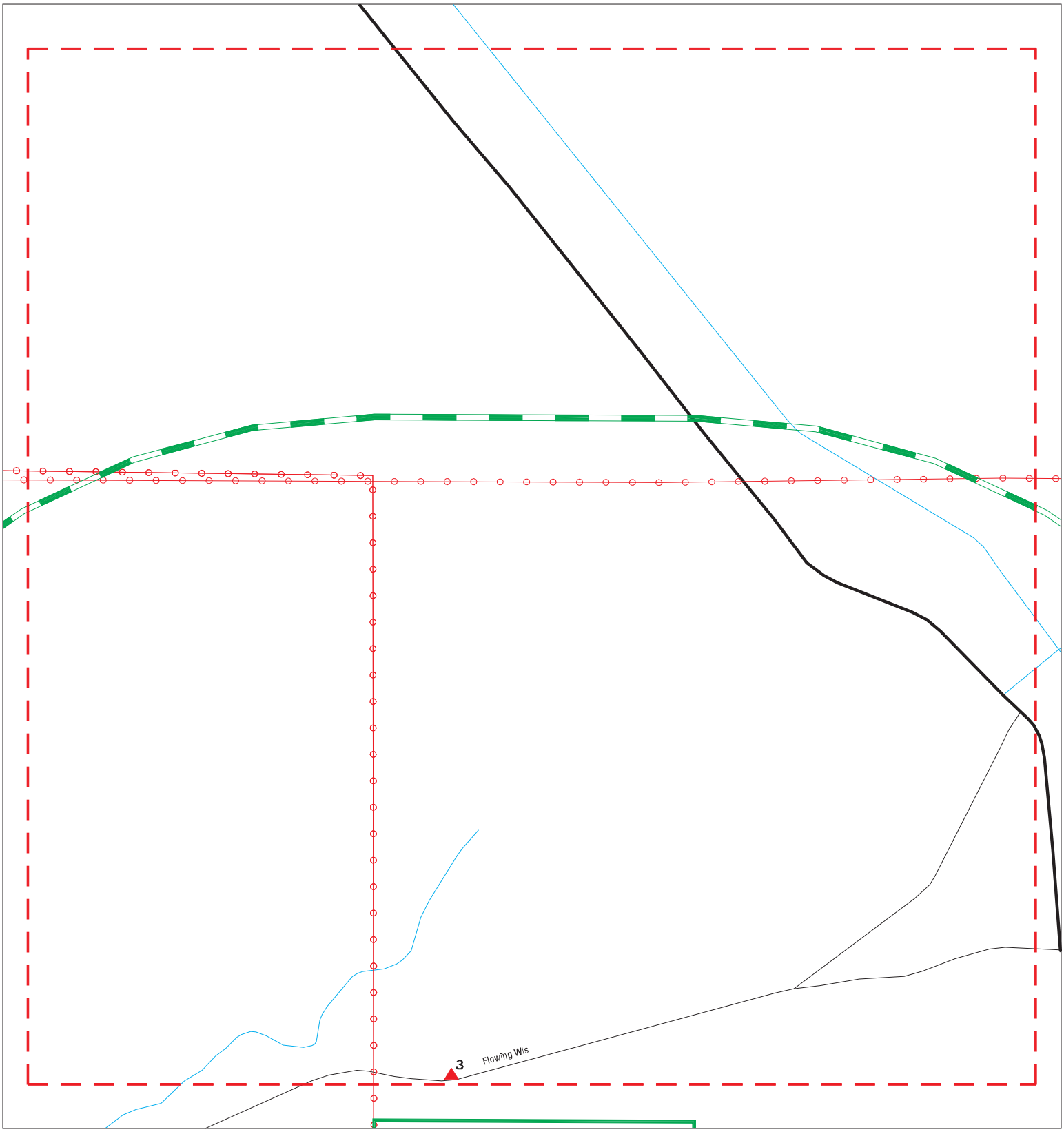
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 2 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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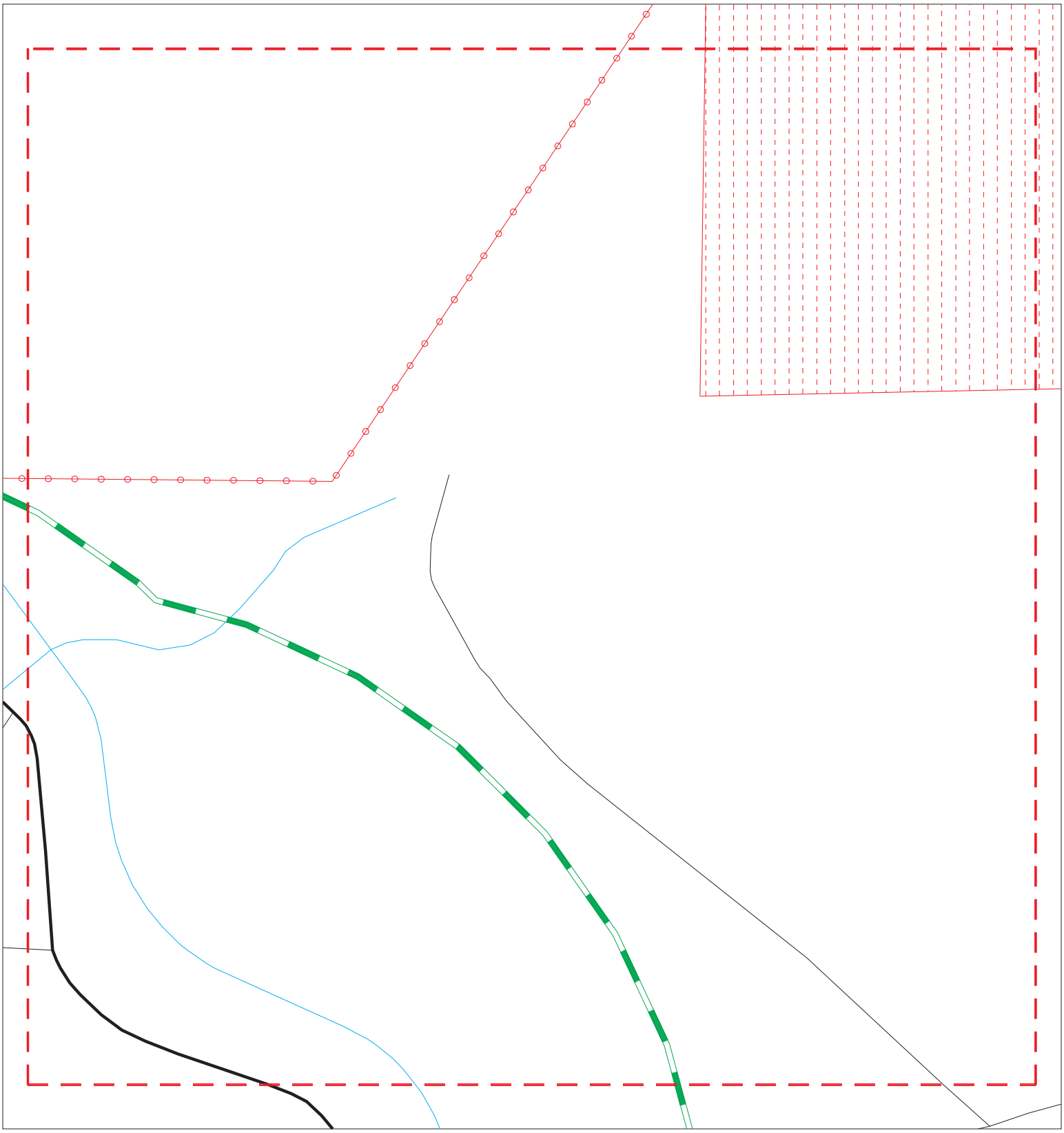
MAPPED SITES SUMMARY - FOCUS MAP 2

Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
3 / 2	FLOWING WELLS		MINES	388 0.073 North

PC ORIGINAL PKG

Focus Map - 3 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 3

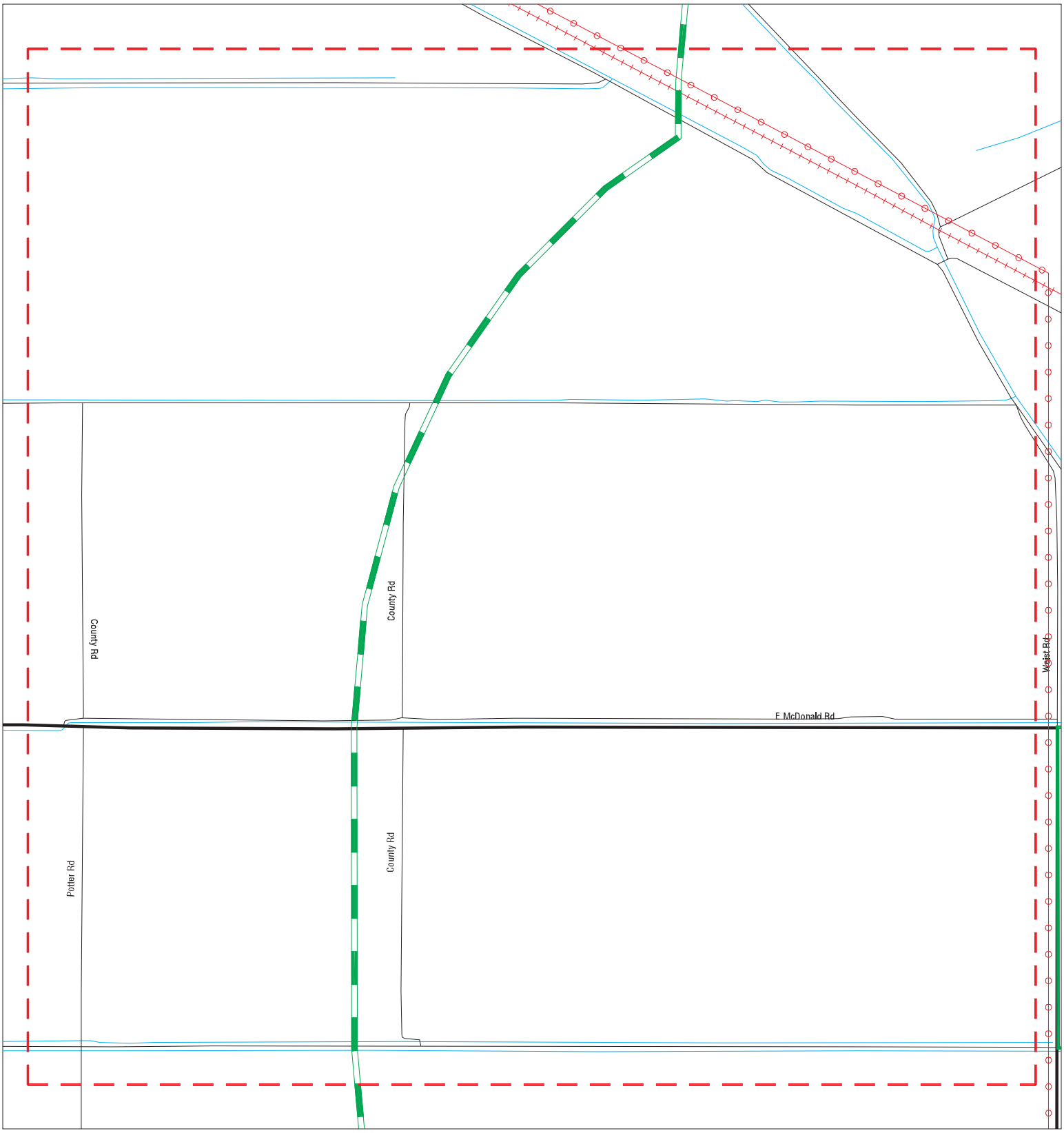
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 4 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 4

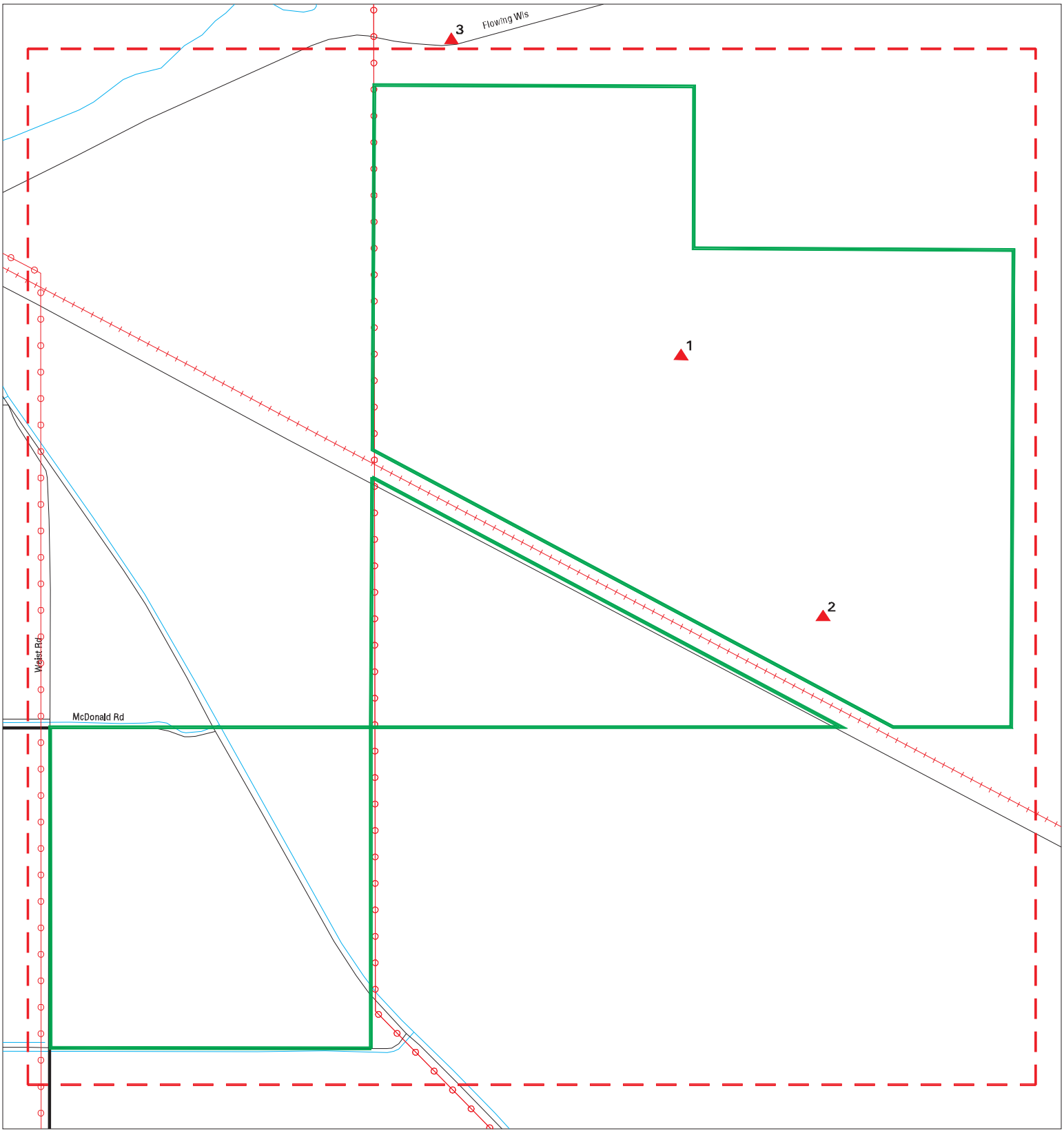
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 5 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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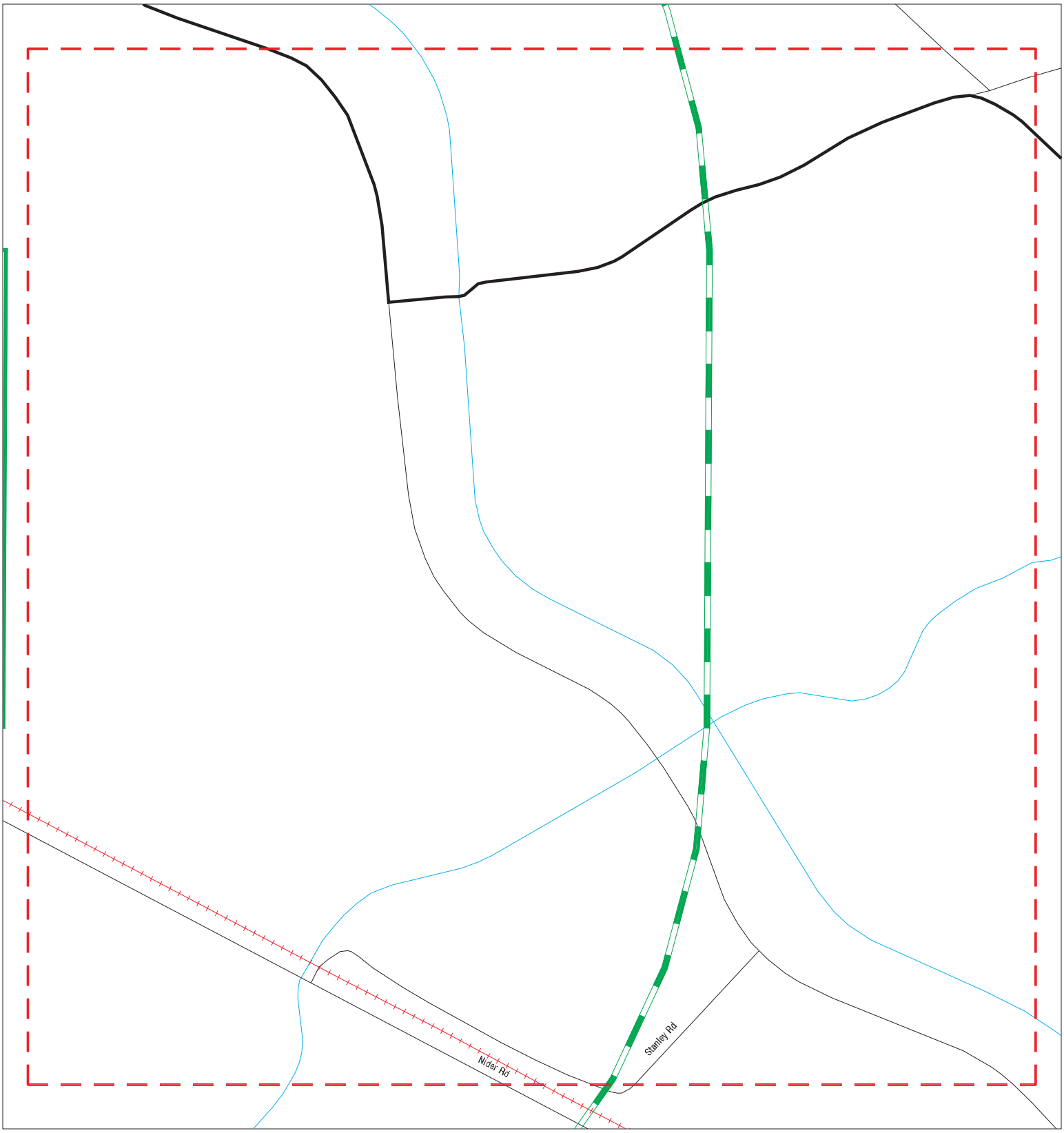
MAPPED SITES SUMMARY - FOCUS MAP 5

Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
1 / 5	FLOWING WELLS PIT		MINES MRDS	TP
2 / 5	FLOWING WELLS	2095 HIGHWAY 111	MINES	TP

PC ORIGINAL PKG

Focus Map - 6 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 6

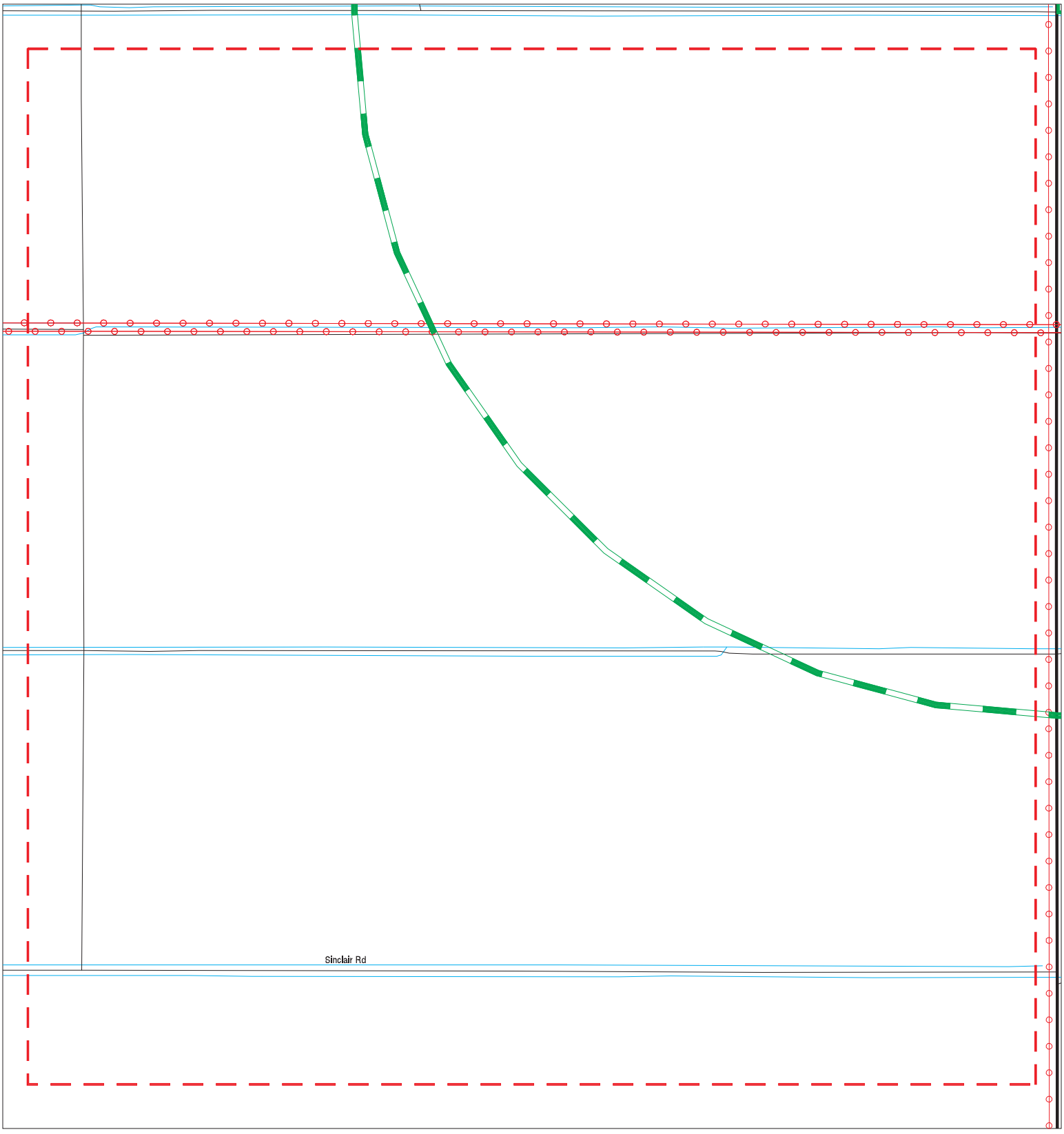
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 7 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 7

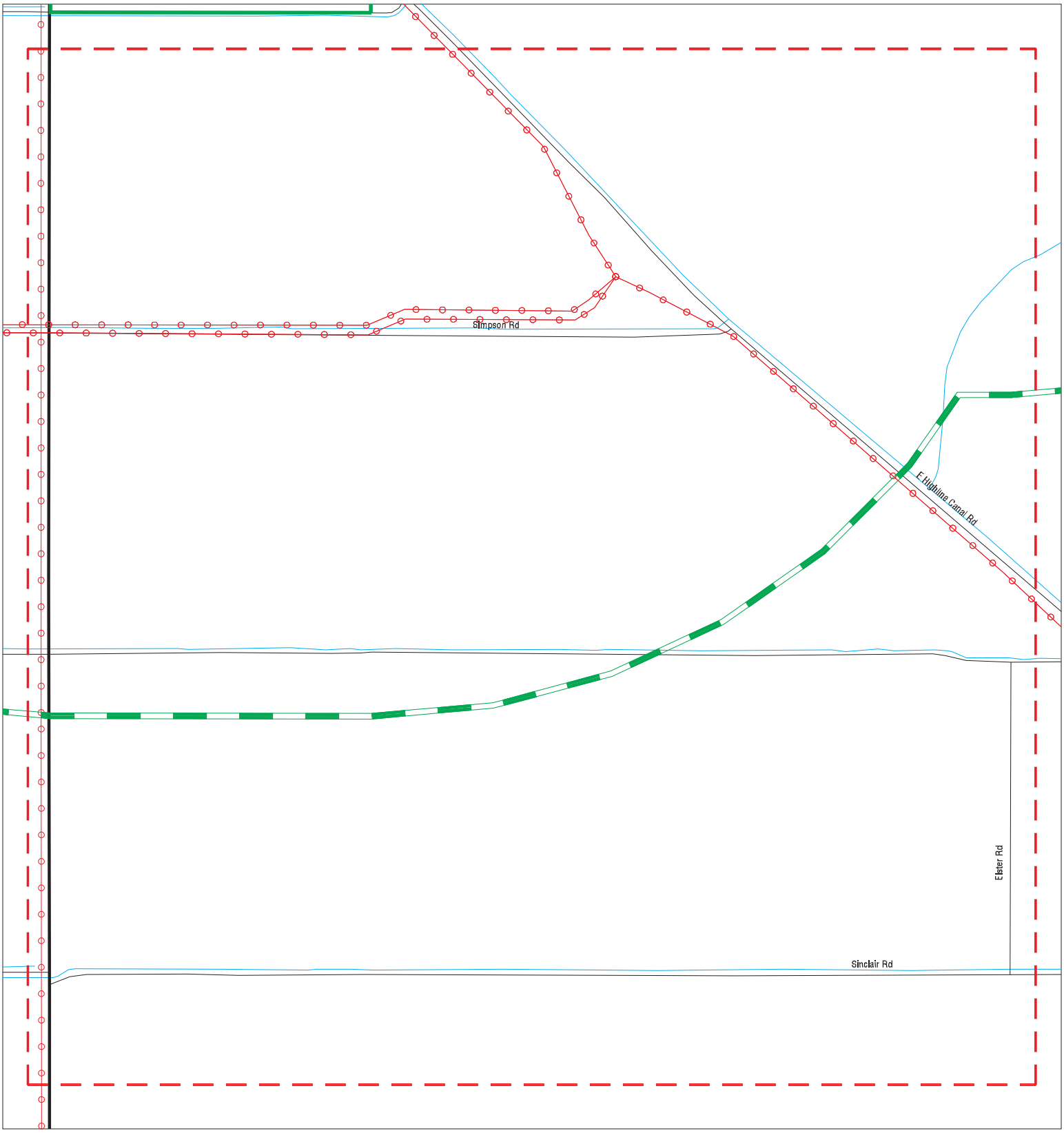
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 8 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 8

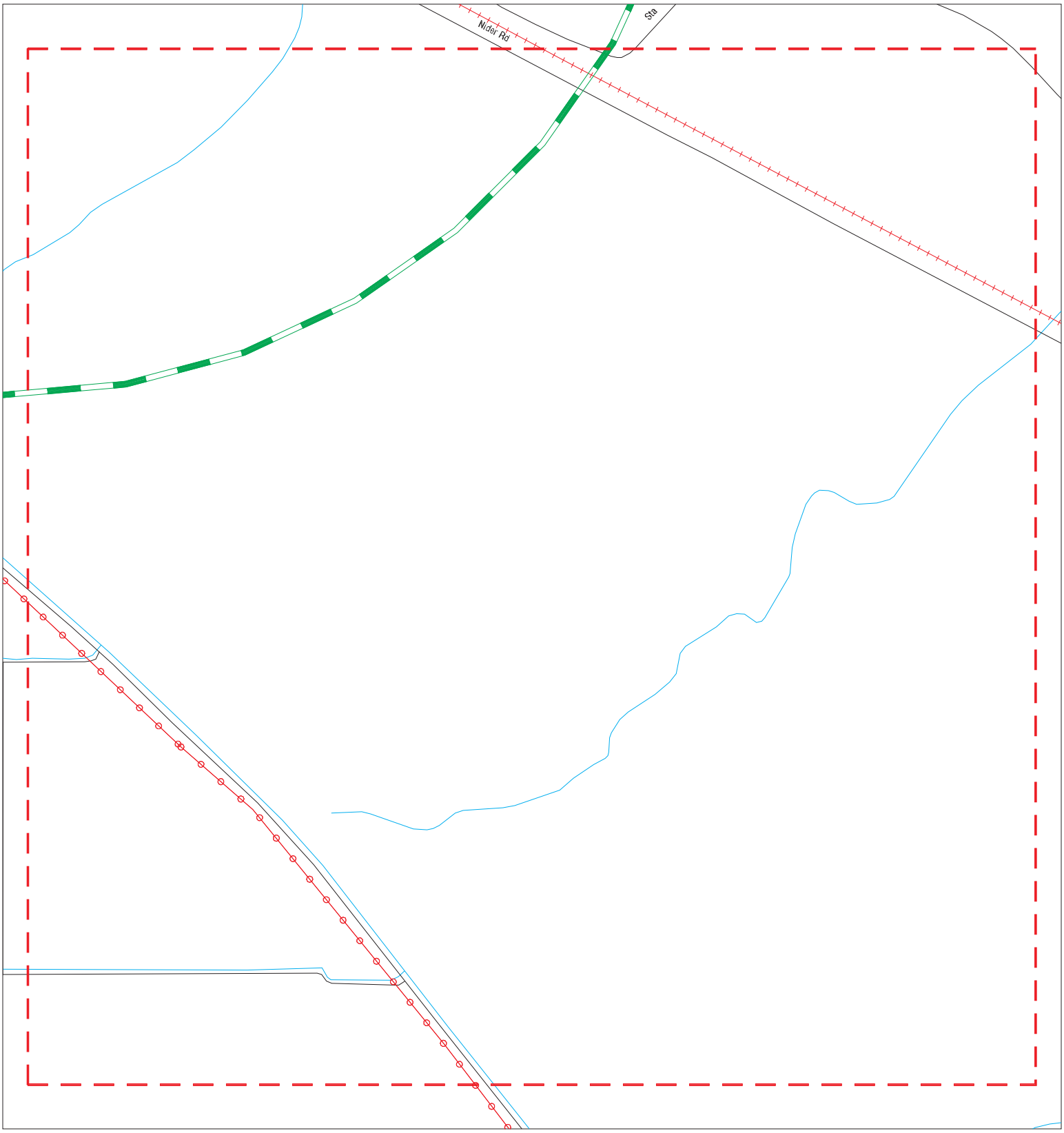
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 9 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 9

Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

1 **FLOWING WELLS PIT** **MINES MRDS** **1025689656**
Target **N/A**
Property **CALIPATRIA, CA 92233**

Actual:
71 ft.

Focus Map:
5

MINES MRDS:

Name:	FLOWING WELLS PIT
Address:	Not reported
Deposit identification Number:	10212004
City,State,Zip:	CALIPATRIA, CALIFORNIA 92233
URL:	https://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10212004
MRDS Identification Number:	Not reported
MAS/MILS Identification Number:	0060250489
Region:	NA
Country:	United States
Primary Commodities:	Sand and Gravel, Construction
Secondary Commodities:	Not reported
Tertiary Commodities:	Not reported
Operation Type:	Surface
Deposit Type:	Not reported
Production Size:	Not reported
Development Status:	Producer
Ore Minerals or Materials:	Not reported
Gangue Minerals or Materials:	Not reported
Other Minerals or Materials:	Not reported
Ore Body Form:	Not reported
Workings Type:	Not reported
Mineral Deposit Model:	Not reported
Alteration Processes:	Not reported
Concentration Processes:	Not reported
Previous Names:	Not reported
Ore Controls:	Not reported
Reporter:	Ridenour, James
Host Rock Unit Name:	Not reported
Host Rock Type:	Not reported
Associated Rock Unit Name:	Not reported
Associated Rock Type Code:	Not reported
Structural Characteristics:	Not reported
Tectonic Setting:	Not reported
References:	Not reported
First Production Year:	Not reported
Began Before/After FPY:	Not reported
Last Production Year:	Not reported
Ended Before/After LPY:	Not reported
Year Discovered:	Not reported
Found Before/After YD:	Not reported
Production History:	Not reported
Discovery Information:	Not reported
Latitude:	33.21396
Longitude:	-115.43271

PC ORIGINAL PKG

2
Target Property
Actual: 32 ft.
Focus Map: 5

FLOWING WELLS
2095 HIGHWAY 111
, CA

MINES **S117661555**
N/A

MINES:

Name:	FLOWING WELLS
Address:	2095 HIGHWAY 111
City,State,Zip:	CA
Latitude:	33.208056
Longitude:	-115.428889
Lead Agency identification code:	13
Lead Agency name:	County of Imperial
Year of the operator supplied annual report:	2004
Type of report submitted by operator:	2
Number of acres disturbed by the mine:	0
Status of mining operation:	RECLAIMED
Status of mine reclamation:	RECLAMATION CERTIFIED COMPLETE BY LEAD AGENCY
Mine operator:	GRANITE CONSTRUCTION COMPANY
Operator Address:	2095 HIGHWAY 111
Operator City, State, Zip:	EL CENTRO, CA 92243
Operator County:	Not reported
Mine owner:	GRANITE CONSTRUCTION COMPANY
Owner Address:	38000 MONROE ST
Owner City, State, Zip:	INDIO, CA 92203
Owner County:	Not reported
Reclamation plan identification number:	Not reported
Primary product produced by the mine:	Sand and Gravel
Other products produced by the mine:	Not reported
Type of mining utilized by mine:	STREAMBED OR GRAVEL BAR SKIMMING AND PITTING
Conditional use permit identification number:	813-88
Number of acres permitted for mining disturbance:	33
Total amount of funds posted by the mine for reclamation:	Not reported
Financial Assurance Cost Estimate for reclamation:	Not reported

---

3
North
< 1/8
0.073 mi.
388 ft.

Actual: 75 ft.
Focus Map: 2

FLOWING WELLS
, CA

MINES **S117661553**
N/A

MINES:

Name:	FLOWING WELLS
Address:	Not reported
City,State,Zip:	CA
Latitude:	33.221111
Longitude:	-115.438889
Lead Agency identification code:	13
Lead Agency name:	County of Imperial
Year of the operator supplied annual report:	1995
Type of report submitted by operator:	2
Number of acres disturbed by the mine:	0
Status of mining operation:	RECLAIMED
Status of mine reclamation:	RECLAMATION CERTIFIED COMPLETE BY LEAD AGENCY
Mine operator:	IMPERIAL COUNTY, DEPARTMENT OF PUBLIC WORKS
Operator Address:	155 S. 11TH STREET
Operator City, State, Zip:	EL CENTRO, CA 92243
Operator County:	Not reported
Mine owner:	IMPERIAL COUNTY, DEPARTMENT OF PUBLIC WORKS
Owner Address:	155 S. 11TH STREET
Owner City, State, Zip:	EL CENTRO, CA 92243

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FLOWING WELLS (Continued) **S117661553**

Owner County:	Not reported
Reclamation plan identification number:	Not reported
Primary product produced by the mine:	Sand and Gravel
Other products produced by the mine:	Not reported
Type of mining utilized by mine:	OPEN PIT
Conditional use permit identification number:	CA 28594
Number of acres permitted for mining disturbance:	0
Total amount of funds posted by the mine for reclamation:	Not reported
Financial Assurance Cost Estimate for reclamation:	Not reported

PC ORIGINAL PKG

Count: 3 records

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CALIPATRIA	S121645096	HUDSON RANCH I GEOTHERMAL PRODUCTION WEL SITE	DAVIS RD & MCDONALD RD INTERSECTION	92233	CIWQS
IMPERIAL COUNTY	S121637080	ENGH FARMS GEOTHERMAL EXPLORATION	MCDONALD ROAD		CIWQS
NILAND	S126114465		MP: 671.3 SUB DIVISION: YUMA ... WEIST RD AND NOFFSINGER RD	92233	CHMIRS

PC ORIGINAL PKG

Vega 2/3
Flowing Wells Road
Winterhaven, CA 92283

Inquiry Number: 6210343.2s
September 30, 2020

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

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GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
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Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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PC ORIGINAL PKG

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

FLOWING WELLS ROAD
WINTERHAVEN, CA 92283

COORDINATES

Latitude (North):	33.2282000 - 33˚ 13' 41.52''
Longitude (West):	115.4143000 - 115˚ 24' 51.48''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	647757.8
UTM Y (Meters):	3677514.2
Elevation:	126 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5640288 IRIS, CA
Version Date:	2012
North Map:	5640292 IRIS WASH, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140606
Source:	USDA

PC ORIGINAL PKG

MAPPED SITES SUMMARY

Target Property Address:
FLOWING WELLS ROAD
WINTERHAVEN, CA 92283

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
Reg	CHOCOLATE MOUNTAIN N		DOD	Same	825, 0.156, NNE

PC ORIGINAL PKG

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System

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US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROLS..... Institutional Controls Sites List

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE..... State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR..... EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

LUST..... Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
CPS-SLIC..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing
UST..... Active UST Facilities
AST..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing
VCP..... Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT..... Waste Management Unit Database
SWRCY..... Recycler Database
HAULERS..... Registered Waste Tire Haulers Listing
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

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ODI	Open Dump Inventory
IHS OPEN DUMPS	Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL	Delisted National Clandestine Laboratory Register
HIST Cal-Sites	Historical Calsites Database
SCH	School Property Evaluation Program
CDL	Clandestine Drug Labs
Toxic Pits	Toxic Pits Cleanup Act Sites
CERS HAZ WASTE	CERS HAZ WASTE
US CDL	National Clandestine Laboratory Register
PFAS	PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

SWEEPS UST	SWEEPS UST Listing
HIST UST	Hazardous Substance Storage Container Database
CA FID UST	Facility Inventory Database
CERS TANKS	California Environmental Reporting System (CERS) Tanks

Local Land Records

LIENS	Environmental Liens Listing
LIENS 2	CERCLA Lien Information
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
FUDS	Formerly Used Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System

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COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
DOCKET HWC	Hazardous Waste Compliance Docket Listing
ECHO	Enforcement & Compliance History Information
UXO	Unexploded Ordnance Sites
FUELS PROGRAM	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
Cortese	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
HAZNET	Facility and Manifest Data
ICE	ICE
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
WIP	Well Investigation Program Case List
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)
WDR	Waste Discharge Requirements Listing
CIWQS	California Integrated Water Quality System
CERS	CERS
NON-CASE INFO	NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS	OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS	PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT	SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)
HWTS	Hazardous Waste Tracking System
MINES MRDS	Mineral Resources Data System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants

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EDR Hist Auto---------- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner---------- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

DOD: Consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

A review of the DOD list, as provided by EDR, and dated 12/31/2005 has revealed that there is 1 DOD site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CHOCOLATE MOUNTAIN N		NNE 1/8 - 1/4 (0.156 mi.)	0	9

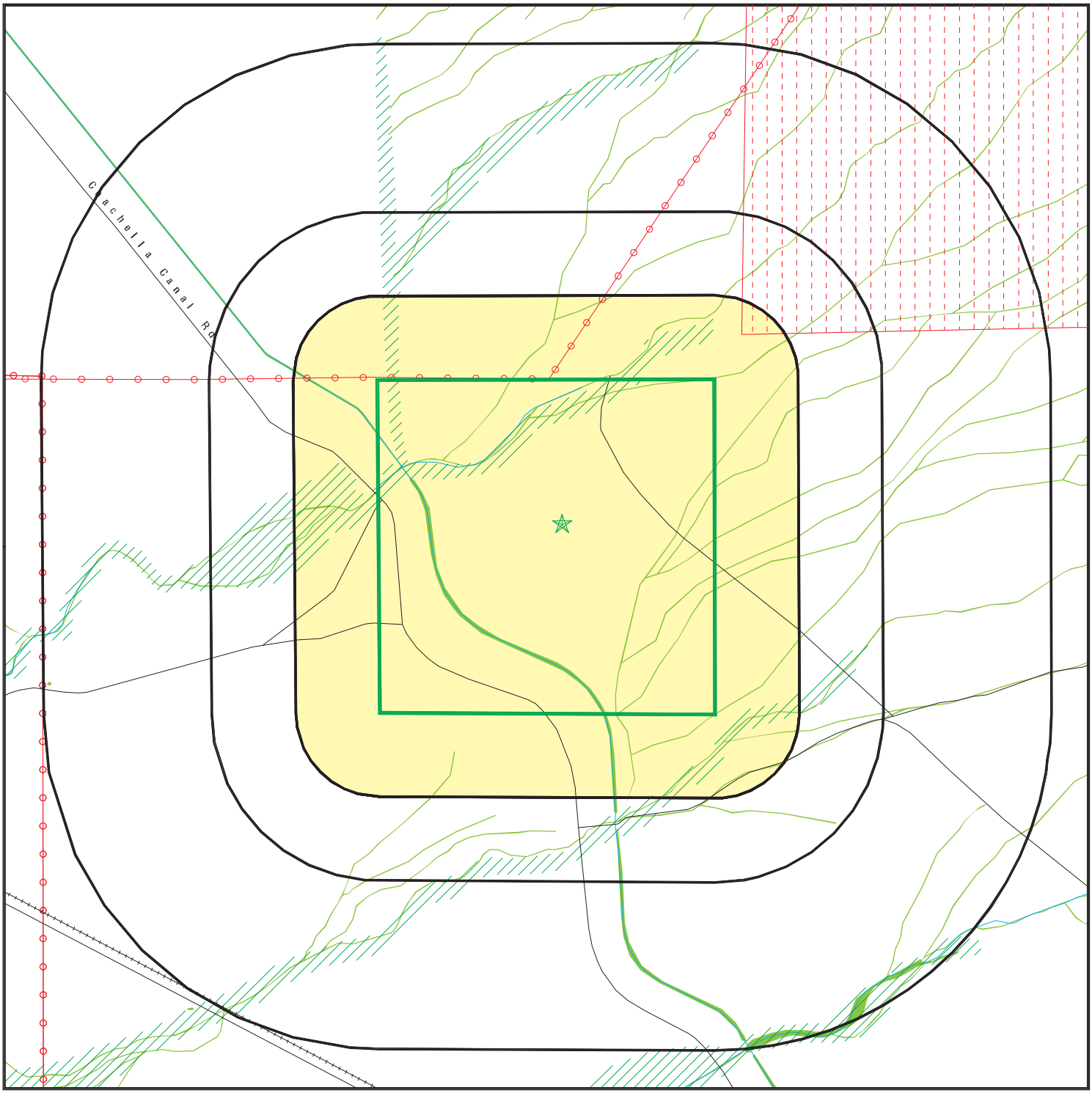
PC ORIGINAL PKG

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

PC ORIGINAL PKG

OVERVIEW MAP - 6210343.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites

0 1/4 1/2 1 Miles

- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Vega 2/3	CLIENT: GS Lyon Consultants
ADDRESS: Flowing Wells Road Winterhaven CA 92283	CONTACT: Steven Williams INQUIRY #: 6210343.2s
LAT/LONG: 33.2282 / 115.4143	DATE: September 30, 2020 1:52 pm

PC ORIGINAL PKG

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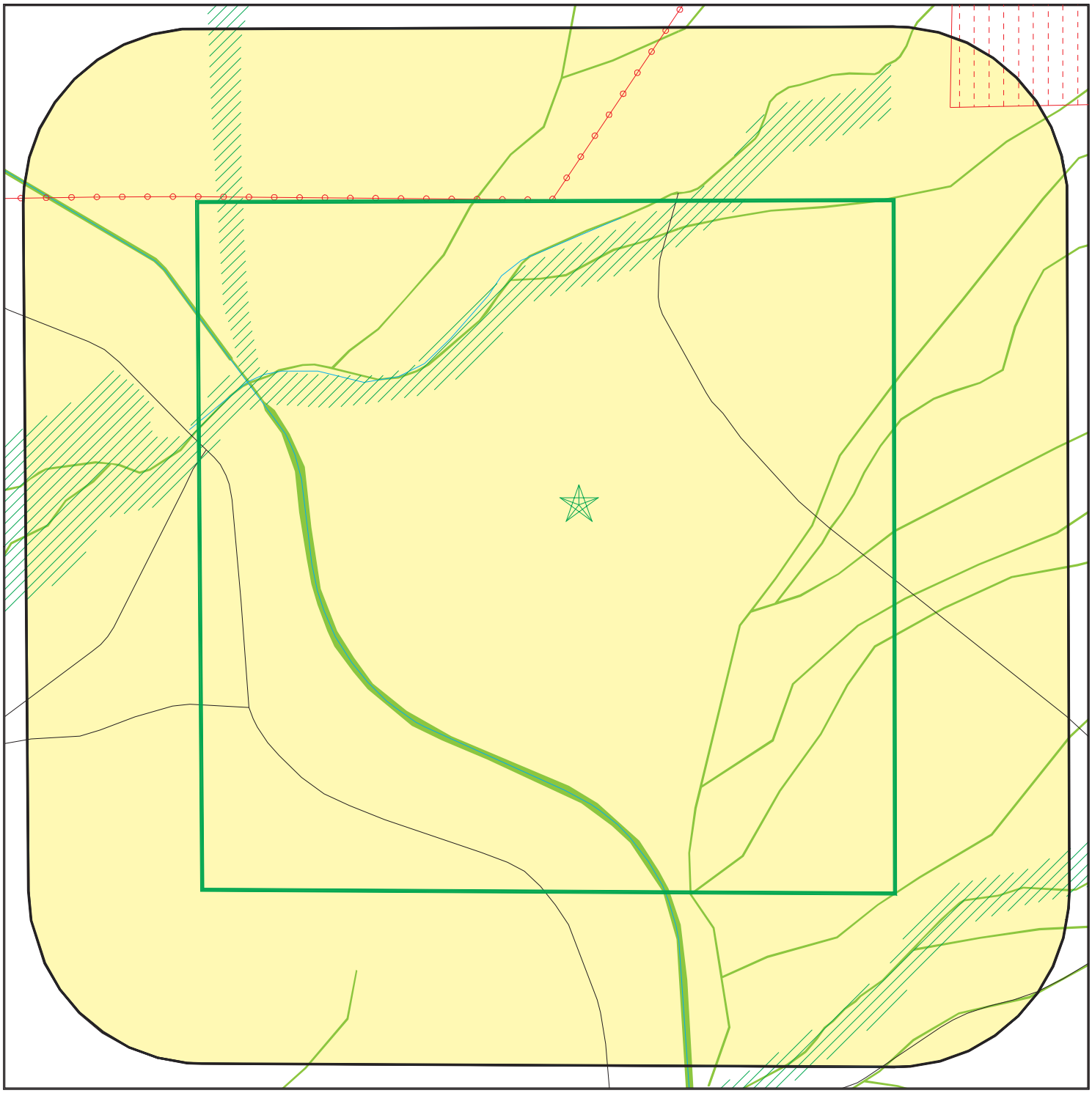
DETAIL MAP - 6210343.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

0 1/8 1/4 1/2 Miles

- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Vega 2/3	CLIENT: GS Lyon Consultants
ADDRESS: Flowing Wells Road Winterhaven CA 92283	CONTACT: Steven Williams
LAT/LONG: 33.2282 / 115.4143	INQUIRY #: 6210343.2s DATE: September 30, 2020 1:52 pm

PC ORIGINAL PKG

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	1	0	0	NR	1
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001		0	NR	NR	NR	NR	0
CERS	0.001		0	NR	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
MINES MRDS	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	0	1	0	0	0	1

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

PC ORIGINAL PKG

DOD
Region
NNE
1/8-1/4
825 ft.

CHOCOLATE MOUNTAIN NAVAL AERIAL GUNNERY RANGE

CHOCOLATE MOUNTAIN NAVAL (County), CA

DOD **CUSA144198**
N/A

DOD:

Feature 1:	Navy DOD
Feature 2:	Not reported
Feature 3:	Not reported
URL:	Not reported
Name 1:	Chocolate Mountain Naval Aerial Gunnery Range
Name 2:	Not reported
Name 3:	Not reported
State:	CA
DOD Site:	Yes
Tile name:	CAIMPERIAL

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Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

VEGA 2/3
FLOWING WELLS ROAD
WINTERHAVEN, CA 92283

TARGET PROPERTY COORDINATES

Latitude (North):	33.2282 - 33° 13' 41.52''
Longitude (West):	115.4143 - 115° 24' 51.48''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	647757.8
UTM Y (Meters):	3677514.2
Elevation:	126 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5640288 IRIS, CA
Version Date:	2012
North Map:	5640292 IRIS WASH, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

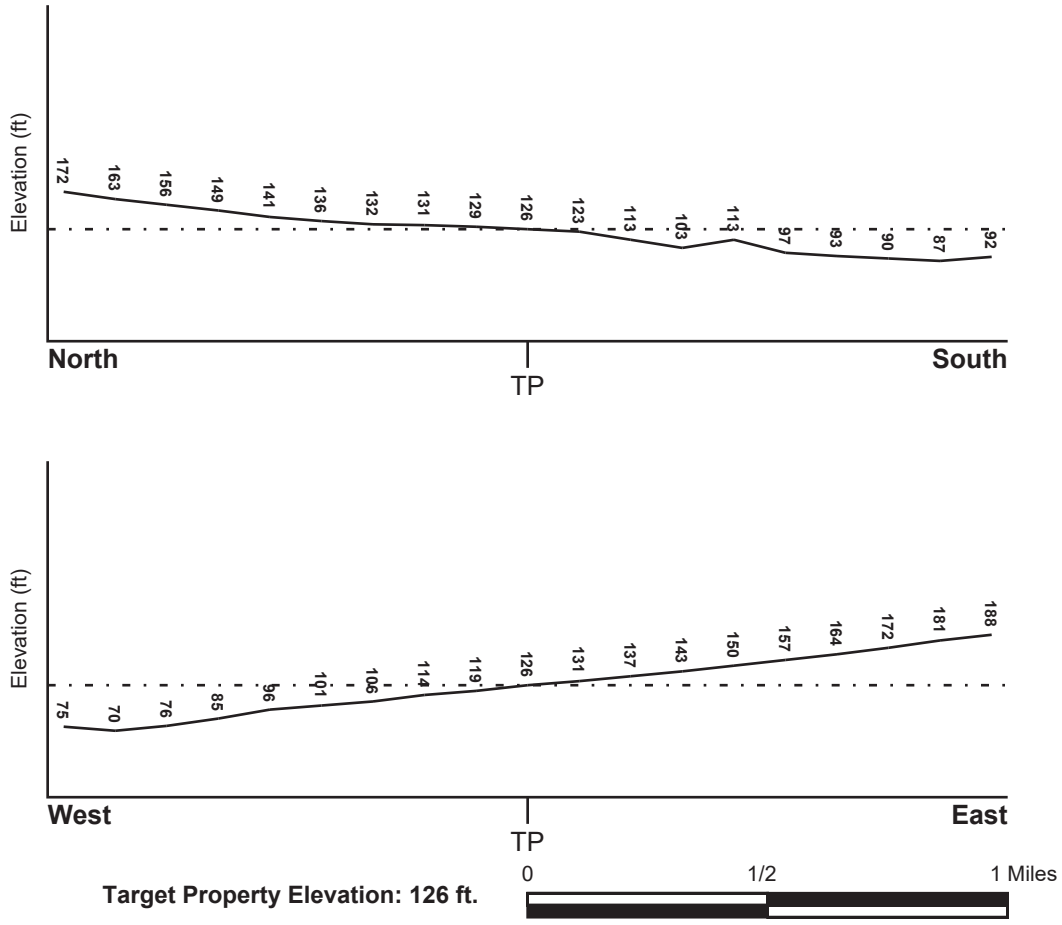
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06025C0750C	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
Not Reported	

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
IRIS	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

PC ORIGINAL PKG

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	CARSITAS
Soil Surface Texture:	gravelly - sand
Hydrologic Group:	Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.
Soil Drainage Class:	Excessively. Soils have very high and high hydraulic conductivity and low water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel:	HIGH
Depth to Bedrock Min:	> 60 inches
Depth to Bedrock Max:	> 60 inches

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	10 inches	gravelly - sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 20.00 Min: 6.00	Max: 8.40 Min: 7.40
2	10 inches	60 inches	gravelly - sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 20.00 Min: 6.00	Max: 8.40 Min: 7.40

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: fine sand
cobbly - sand
stony - sand
very gravelly - sand

Surficial Soil Types: fine sand
cobbly - sand
stony - sand
very gravelly - sand

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: sand
very stony - coarse sand
stratified

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

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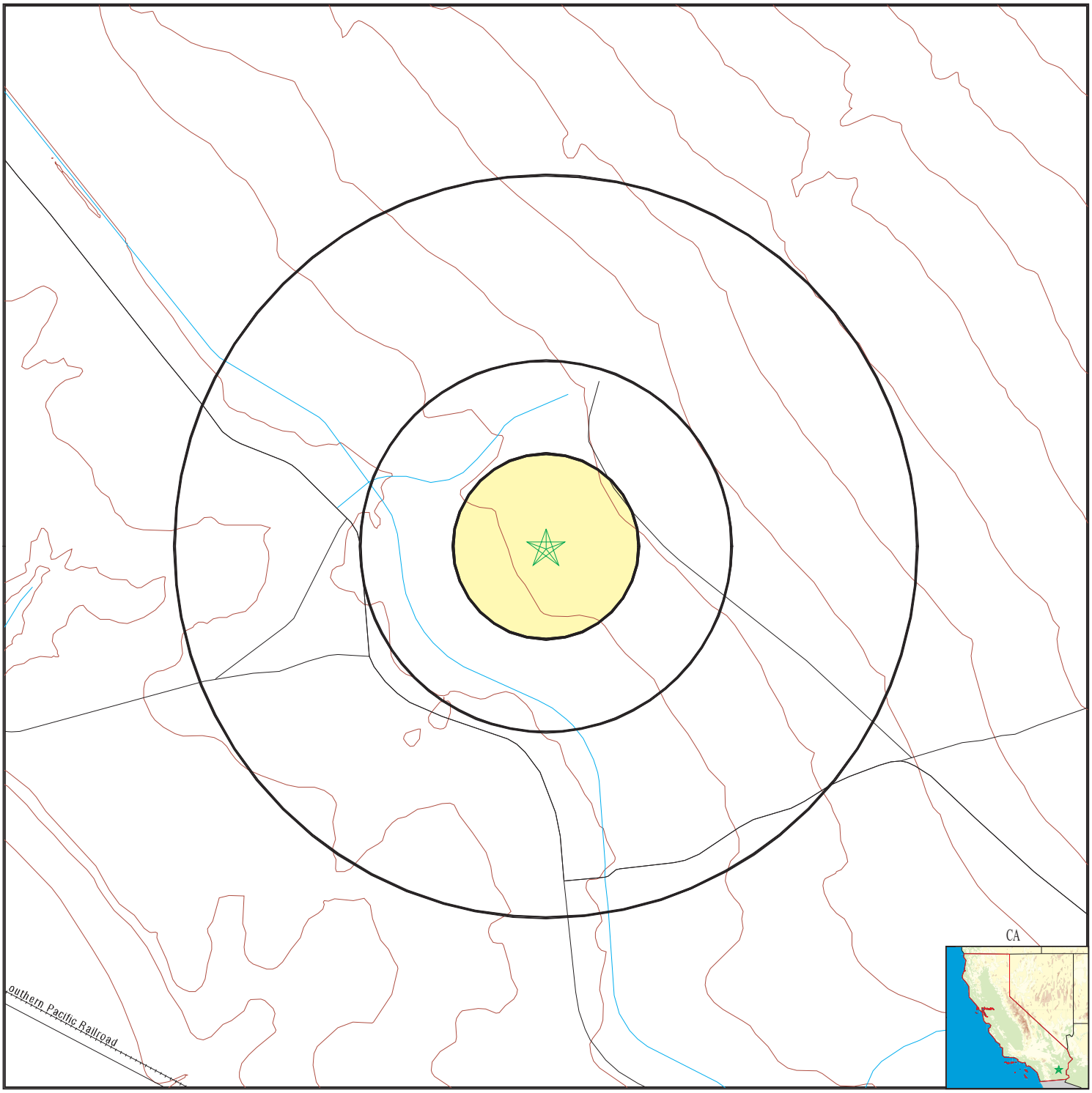
PHYSICAL SETTING SOURCE MAP - 6210343.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Vega 2/3	CLIENT:	GS Lyon Consultants
ADDRESS:	Flowing Wells Road Winterhaven CA 92283	CONTACT:	Steven Williams
		INQUIRY #:	6210343.2s
LAT/LONG:	33.2282 / 115.4143	DATE:	September 30, 2020 1:53 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for IMPERIAL County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for IMPERIAL COUNTY, CA

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.450 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

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PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

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PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

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PHYSICAL SETTING SOURCE RECORDS SEARCHED

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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Vega 2B
Ted Kipf Road
Winterhaven, CA 92283

Inquiry Number: 6210349.2s
September 30, 2020

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

TED KIPF ROAD
WINTERHAVEN, CA 92283

COORDINATES

Latitude (North):	33.2128630 - 33˚ 12' 46.30''
Longitude (West):	115.3977710 - 115˚ 23' 51.97''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	649324.2
UTM Y (Meters):	3675837.2
Elevation:	146 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5640288 IRIS, CA
Version Date:	2012
East Map:	5639796 TORTUGA, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140606
Source:	USDA

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MAPPED SITES SUMMARY

Target Property Address:
TED KIPF ROAD
WINTERHAVEN, CA 92283

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

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EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System

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US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROLS..... Institutional Controls Sites List

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE..... State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR..... EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

LUST..... Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
CPS-SLIC..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing
UST..... Active UST Facilities
AST..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing
VCP..... Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT..... Waste Management Unit Database
SWRCY..... Recycler Database
HAULERS..... Registered Waste Tire Haulers Listing
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

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ODI	Open Dump Inventory
IHS OPEN DUMPS	Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL	Delisted National Clandestine Laboratory Register
HIST Cal-Sites	Historical Calsites Database
SCH	School Property Evaluation Program
CDL	Clandestine Drug Labs
Toxic Pits	Toxic Pits Cleanup Act Sites
CERS HAZ WASTE	CERS HAZ WASTE
US CDL	National Clandestine Laboratory Register
PFAS	PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

SWEEPS UST	SWEEPS UST Listing
HIST UST	Hazardous Substance Storage Container Database
CA FID UST	Facility Inventory Database
CERS TANKS	California Environmental Reporting System (CERS) Tanks

Local Land Records

LIENS	Environmental Liens Listing
LIENS 2	CERCLA Lien Information
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

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MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
DOCKET HWC	Hazardous Waste Compliance Docket Listing
ECHO	Enforcement & Compliance History Information
UXO	Unexploded Ordnance Sites
FUELS PROGRAM	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
Cortese	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
HAZNET	Facility and Manifest Data
ICE	ICE
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
WIP	Well Investigation Program Case List
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)
WDR	Waste Discharge Requirements Listing
CIWQS	California Integrated Water Quality System
CERS	CERS
NON-CASE INFO	NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS	OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS	PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT	SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)
HWTS	Hazardous Waste Tracking System
MINES MRDS	Mineral Resources Data System

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EXECUTIVE SUMMARY

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---------- EDR Proprietary Manufactured Gas Plants
EDR Hist Auto ---------- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner ---------- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF ---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST ---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

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EXECUTIVE SUMMARY

There were no unmapped sites in this report.

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OVERVIEW MAP - 6210349.2S

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites

0 1/4 1/2 1 Miles

- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Vega 2B	CLIENT: GS Lyon Consultants
ADDRESS: Ted Kipf Road Winterhaven CA 92283	CONTACT: Steven Williams
LAT/LONG: 33.212863 / 115.397771	INQUIRY #: 6210349.2s DATE: September 30, 2020 1:50 pm

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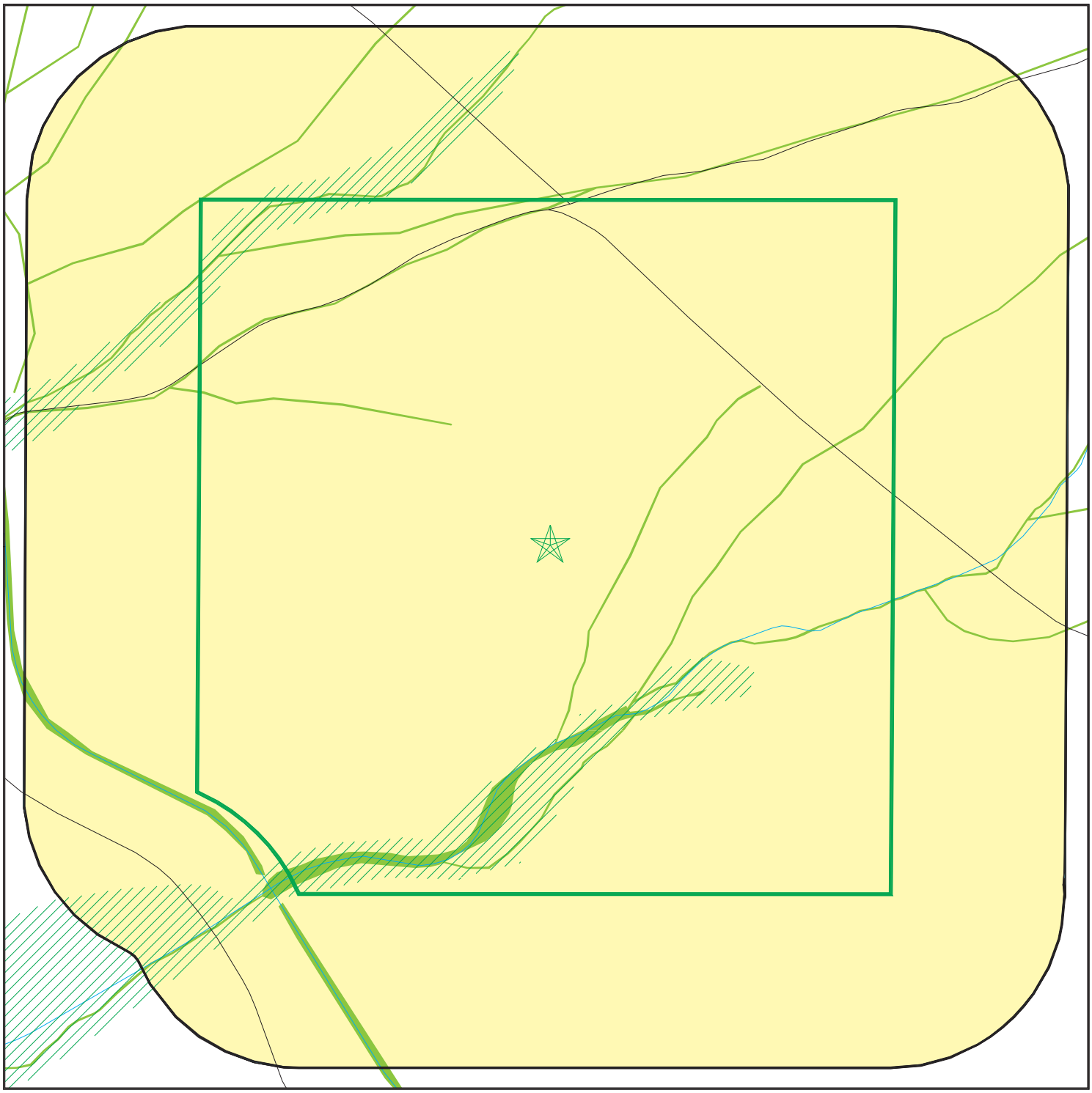
DETAIL MAP - 6210349.2S



Target Property
Sites at elevations higher than or equal to the target property
Sites at elevations lower than the target property
Manufactured Gas Plants
Sensitive Receptors
National Priority List Sites
Dept. Defense Sites

0 1/8 1/4 1/2 Miles

Indian Reservations BIA
Special Flood Hazard Area (1%)
0.2% Annual Chance Flood Hazard
National Wetland Inventory
State Wetlands

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

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ADDRESS: Ted Kipf Road Winterhaven CA 92283	CONTACT: Steven Williams
LAT/LONG: 33.212863 / 115.397771	INQUIRY #: 6210349.2s DATE: September 30, 2020 1:51 pm

PC ORIGINAL PKG

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001		0	NR	NR	NR	NR	0
CERS	0.001		0	NR	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
MINES MRDS	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	0	0	0	0	0	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

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MAP FINDINGS

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

NO SITES FOUND

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Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

VEGA 2B
TED KIPF ROAD
WINTERHAVEN, CA 92283

TARGET PROPERTY COORDINATES

Latitude (North):	33.212863 - 33° 12' 46.31''
Longitude (West):	115.397771 - 115° 23' 51.98''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	649324.2
UTM Y (Meters):	3675837.2
Elevation:	146 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5640288 IRIS, CA
Version Date:	2012
East Map:	5639796 TORTUGA, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

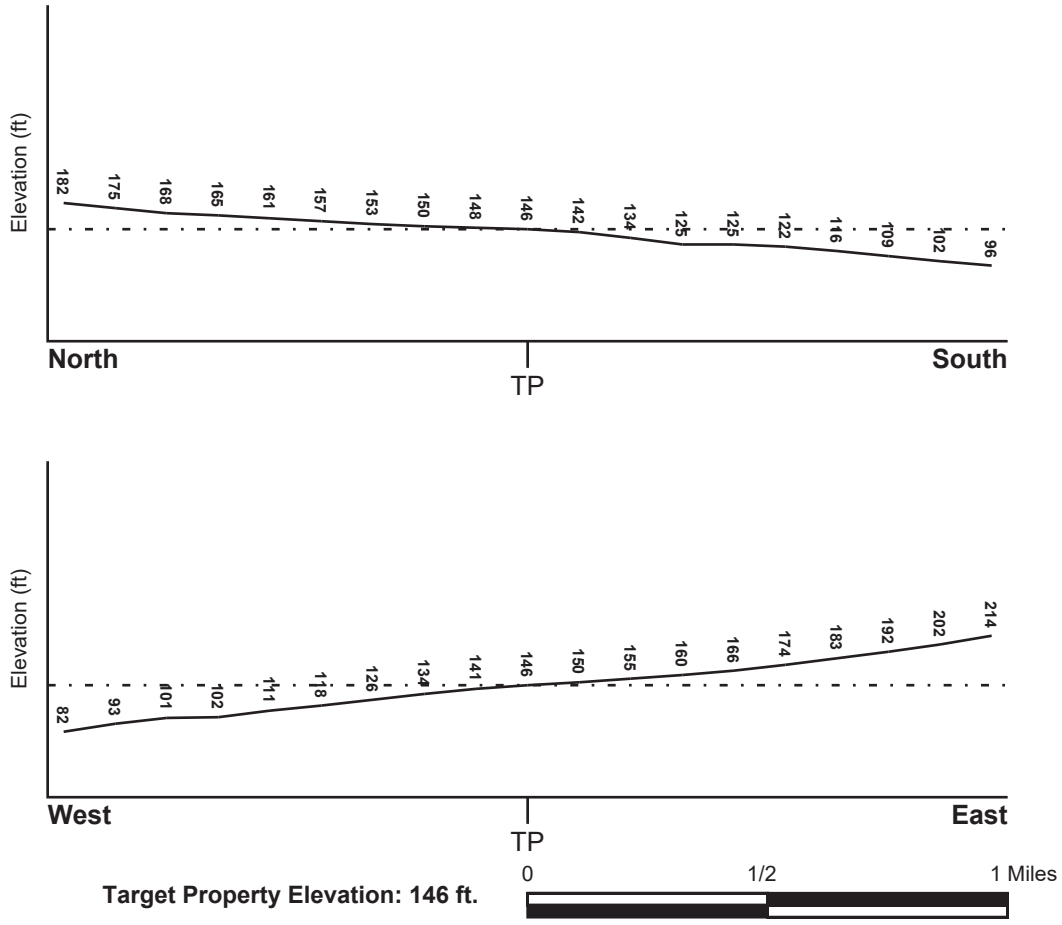
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

PC ORIGINAL PKG

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06025C0750C	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
Not Reported	

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
IRIS	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

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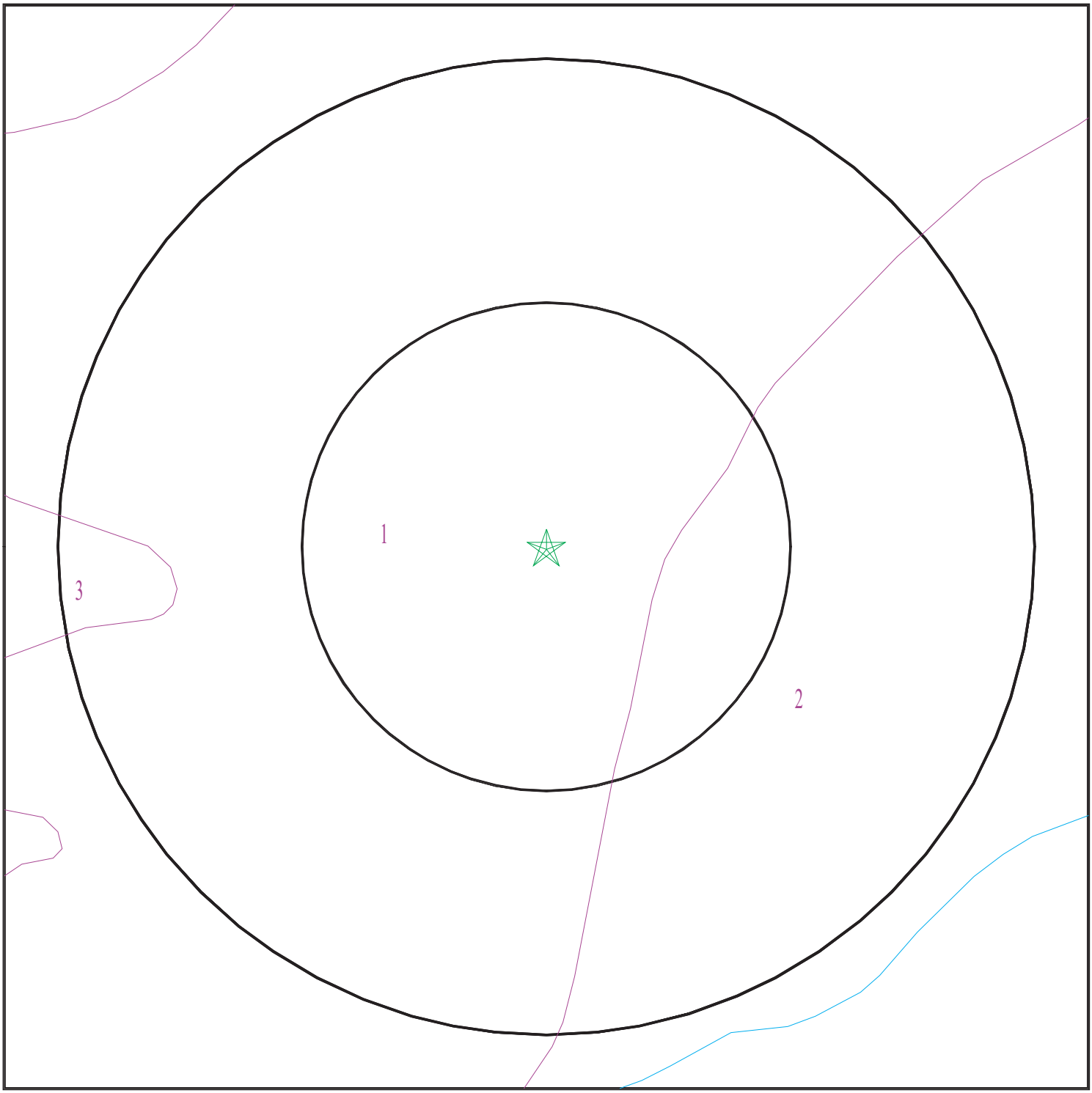
SSURGO SOIL MAP - 6210349.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Vega 2B	CLIENT:	GS Lyon Consultants
ADDRESS:	Ted Kipf Road Winterhaven CA 92283	CONTACT:	Steven Williams
		INQUIRY #:	6210349.2s
LAT/LONG:	33.212863 / 115.397771	DATE:	September 30, 2020 1:51 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Rositas

Soil Surface Texture: sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	27 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.9
2	27 inches	59 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.9

Soil Map ID: 2

Soil Component Name: Carsitas

Soil Surface Texture: gravelly sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively drained

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Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	gravelly sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4
2	9 inches	59 inches	gravelly sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4

Soil Map ID: 3

Soil Component Name: Rositas

Soil Surface Texture: fine sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.9
2	9 inches	59 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.9

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

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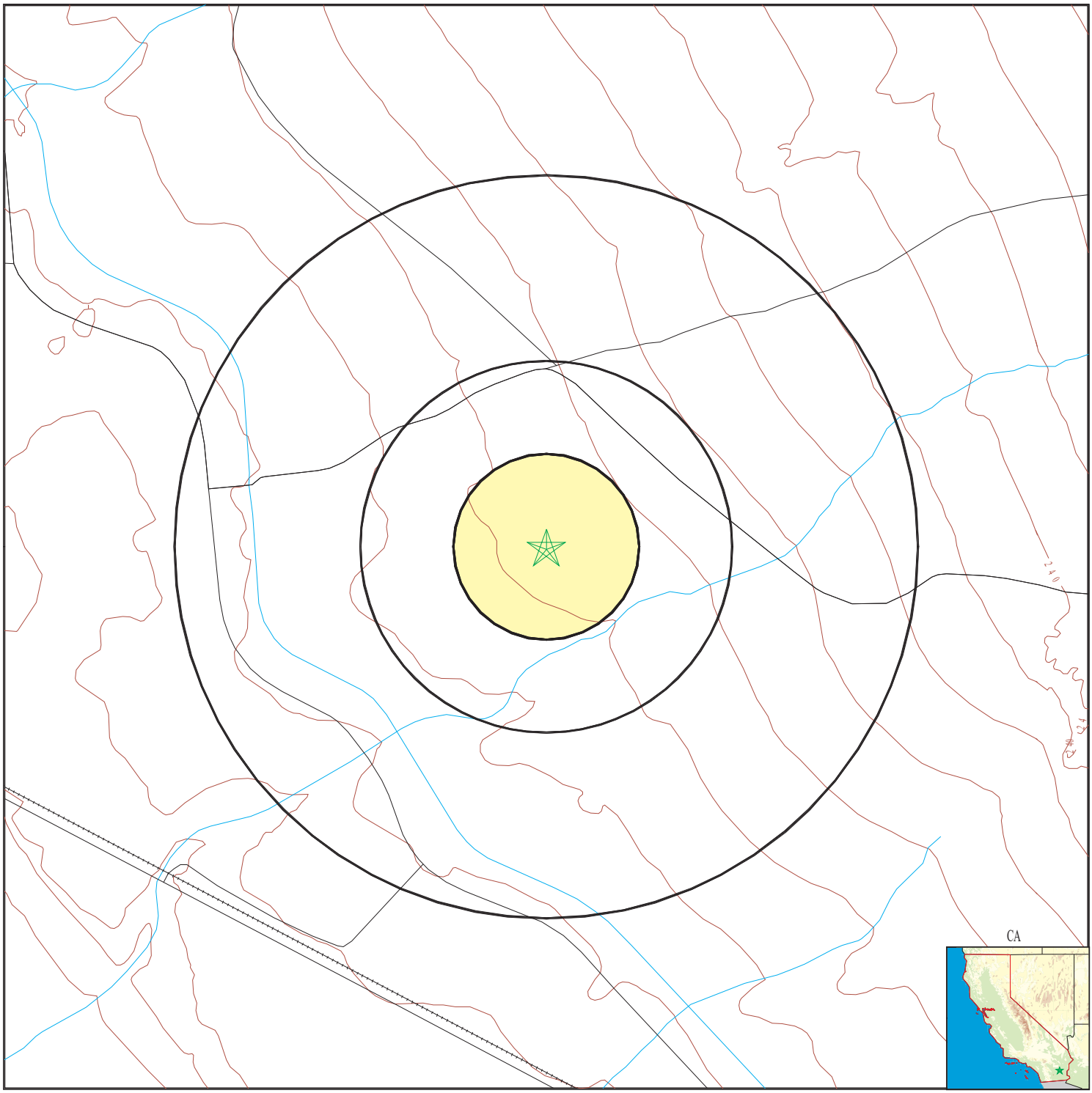
PHYSICAL SETTING SOURCE MAP - 6210349.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Vega 2B	CLIENT:	GS Lyon Consultants
ADDRESS:	Ted Kipf Road Winterhaven CA 92283	CONTACT:	Steven Williams
		INQUIRY #:	6210349.2s
LAT/LONG:	33.212863 / 115.397771	DATE:	September 30, 2020 1:51 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for IMPERIAL County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for IMPERIAL COUNTY, CA

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.450 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

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PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

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PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

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PHYSICAL SETTING SOURCE RECORDS SEARCHED

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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APPENDIX G

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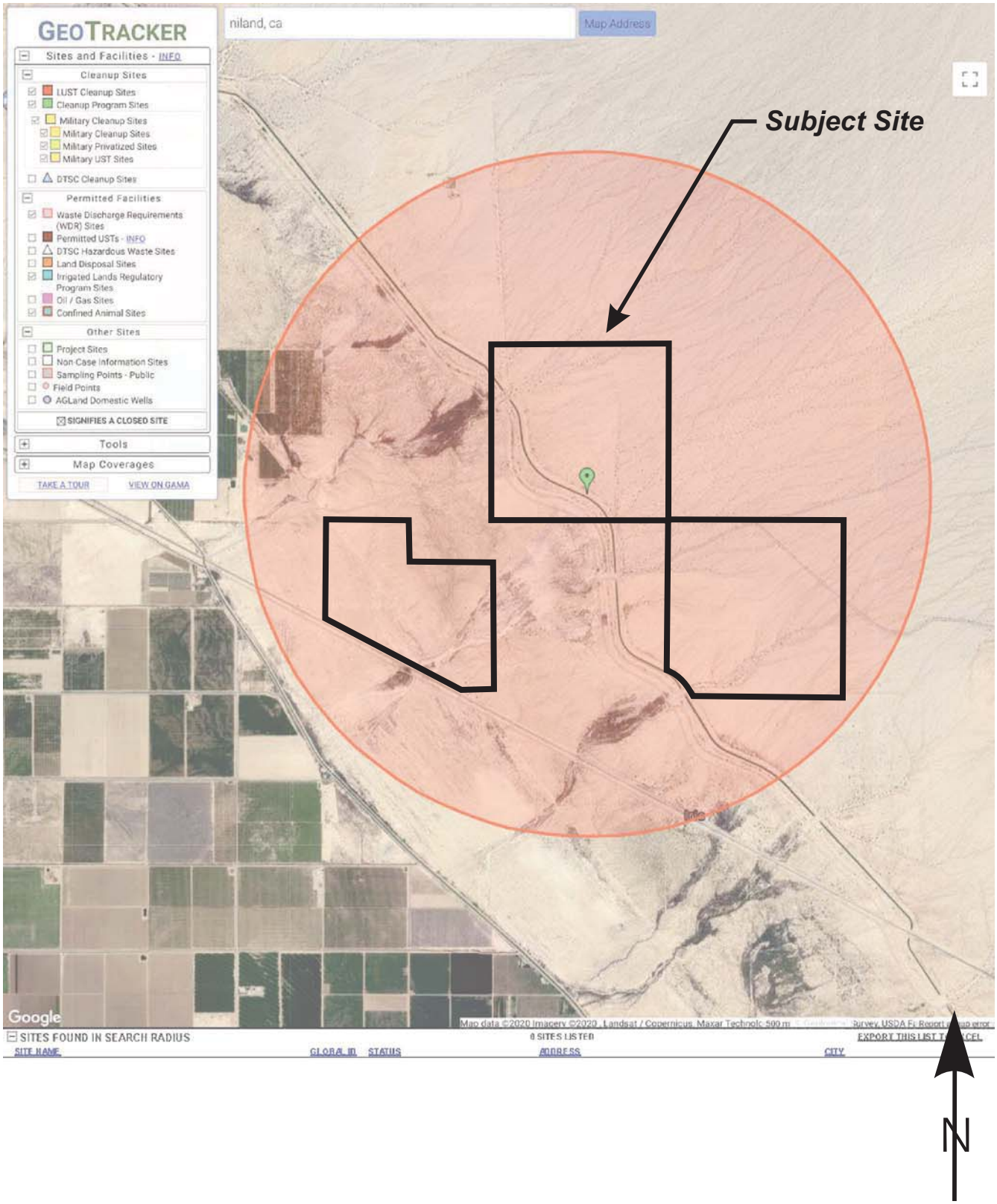

GS Lyon Project No.: GS2020	Geotracker Map	Plate 5

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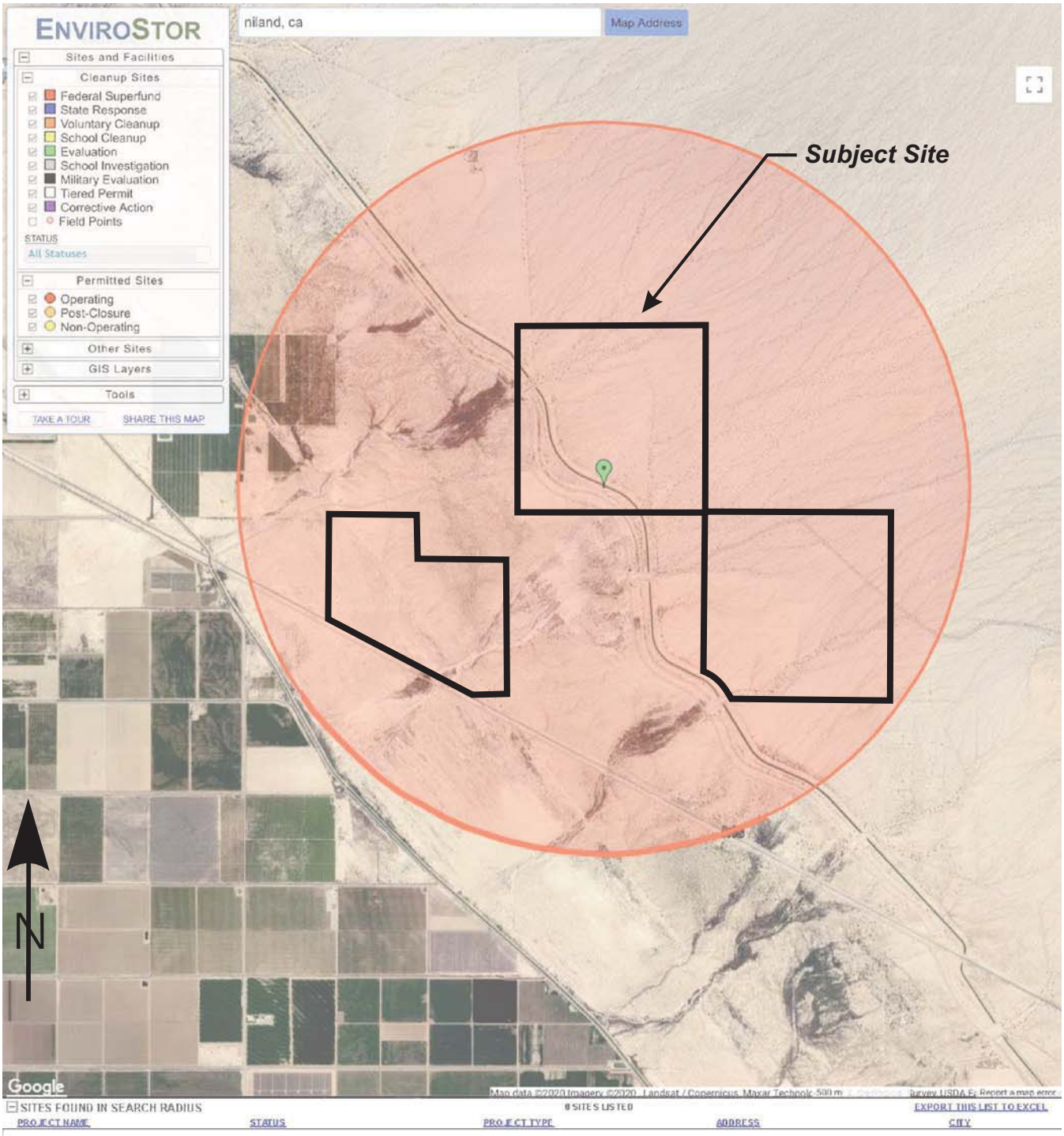

GS Lyon Project No.: GS2020	Envirostor Map	Plate 6

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APPENDIX H

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Vega 2/3
Flowing Wells Road
Winterhaven, CA 92283

Inquiry Number: 6210343.5
October 01, 2020

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

PC ORIGINAL PKG

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City Directory Images

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	*Target Street*	*Cross Street*	*Source*
2017	☐	☐	EDR Digital Archive
2014	☐	☐	EDR Digital Archive
2010	☐	☐	EDR Digital Archive
2005	☐	☐	EDR Digital Archive
2000	☐	☐	EDR Digital Archive
1995	☐	☐	EDR Digital Archive
1992	☐	☐	EDR Digital Archive
1987	☐	☐	Polk City Directory
1982	☐	☐	Polk City Directory
1977	☐	☐	Polk City Directory
1972	☐	☐	Polk City Directory
1967	☐	☐	Polk City Directory
1964	☐	☐	Polk City Directory
1959	☐	☐	Polk City Directory

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EXECUTIVE SUMMARY

Year	Target Street	Cross Street	Source

PC ORIGINAL PKG

FINDINGS

TARGET PROPERTY STREET

Flowing Wells Road
Winterhaven, CA 92283

Year	*CD Image*	*Source*	
FLOWING WELLS RD			
2017	-	EDR Digital Archive	Target and Adjoining not listed in Source
2014	-	EDR Digital Archive	Target and Adjoining not listed in Source
2010	-	EDR Digital Archive	Target and Adjoining not listed in Source
2005	-	EDR Digital Archive	Target and Adjoining not listed in Source
2000	-	EDR Digital Archive	Target and Adjoining not listed in Source
1995	-	EDR Digital Archive	Target and Adjoining not listed in Source
1992	-	EDR Digital Archive	Target and Adjoining not listed in Source
1987	-	Polk City Directory	Street not listed in Source
1982	-	Polk City Directory	Street not listed in Source
1977	-	Polk City Directory	Street not listed in Source
1972	-	Polk City Directory	Street not listed in Source
1967	-	Polk City Directory	Street not listed in Source
1964	-	Polk City Directory	Street not listed in Source
1959	-	Polk City Directory	Street not listed in Source

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FINDINGS

CROSS STREETS

No Cross Streets Identified

PC ORIGINAL PKG

Vega 2B
Ted Kipf Road
Winterhaven, CA 92283

Inquiry Number: 6210349.5
October 01, 2020

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1963	☐	☐	Polk City Directory
1959	☐	☐	Polk City Directory

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EXECUTIVE SUMMARY

Year	Target Street	Cross Street	Source

PC ORIGINAL PKG

FINDINGS

TARGET PROPERTY STREET

Ted Kipf Road
Winterhaven, CA 92283

Year	*CD Image*	*Source*	
TED KIPF RD			
2017	-	EDR Digital Archive	Target and Adjoining not listed in Source
2014	-	EDR Digital Archive	Target and Adjoining not listed in Source
2010	-	EDR Digital Archive	Target and Adjoining not listed in Source
2005	-	EDR Digital Archive	Target and Adjoining not listed in Source
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1967	-	Polk City Directory	Street not listed in Source
1963	-	Polk City Directory	Street not listed in Source
1959	-	Polk City Directory	Street not listed in Source

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FINDINGS

CROSS STREETS

No Cross Streets Identified

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APPENDIX I

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780 N. 4th Street
El Centro, CA 92243
(760) 337-1100

Phase I Environmental Site Assessment (ESA)
User Questionnaire

1) Environmental liens that are filed or recorded against the *property*.

Did a search of *recorded land title records* (or judicial records where appropriate) identify any environmental liens filed or recorded against the *property* under federal, tribal, state, or local law?

Not to our knowledge.

2) Activity and use limitations that are in place on the *property* or that have been filed or recorded against the *property*.

Did a search of *recorded land title records* (or judicial records where appropriate) identify any AULs, such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the property and/or have been filed or recorded against the *property* under federal, tribal, state or local law?

Not to our knowledge.

3) Specialized knowledge or experience of the person seeking to qualify for the LLP.

Do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the *property* or an *adjoining property* so that you would have specialized knowledge of the chemicals and processes used by this type of business?

No.

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4) Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.

Does the purchase price being paid for this *property* reasonable reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

Yes.

5) Commonly known or *reasonably ascertainable* information about the *property*.

Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases? For example,

a. Do you know the past uses of the *property*?

   Vacant Land

b. Do you know of specific chemicals or oils that are present or once were present at the *property*?

   None that we know of or suspect.

c. Do you know of spills or other chemical releases that have taken place at the *property*?

   None that we know of or suspect.

d. Do you know of any environmental cleanups that have taken place at the *property*?

   None that we know of or suspect.

6) The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.

Based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of releases at the *property*?

None that we know of or suspect.

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Additional Information

1) Reason why Phase I ESA is required:

Conditional Use Permit for proposed development project.

2) Type of Property:

Commercial	☐
Industrial	☐
Residential	☐
Vacant/Undeveloped	☒
Other	

Type of Transaction:

Purchase	☐
Financing	☐
Sale	☐
Lease	☐
Other	

3) Complete and correct address for the property:

No situs. APN's 025-260-011, 025-010-006, and 025-270-023.

4) Are there any existing environmental report, documents, correspondence, etc. available for review?

None.

User Name/Company: Jamie Nagel/Apex Energy Solutions, LLC

Address: 604 Sutter Street, Suite 250
Folsom, CA 95630

User Signature:

Date: 12/10/2020

PC ORIGINAL PKG

Vega 2/3
Flowing Wells Road
Winterhaven, CA 92283

Inquiry Number: 6210343.7
October 01, 2020

EDR Environmental Lien and AUL Search

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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EDR Environmental Lien and AUL Search

The EDR Environmental Lien and AUL Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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PC ORIGINAL PKG

EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

Flowing Wells Road
Vega 2/3
Winterhaven, CA 92283

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

AULs: Found ☐ Not Found ☒

PC ORIGINAL PKG

RESEARCH SOURCE

Source 1:

Imperial Recorder
Imperial, CA

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PROPERTY INFORMATION

Deed 1:

Type of Deed:	deed
Title is vested in:	Mesa West Ranch LLC
Title received from:	Bank of America NA Trustee
Deed Dated	7/7/1997
Deed Recorded:	8/5/1997
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket:	NA
Land Record Comments:	
Miscellaneous Comments:	
Legal Description:	See Exhibit
Legal Current Owner:	Mesa West Ranch LLC
Parcel # / Property Identifier:	025-010-006
Comments:	See Exhibit

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Deed Exhibit 1

PC ORIGINAL PKG

RECORDING REQUESTED BY
CHICAGO TITLE COMPANY
AND WHEN RECORDED MAIL TO

MESA WEST RANCH, L.L.C.
1010 E. CHESTNUT STREET
SANTA ANA, CALIFORNIA 92701

97017736 BOOK 1900 PAGE 75

DOLORES PROVENCIO
COUNTY RECORDER
BOOK 1900 PAGE 75
'97 AUG 5 AM 9 19
OFFICIAL RECORDS
IMPERIAL COUNTY, CA

TLS	15
RG	6
RF	4
MC	1
IX	1
TF	3
NL	
PY	
PR	

Escrow No. 7767779 - G05
Order No. 7767779 - 910

SPACE ABOVE THIS LINE FOR RECORDER'S USE

GRANT DEED

Assessor's Parcel No: 025-012-06 (N)

THE UNDERSIGNED GRANTOR(S) DECLARE(S)
DOCUMENTARY TRANSFER TAX IS $495.00
[X] unincorporated area [ ] City of IMPERIAL COUNTY
[X] computed on the full value of the interest or property conveyed, or is
[ ] computed on the full value less the value of liens or encumbrances remaining at time of sale, and

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,
BANK OF AMERICA, NT&SA, TRUSTEE OF THE BERTHA AND JOHN GARABEDIAN CHARITABLE FOUNDATION

hereby GRANT(S) to
MESA WEST RANCH, L.L.C.

the following described real property in the County of IMPERIAL, State of California: IMPERIAL COUNTY

LEGAL DESCRIPTION ATTACHED HERETO AND MADE A PART HEREOF BY REFERENCE

Dated July 7, 1997

BANK OF AMERICA, NT&SA, TRUSTEE

BY Robb M. Stewart

BY Albert C. Brunetti

STATE OF CALIFORNIA
COUNTY OF KERN) SS.
On July 28, 1997 before me,
Carol S. Easter
a Notary Public in and for said County and State, personally appeared
Robb M. Stewart and Albert C. Brunetti

personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) ~~is~~/are subscribed to the within instrument and acknowledged to me that ~~he/she~~/they executed the same in ~~his/her~~/their authorized capacity(ies), and that by ~~his/her~~/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

CAROL S. EASTER
Commission # 1114299
Notary Public — California
Kern County
My Comm. Expires Dec 6, 2000

WITNESS my hand and official seal.

Carol S. Easter
Signature of Notary

Dec. 6, 2000
Date My Commission Expires

FOR NOTARY SEAL OR STAMP

MAIL TAX STATEMENTS TO PARTY SHOWN ON FOLLOWING LINE: IF NO PARTY SO SHOWN, MAIL AS DIRECTED ABOVE

SAME AS ABOVE
Name | Street Address | City, State & Zip

GD1 -05/30/97bk

PC ORIGINAL PKG

Escrow No. 7767779 -G05

LEGAL DESCRIPTION EXHIBIT

PARCEL 1:

SECTION 9, TOWNSHIP 11 SOUTH, RANGE 15 EAST, S.B.M., IN AN UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPT THAT PART CONVEYED TO THE UNITED STATES BY DEED RECORDED JULY 24, 1940 IN BOOK 553, PAGE 210 OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM THAT PROPERTY TAKEN BY THE UNITED STATES OF AMERICA IN THE DECLARATION OF TAKING DATED APRIL 4, 1979 AND RECORDED MAY 23, 1979 AS INSTRUMENT NO. 32 AT BOOK 1434, PAGE 436 OF OFFICIAL RECORDS.

ALSO EXCEPT 25% OF ALL OIL, MINERALS, GAS, PETROLEUM OR OTHER HYDROCARBONS WITHIN OR UNDERLYING WHICH MAY BE PRODUCED AND SAVED THEREFROM, BUT WITH NO RIGHT OF SURFACE ENTRY, RESERVED BY LOUIS MEITUS, ET UX, BY DEED RECORDED MARCH 24, 1964 IN BOOK 1180, PAGE 316 OF OFFICIAL RECORDS.

ALSO EXCEPT AN UNDIVIDED 12-1/2% INTEREST TO ALL OF THE SUBSURFACE BELOW 200 FEET, WITHOUT ANY RIGHT TITLE OR INTEREST TO THE SURFACE OR SUBSURFACE ABOVE 200 FEET AS THEREIN PROVIDED, CONVEYED TO VERNON NUSSBAUM, ET UX, BY DEED RECORDED SEPTEMBER 1, 1964 IN BOOK 1190, PAGE 762 OF OFFICIAL RECORDS.

ALSO EXCEPT AN UNDIVIDED 12-1/2% INTEREST TO ALL SUBSURFACE BELOW 200 FEET, WITHOUT ANY RIGHT TO THE SURFACE OR THE SUBSURFACE ABOVE 200 FEET EXCEPT AS THEREIN PROVIDED, CONVEYED TO DONALD CANNON, ET UX, BY DEED RECORDED SEPTEMBER 25, 1964 IN BOOK 1194, PAGE 355 OF OFFICIAL RECORDS.

PARCEL 2:

SECTION 1, TOWNSHIP 12 SOUTH, RANGE 15 EAST, S.B.M., IN AN UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPT THAT PORTION OF THE LAND DESCRIBED IN THE DEED TO THE UNITED STATES RECORDED SEPTEMBER 27, 1939, AS FILE NO. 18, IN BOOK 541, PAGE 30 OF OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM THAT PORTION CONDEMNED BY THE UNITED STATES OFAMERICA AND AS SET OUT IN PARCEL 5 OF DECLARATION OF TAKING RECORDED MAY 23, 1979, AS FILE NO. 32, IN BOOK 1434, PAGE 436 OF OFFICIAL RECORDS.

ALSO, EXCEPT 25% OF ALL OIL, MINERALS, GAS, PETROLEUM OR OTHER HYDROCARBONS WITHIN OR UNDERLYING WHICH MAY BE PRODUCED AND SAVED FROM SAID LAND, BUT WITH NO RIGHT OF SURFACE ENTRY, RESERVED BY LOUIS MEITUS, DT UX., BY DEED RECORDED MARCH 24, 1964, IN BOOK 1180, PAGE 316 OF OFFICIAL RECORDS.

ALSO, EXCEPT AN UNDIVIDED 12-1/2% INTEREST IN AND TO ALL OF THE SUBSURFACE BELOW 200 FEET, WITHOUT ANY RIGHT, TITLE, OR INTERESTS IN OR TO THE SURFACE OR THE SUBSURFACE ABOVE 200 FEET EXCEPT AS THEREIN PROVIDED, CONVEYED TO VERNON NUSSBAUM AND DINETTE NUSSBAUM, HUSBAND AND WIFE AS COMMUNITY PROPERTY, BY QUITCLAIM DEED RECORDED SEPTEMBER 1, 1964, IN BOOK 1190, PAGE 762 OF OFFICIAL RECORDS.

ALSO, EXCEPT AN UNDIVIDED 12-1/2% INTEREST IN AND TO ALL OF THE SUBSURFACE BELOW 200 FEET, WITHOUT ANY RIGHT, TITLE, OR INTEREST IN OR TO THE SURFACE OR THE SUBSURFACE

PC ORIGINAL PKG

LEGAL DESCRIPTION EXHIBIT

ABOVE 200 FEET EXCEPT AS THEREIN PROVIDED, CONVEYED TO DONALD CANNON AND MARGARET CANNON, HUSBAND AND WIFE AS JOINT TENANTS, BY QUITCLAIM DEED RECORDED SEPTEMBER 25, 1964, IN BOOK 1192, PAGE 233 OF OFFICIAL RECORDS, AND RE-RECORDED OCTOBER 22, 1964, IN BOOK 1194, PAGE 355 OF OFFICIAL RECORDS.

PARCEL 3:

THE NORTHEAST QUARTER OF SECTION 24, TOWNSHIP 12 SOUTH, RANGE 15 EAST, S.B.M., IN AN UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPT THAT PORTION LYING SOUTH AND WEST OF EAST HIGHLINE CANAL.

EXCEPT 25% OF ALL OF SUBSURFACE RIGHTS IN CONNECTION WITH SECTION 24, RESERVED BY DINETTE NUSSBAUM ET CON, AS TRUSTEES OF THE VERNON AND DINETTE NUSSBAUM REVOCABLE TRUST, BY DEED RECORDED NOVEMBER 13, 1972 IN BOOK 1337, PAGE 659 OF OFFICIAL RECORDS.

PARCEL 4:

THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 24, TOWNSHIP 12 SOUTH, RANGE 15 EAST, S.B.M, IN AN UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TOTHE OFFICIAL PLAT THEREOF

EXCEPT THAT PORTION DESCRIBED AS FOLLOWS

BEGINNING AT A POINT IN THE SOUTH <L OF SAID SECTION 24, WHICH IS DISTANT THEREOF SOUTH 89°58'34" WEST 742.87 FEET FROM THE SOUTHWEST CORNER THEREOF; THENCE NORTH 22°21'00" WEST 476.76 FEET; THENCE SOUTH 67°39'00" WEST 38.00 FEET; THENCE NORTH 22°21'00" WEST 954.87 FEET TO A POINT IN THE WEST LINE OF THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 24, WHICH IS DISTANT THEREON NORTH 0°00'15" WEST, 1309.87 FEET FROM THE SOUTHWEST CORNER THEREOF; THENCE SOUTH 0°00'15" EAST, 1309.87 FEET TO THE SOUTHWEST CORNER OF THE EAST HALF OF THE SOUTHWEST QUARTER OF THE SECTION; THENCE NORTH 89°58'34" EAST 579.45 FEET TO THE POINT OF BEGINNING.

EXCEPT 25% OF ALL SUBSURFACE RIGHTS IN CONNECTION WITH SECTION 24, RESERVED BY DINETTE NUSSBAUM ET CON, AS TRUSTEES OF THE VERNON AND DINETTE NUSSBAUM REVOCABLE TRUST, BY DEED RECORDED NOVEMBER 13, 1972 IN BOOK 1337, PAGE 659 OF OFFICIAL RECORDS.

PARCEL 5:

THAT PORTION OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 12 SOUTH, RANGE 15 EAST, S.B.M., IN AN UNINCORPORATED AREA THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF, LYING NORTH AND EAST OF EAST HIGHLINE CANAL AS SAID CANAL WAS LOCATED OVER SAID LAND ON AUGUST 27, 1957.

EXCEPT 25% OF ALL SUBSURFACE RIGHTS IN CONNECTION WITH SECTION 24, RESERVED BY DINETTE NUSSBAUM ET CON. AS TRUSTEES OF THE VERNON AND DINETTE NUSSBAUM REVOCABLE TRUST, BY DEED RECORDED NOVEMBER 13, 1972 IN BOOK 1337, PAGE 659 OF OFFICIAL RECORDS.

PARCEL 6:

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LEGAL DESCRIPTION EXHIBIT

THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 24, TOWNSHIP 12 SOUTH, RANGE 15 EAST, S.B.M., IN AN UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPT THAT PORTION LYING WESTERLY OF THE CENTER LINE OF EAST HIGHLINE CANAL.

EXCEPT 25% OF ALL OF SUBSURFACE RIGHTS IN CONNECTION WITH SECTION 24, RESERVED BY DINETTE NUSSBAUM ET CON, AS TRUSTEES OF THE VERNON ANDDINETTE NUSSBAUM REVOCABLE TRUST, BY DEED RECORDED NOVEMBER 13, 1972 IN BOOK 1337, PAGE 659 OF OFFICIAL RECORDS.

PC ORIGINAL PKG

Vega 2B
Ted Kipf Road
Winterhaven, CA 92283

Inquiry Number: 6210349.7
October 01, 2020

EDR Environmental Lien and AUL Search

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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EDR Environmental Lien and AUL Search

The EDR Environmental Lien and AUL Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

Ted Kipf Road
Vega 2B
Winterhaven, CA 92283

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

AULs: Found ☐ Not Found ☒

PC ORIGINAL PKG

RESEARCH SOURCE

Source 1:

Imperial Recorder
Imperial, CA

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PROPERTY INFORMATION

Deed 1:

Type of Deed:	deed
Title is vested in:	Li Tong Wang Su Chu Chou Wang Trustees
Title received from:	Li Tong Wong
Deed Dated	6/21/2001
Deed Recorded:	7/2/2001
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket:	NA
Land Record Comments:	
Miscellaneous Comments:	
Legal Description:	See Exhibit
Legal Current Owner:	Li Tong Wang Su Chu Chou Wang Trustees
Parcel # / Property Identifier:	025-270-023
Comments:	See Exhibit

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Deed Exhibit 1

PC ORIGINAL PKG

01 14379 BOOK 2068 PAGE 947

DOLORES PROVENCIO

COUNTY RECORDER
BOOK 2068 PAGE 947
01 JUL 2 AM 11 34
OFFICIAL RECORDS
IMPERIAL COUNTY, CA

TLS	6 00
RG	3
RF	1
MG	
IN	
TF	
NI	
PY	
PR	

Recording Requested By:
Law Offices of David M. Huang
18000 Studebaker Road, Suite 665
Cerritos, CA 90703-2682

When Recorded Mail To:
Mr. and Mrs. Li Tong Wang
19210 Madeira Court
Cerritos, CA 90703

A.P.N.: 025-270-23-01 & 025-270-25-01

QUITCLAIM DEED

THE UNDERSIGNED QUITCLAIMOR(S) DECLARE(S): DOCUMENTARY TRANSFER TAX IS $ NONE. CITY TAX IS $ NONE.

FOR NO MONETARY CONSIDERATION, LI TONG WONG
hereby REMISE(S), RELEASE(S) AND FOREVER QUITCLAIM(S) to LI TONG WANG and SU-CHU CHOU WANG, Co-Trustees or their successor trustees, under THE WANG FAMILY TRUST, dated June 21, 2001, and any amendments thereto, all of his right, title and interest in and to the following described real property in the County of Imperial, State of California:

All of Section 15, Township 11 South, Range 15 East, S.B.M., County of Imperial, State of California, according to the Official Plat thereof.
EXCEPTING THEREFROM that portion conveyed to the U.S.A. by Deed recorded August 11, 1978 in Book 1420, Page 912 of Official Records.
Said property commonly known as: Vacant Land

NOTE #1: Conveyance transferring Quitclaimor's interest into a revocable living trust. This conveyance transfers the Quitclaimor's interest into his revocable living trust which is not pursuant to a sale and is exempt pursuant to Rev. & Tax Code Section 11911.
NOTE #2: Quitclaimor LI TONG WONG is the same person as Trustee LI TONG WANG. This conveyance is to a revocable trust and, pursuant to Rev. & Tax Code Section 62(d)(2), does not constitute a change in ownership and does not subject the property to reassessment.

DATED: June 21, 2001

State of California)
County of Los Angeles)
On June 21, 2001 before me,
David M. Huang, Notary Public, personally appeared
LI TONG WONG
personally known to me (~~or proved to me on the basis of satisfactory evidence~~) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.
WITNESS my hand and official seal.

LI TONG WONG

DAVID M. HUANG
Commission # 1190871
Notary Public - California
Los Angeles County
My Comm. Expires Jul 24, 2002

Signature

MAIL TAX STATEMENT TO: Li Tong Wang and Su-Chu Chou Wang, as Co-Trustees
19210 Madeira Court, Cerritos, CA 90703

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APPENDIX J

PC ORIGINAL PKG

FIDELITY NATIONAL TITLE GROUP
FNTG Western Region
Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Issuing Policies of Fidelity National Title Insurance Company

Title Officer: Mitch LaRiva
Escrow Officer: Major Accounts OAC

Order No.: 997-**30052456**-ML6

TO:

ZGlobal
604 Sutter Street, Suite 250
Folsom, CA 95630

ATTN: **Jamie Nichole Nagel**
YOUR REFERENCE: **025-260-011 & 019**

PROPERTY ADDRESS: **No situs APN 025-260-011 & 025-260-019, Unincorporated County of Imperial, CA**

PRELIMINARY REPORT

*In response to the application for a policy of title insurance referenced herein, **Fidelity National Title Company** hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a policy or policies of title insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.*

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Attachment One. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Attachment One. Copies of the policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

The policy(s) of title insurance to be issued hereunder will be policy(s) of Fidelity National Title Insurance Company, a Florida Corporation.

PC ORIGINAL PKG

Please read the exceptions shown or referred to herein and the exceptions and exclusions set forth in Attachment One of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land.

Countersigned by:

Authorized Signature

PC ORIGINAL PKG

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

PRELIMINARY REPORT

EFFECTIVE DATE: **July 31, 2020 at 7:30 a.m.**

ORDER NO.: 997-30052456-ML6

The form of policy or policies of title insurance contemplated by this report is:

ALTA Standard Owners Policy (6-17-06)

1. THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

   A FEE

2. TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

   MARJORIE A. GARDNER as Trustee of The Marjorie A. Hoffmeister Gardner Trust dated May 26, 1998, as to an undivided 10% interest;

   LESLEY ANN ASH, Successor Trustee of Exemption Trust under the Bay Family Trust dated April 9, 2003, as to an undivided 9.45% interest and LESLEY ANN ASH, Successor Trustee of Survivor's Trust under the Bay Family Trust dated April 9, 2003, as to an undivided 35.55% interest, subject to Item No. 8 of Schedule "B" and Item No's. 1 and 2 of Requirements; and

   JOSEPH G. CLARK, Trustee of The Joseph G. Clark Revocable Trust of 2017, as to an undivided 45% interest

3. THE LAND REFERRED TO IN THIS REPORT IS DESCRIBED AS FOLLOWS:

   See Exhibit A attached hereto and made a part hereof.

PC ORIGINAL PKG

EXHIBIT A

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA OF UNINCORPORATED COUNTY OF IMPERIAL IN THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

SECTION 17, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPTING A STRIP OF LAND 200 FEET WIDE CONTAINING 22 ACRES LYING EQUALLY ON EACH SIDE OF THE CENTERLINE OF THE SOUTHERN PACIFIC RAILROAD COMPANY RIGHT OF WAY AS NOW CONSTRUCTED, RESERVED BY SOUTHERN PACIFIC LAND COMPANY BY DEED RECORDED OCTOBER 16, 1951 IN BOOK 823, PAGE 299 OF OFFICIAL RECORDS.

ALSO EXCEPTING THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 17.

APN 025-260-011-000 AND APN 025-260-019-000

PC ORIGINAL PKG

EXCEPTIONS

AT THE DATE HEREOF, ITEMS TO BE CONSIDERED AND EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN SAID POLICY FORM WOULD BE AS FOLLOWS:

A. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes to be levied for the fiscal year 2020-2021.

B. Taxes and assessments levied by the Imperial Irrigation District.

C. The lien of supplemental or escaped assessments of property taxes, if any, made pursuant to the provisions of Chapter 3.5 (commencing with Section 75) or Part 2, Chapter 3, Articles 3 and 4, respectively, of the Revenue and Taxation Code of the State of California as a result of the transfer of title to the vestee named in Schedule A or as a result of changes in ownership or new construction occurring prior to Date of Policy.

1. Water rights, claims or title to water, whether or not disclosed by the public records.

2. Easement(s) in favor of the public over any existing roads lying within said Land.

3. Lack of legal right of access to and from a public street or highway.

4. The right, title or interest which the County of Imperial may have or claim in and to those portions of the herein described lands lying within the bounds of Noffsinger Road.

5. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Southern Sierras Power Company, a corporation, it's successors and/or assigns
Purpose:	Power transmission line
Recording Date:	July 19, 1930
Recording No:	Book 283, Page 9 of Official Records
Affects:	A portion of said land as more particularly described in said document.

6. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	R. S. Harrington, et ux.
Purpose:	Drain canal
Recording Date:	July 11, 1952
Recording No:	Book 841, Page 484 of Official Records
Affects:	A portion of said land as more particularly described in said document.

7. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Imperial Irrigation District, it's successors and/or assigns
Purpose:	Power line or lines, underground and/or overhead and necessary appurtenances together with the right of ingress and egress
Recording Date:	December 22, 1987
Recording No:	book 1594, Page 1685 of Official Records
Affects:	The West 100 feet of said land, except Southern Pacific Railroad right of way.

PC ORIGINAL PKG

EXCEPTIONS
(Continued)

8. The effect of a Grant Deed dated May 16, 2013, executed by Leslie Ann Ash, Trustee of the Bay Family Trust dated April 9, 2003, grantor to Victoria Gabbard, a married woman, as her sole and separate property, Grantee, recorded June 16, 2013 as Instrument No. 2013010916 of Official Records.

   Recital on said document states "This deed is intended to sever any joint Tenancy Deed".

9. A document entitled "Easement Deed by Court Order in Settlement of Landowner Action", issued out of the United States District Court for the Northern District of California San Francisco Division, Case No. 3:11-cv-02599-TEH, recorded January 30, 2014 as Instrument No. 2014001714 of Official Records.

   Said document provides for a Telecommunications Cable System Easement together with right of reasonable ingress and egress.

   Subject to the terms, conditions and provisions contained therein.

10. Any invalidity or defect in the title of the vestees in the event that the trust referred to herein is invalid or fails to grant sufficient powers to the trustee(s) or in the event there is a lack of compliance with the terms and provisions of the trust instrument.

    If title is to be insured in the trustee(s) of a trust, (or if their act is to be insured), this Company will require a Trust Certification pursuant to California Probate Code Section 18100.5.

    The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

11. Please be advised that our search did not disclose any open Deeds of Trust of record. If you should have knowledge of any outstanding obligation, please contact the Title Department immediately for further review prior to closing.

12. Any rights of the parties in possession of a portion of, or all of, said Land, which rights are not disclosed by the public records.

    The Company will require, for review, a full and complete copy of any unrecorded agreement, contract, license and/or lease, together with all supplements, assignments and amendments thereto, before issuing any policy of title insurance without excepting this item from coverage.

    The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

13. Any facts an accurate survey would disclose as to the location the exterior boundaries of said land or as to the location of canals, laterals, waste and drain ditches thereon in use by Imperial Irrigation District as part of its irrigation system.

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EXCEPTIONS
(Continued)

14. Any easements not disclosed by the public records as to matters affecting title to real property, whether or not said easements are visible and apparent.

15. Matters which may be disclosed by an inspection and/or by a correct ALTA/NSPS Land Title Survey of said Land that is satisfactory to the Company, and/or by inquiry of the parties in possession thereof.

PLEASE REFER TO THE "INFORMATIONAL NOTES" AND "REQUIREMENTS" SECTIONS WHICH FOLLOW FOR INFORMATION NECESSARY TO COMPLETE THIS TRANSACTION.

END OF EXCEPTIONS

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REQUIREMENTS SECTION

1. The Company will require either (a) a complete copy of the trust agreement and any amendments thereto certified by the trustee(s) to be a true and complete copy with respect to the hereinafter named trust, or (b) a Certification, pursuant to California Probate Code Section 18100.5, executed by all of the current trustee(s) of the hereinafter named trust, a form of which is attached.

   Name of Trust: Exemption Trust Under the Bay Family Trust Dated April 9, 2003

2. The Company will require either (a) a complete copy of the trust agreement and any amendments thereto certified by the trustee(s) to be a true and complete copy with respect to the hereinafter named trust, or (b) a Certification, pursuant to California Probate Code Section 18100.5, executed by all of the current trustee(s) of the hereinafter named trust, a form of which is attached.

   Name of Trust: Survivor's Trust Under the Bay Family Trust Dated April 9, 2003

3. Prior to the close of escrow, the Company requires a Statement of Information to be completed by the following party(s),

   Party(s): All Parties

   The Company reserves the right to add additional items or make further requirements after review of the requested Statement of Information.

4. Unrecorded matters which may be disclosed by an Owner's Affidavit or Declaration. A form of the Owner's Affidavit/Declaration is attached to this Preliminary Report/Commitment. This Affidavit/Declaration is to be completed by the record owner of the land and submitted for review prior to the closing of this transaction. Your prompt attention to this requirement will help avoid delays in the closing of this transaction. Thank you.

   The Company reserves the right to add additional items or make further requirements after review of the requested Affidavit/Declaration.

END OF REQUIREMENTS

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INFORMATIONAL NOTES SECTION

1. Note: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	025-260-011-000
Fiscal Year:	2019-2020
1st Installment:	$148.44
2nd Installment:	$148.44
Exemption:	$0.00
Code Area:	058-003

   Affects: A portion of the Land described herein.

2. Note: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	025-260-019-000
Fiscal Year:	2019-2020
1st Installment:	$48.86
2nd Installment:	$48.86
Exemption:	$0.00
Code Area:	058-003

   Affects: A portion of the Land described herein.

3. Note: The policy of title insurance will include an arbitration provision. The Company or the insured may demand arbitration. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. Please ask your escrow or title officer for a sample copy of the policy to be issued if you wish to review the arbitration provisions and any other provisions pertaining to your Title Insurance coverage.

4. Notice: Please be aware that due to the conflict between federal and state laws concerning the cultivation, distribution, manufacture or sale of marijuana, the Company is not able to close or insure any transaction involving Land that is associated with these activities.

5. Pursuant to Government Code Section 27388.1, as amended and effective as of 1-1-2018, a Documentary Transfer Tax (DTT) Affidavit may be required to be completed and submitted with each document when DTT is being paid or when an exemption is being claimed from paying the tax. If a governmental agency is a party to the document, the form will not be required. DTT Affidavits may be available at a Tax Assessor-County Clerk-Recorder.

6. Note: There are NO conveyances affecting said Land recorded within 24 months of the date of this report.

END OF INFORMATIONAL NOTES

Mitch LaRiva/jh

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Wire Fraud Alert

This Notice is not intended to provide legal or professional advice. If you have any questions, please consult with a lawyer.

All parties to a real estate transaction are targets for wire fraud and many have lost hundreds of thousands of dollars because they simply relied on the wire instructions received via email, without further verification. **If funds are to be wired in conjunction with this real estate transaction, we strongly recommend verbal verification of wire instructions through a known, trusted phone number prior to sending funds.**

In addition, the following non-exclusive self-protection strategies are recommended to minimize exposure to possible wire fraud.

- **NEVER RELY** on emails purporting to change wire instructions. Parties to a transaction rarely change wire instructions in the course of a transaction.
- **ALWAYS VERIFY** wire instructions, specifically the ABA routing number and account number, by calling the party who sent the instructions to you. DO NOT use the phone number provided in the email containing the instructions, use phone numbers you have called before or can otherwise verify. **Obtain the phone number of relevant parties to the transaction as soon as an escrow account is opened**. DO NOT send an email to verify as the email address may be incorrect or the email may be intercepted by the fraudster.
- **USE COMPLEX EMAIL PASSWORDS** that employ a combination of mixed case, numbers, and symbols. Make your passwords greater than eight (8) characters. Also, change your password often and do NOT reuse the same password for other online accounts.
- **USE MULTI-FACTOR AUTHENTICATION** for email accounts. Your email provider or IT staff may have specific instructions on how to implement this feature.

For more information on wire-fraud scams or to report an incident, please refer to the following links:

Federal Bureau of Investigation:
http://www.fbi.gov

Internet Crime Complaint Center:
http://www.ic3.gov

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FIDELITY NATIONAL TITLE GROUP
FNTG Western Region
Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Notice of Available Discounts

Pursuant to Section 2355.3 in Title 10 of the California Code of Regulations Fidelity National Financial, Inc. and its subsidiaries ("FNF") must deliver a notice of each discount available under our current rate filing along with the delivery of escrow instructions, a preliminary report or commitment. Please be aware that the provision of this notice does not constitute a waiver of the consumer's right to be charged the filed rate. As such, your transaction may not qualify for the below discounts.

You are encouraged to discuss the applicability of one or more of the below discounts with a Company representative. These discounts are generally described below; consult the rate manual for a full description of the terms, conditions and requirements for such discount. These discounts only apply to transactions involving services rendered by the FNF Family of Companies. This notice only applies to transactions involving property improved with a one-to-four family residential dwelling.

Not all discounts are offered by every FNF Company. The discount will only be applicable to the FNF Company as indicated by the named discount.

FNF Underwritten Title Company	**Underwritten by FNF Underwriters**
CTC – Chicago Title company	CTIC – Chicago Title Insurance Company
CLTC – Commonwealth Land Title Company	CLTIC - Commonwealth Land Title Insurance Company
FNTC – Fidelity National Title Company of California	FNTIC – Fidelity National Title Insurance Company
FNTCCA - Fidelity National Title Company of California	FNTIC - Fidelity National Title Insurance Company
TICOR – Ticor Title Company of California	CTIC – Chicago Title Insurance Company
LTC – Lawyer's Title Company	CLTIC – Commonwealth Land Title Insurance Company
SLTC – ServiceLink Title Company	CTIC – Chicago Title Insurance Company

Available Discounts

DISASTER LOANS (CTIC, CLTIC, FNTIC)
The charge for a Lender's Policy (Standard or Extended coverage) covering the financing or refinancing by an owner of record, within twenty-four (24) months of the date of a declaration of a disaster area by the government of the United States or the State of California on any land located in said area, which was partially or totally destroyed in the disaster, will be fifty percent (50%) of the appropriate title insurance rate.

CHURCHES OR CHARITABLE NON-PROFIT ORGANIZATIONS (CTIC, FNTIC)
On properties used as a church or for charitable purposes within the scope of the normal activities of such entities, provided said charge is normally the church's obligation the charge for an owner's policy shall be fifty percent (50%) to seventy percent (70%) of the appropriate title insurance rate, depending on the type of coverage selected. The charge for a lender's policy shall be forty (40%) to fifty percent (50%) of the appropriate title insurance rate, depending on the type of coverage selected.

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FIDELITY NATIONAL FINANCIAL, INC.
PRIVACY NOTICE

Effective April 9, 2020

Fidelity National Financial, Inc. and its majority-owned subsidiary companies (collectively, "FNF," "our," or "we") respect and are committed to protecting your privacy. This Privacy Notice explains how we collect, use, and protect personal information, when and to whom we disclose such information, and the choices you have about the use and disclosure of that information.

A limited number of FNF subsidiaries have their own privacy notices. If a subsidiary has its own privacy notice, the privacy notice will be available on the subsidiary's website and this Privacy Notice does not apply.

Collection of Personal Information

FNF may collect the following categories of Personal Information:

- contact information (*e.g.*, name, address, phone number, email address);
- demographic information (*e.g.*, date of birth, gender, marital status);
- identity information (*e.g.* Social Security Number, driver's license, passport, or other government ID number);
- financial account information (*e.g.* loan or bank account information); and
- other personal information necessary to provide products or services to you.

We may collect Personal Information about you from:

- information we receive from you or your agent;
- information about your transactions with FNF, our affiliates, or others; and
- information we receive from consumer reporting agencies and/or governmental entities, either directly from these entities or through others.

Collection of Browsing Information

FNF automatically collects the following types of Browsing Information when you access an FNF website, online service, or application (each an "FNF Website") from your Internet browser, computer, and/or device:

- Internet Protocol (IP) address and operating system;
- browser version, language, and type;
- domain name system requests; and
- browsing history on the FNF Website, such as date and time of your visit to the FNF Website and visits to the pages within the FNF Website.

Like most websites, our servers automatically log each visitor to the FNF Website and may collect the Browsing Information described above. We use Browsing Information for system administration, troubleshooting, fraud investigation, and to improve our websites. Browsing Information generally does not reveal anything personal about you, though if you have created a user account for an FNF Website and are logged into that account, the FNF Website may be able to link certain browsing activity to your user account.

Other Online Specifics

Cookies. When you visit an FNF Website, a "cookie" may be sent to your computer. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. Information gathered using cookies helps us improve your user experience. For example, a cookie can help the website load properly or can customize the display page based on your browser type and user preferences. You can choose whether or not to accept cookies by changing your Internet browser settings. Be aware that doing so may impair or limit some functionality of the FNF Website.

Web Beacons. We use web beacons to determine when and how many times a page has been viewed. This information is used to improve our websites.

Do Not Track. Currently our FNF Websites do not respond to "Do Not Track" features enabled through your browser.

Links to Other Sites. FNF Websites may contain links to unaffiliated third-party websites. FNF is not responsible for the privacy practices or content of those websites. We recommend that you read the privacy policy of every website you visit.

Use of Personal Information

FNF uses Personal Information for three main purposes:

- To provide products and services to you or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you about our, our affiliates', and others' products and services, jointly or independently.

When Information Is Disclosed

We may disclose your Personal Information and Browsing Information in the following circumstances:

- to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to nonaffiliated service providers who provide or perform services or functions on our behalf and who agree to use the information only to provide such services or functions;

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- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to jointly market financial products or services to you;
- to law enforcement or authorities in connection with an investigation, or in response to a subpoena or court order; or
- in the good-faith belief that such disclosure is necessary to comply with legal process or applicable laws, or to protect the rights, property, or safety of FNF, its customers, or the public.

The law does not require your prior authorization and does not allow you to restrict the disclosures described above. Additionally, we may disclose your information to third parties for whom you have given us authorization or consent to make such disclosure. We do not otherwise share your Personal Information or Browsing Information with nonaffiliated third parties, except as required or permitted by law. We may share your Personal Information with affiliates (other companies owned by FNF) to directly market to you. Please see "Choices with Your Information" to learn how to restrict that sharing.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of bankruptcy, reorganization, insolvency, receivership, or an assignment for the benefit of creditors. By submitting Personal Information and/or Browsing Information to FNF, you expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings.

Security of Your Information
We maintain physical, electronic, and procedural safeguards to protect your Personal Information.

Choices With Your Information
If you do not want FNF to share your information among our affiliates to directly market to you, you may send an "opt out" request by email, phone, or physical mail as directed at the end of this Privacy Notice. We do not share your Personal Information with nonaffiliates for their use to direct market to you without your consent.

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you.

For California Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties, except as permitted by California law. For additional information about your California privacy rights, please visit the "California Privacy" link on our website (https://fnf.com/pages/californiaprivacy.aspx) or call (888) 413-1748.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 934-3354 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.
For Oregon Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not disclose information about your creditworthiness to our affiliates and will not disclose your personal information, financial information, credit report, or health information to nonaffiliated third parties to market to you, other than as permitted by Vermont law, unless you authorize us to make those disclosures.

Information From Children
The FNF Websites are not intended or designed to attract persons under the age of eighteen (18).We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian.

International Users
FNF's headquarters is located within the United States. If you reside outside the United States and choose to provide Personal Information or Browsing Information to us, please note that we may transfer that information outside of your country of residence. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection, transfer, and use of such information in accordance with this Privacy Notice.

FNF Website Services for Mortgage Loans
Certain FNF companies provide services to mortgage loan servicers, including hosting websites that collect customer information on behalf of mortgage loan servicers (the "Service Websites"). The Service Websites may contain links to both this Privacy Notice and the mortgage loan servicer or lender's privacy notice. The sections of this Privacy Notice titled When Information is Disclosed, Choices with Your Information, and Accessing and Correcting Information do not apply to the Service Websites. The mortgage loan servicer or lender's privacy notice governs use, disclosure, and access to your Personal Information. FNF does not share Personal Information collected through the Service Websites, except as required or authorized by contract with the mortgage loan servicer or lender, or as required by law or in the good-faith belief that such disclosure is necessary: to comply with a legal process or applicable law, to enforce this Privacy Notice, or to protect the rights, property, or safety of FNF or the public.

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Your Consent To This Privacy Notice; Notice Changes; Use of Comments or Feedback

By submitting Personal Information and/or Browsing Information to FNF, you consent to the collection and use of the information in accordance with this Privacy Notice. We may change this Privacy Notice at any time. The Privacy Notice's effective date will show the last date changes were made. If you provide information to us following any change of the Privacy Notice, that signifies your assent to and acceptance of the changes to the Privacy Notice. We may use comments or feedback that you submit to us in any manner without notice or compensation to you.

Accessing and Correcting Information; Contact Us

If you have questions, would like to correct your Personal Information, or want to opt-out of information sharing for affiliate marketing, send your requests to privacy@fnf.com, by phone to (888) 934-3354, or by mail to:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer

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ATTACHMENT ONE (Revised 05-06-16)

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE POLICY – 1990

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division; and
   f. environmental protection.
   This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;

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c. that result in no loss to You; or
d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.
   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.
8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

- For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 10,000.00
Covered Risk 18:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 19:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 21:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 5,000.00

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13 or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

{Except as provided in Schedule B - Part II,{ t{or T}his policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

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{PART I

{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.}

PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:}

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:
{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown in the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records. }
7. {Variable exceptions such as taxes, easements, CC&R's, etc. shown here.}

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PC ORIGINAL PKG

ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY – ASSESSMENTS PRIORITY (04-02-15)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

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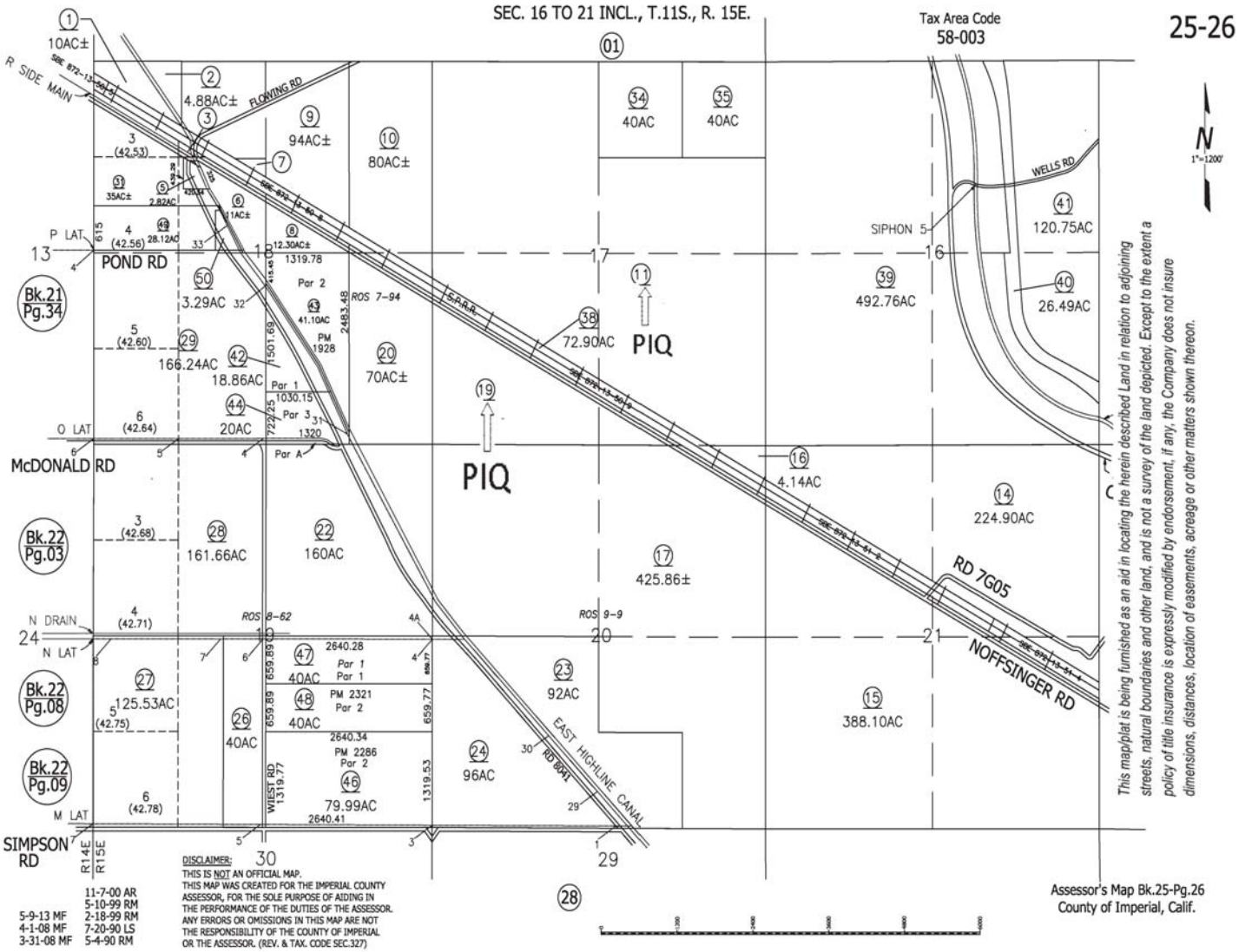
PC ORIGINAL PKG



PC ORIGINAL PKG

RECORDING REQUESTED BY
Fidelity National Title Company
WHEN RECORDED MAIL TO:
=addressee=

ORDER NO.: **30052456-997-ML6**

SPACE ABOVE THIS LINE FOR RECORDER'S USE

CERTIFICATION OF TRUST
California Probate Code Section 18100.5

The undersigned declare(s) under penalty of perjury under the laws of the State of California that the following is true and correct:

1. The Trust known as _____, executed on _____, is a valid and existing trust.

2. The name(s) of the settlor(s) of the Trust is (are): _____
_____

3. The name(s) of the currently acting trustee(s) is (are): _____
_____

4. The trustee(s) of the Trust have the following powers (initial applicable line(s)):
_____Power to acquire additional property.
_____Power to sell and execute deeds.
_____Power to encumber, and execute deeds of trust.
_____Other: _____

5. The Trust is (check one): _____ Revocable _____ Irrevocable

The name of the person who may revoke the Trust is: _____

6. The number of trustees who must sign documents in order to exercise the powers of the Trust is (are): _____, whose name(s) is (are): _____

7. Title to Trust assets is to be taken as follows: _____

PC ORIGINAL PKG

8. The Trust has not been revoked, modified or amended in any manner which would cause the representations contained herein to be incorrect.

9. I (we) am (are) all of the currently acting trustees.

10. I (we) understand that I (we) may be required to provide copies of excerpts from the original Trust documents which designate the trustees and confer the power to act in the pending transaction.

Dated: _____

(Acknowledgement must be attached)

PC ORIGINAL PKG

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

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STATE OF CALIFORNIA
COUNTY OF } SS:

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_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

PC ORIGINAL PKG

RECORDING REQUESTED BY
Fidelity National Title Company
WHEN RECORDED MAIL TO:
=addressee=

ORDER NO.: **30052456-997-ML6**

SPACE ABOVE THIS LINE FOR RECORDER'S USE

CERTIFICATION OF TRUST
California Probate Code Section 18100.5

The undersigned declare(s) under penalty of perjury under the laws of the State of California that the following is true and correct:

1. The Trust known as _____, executed on _____, is a valid and existing trust.

2. The name(s) of the settlor(s) of the Trust is (are): _____
_____

3. The name(s) of the currently acting trustee(s) is (are): _____
_____

4. The trustee(s) of the Trust have the following powers (initial applicable line(s)):
_____Power to acquire additional property.
_____Power to sell and execute deeds.
_____Power to encumber, and execute deeds of trust.
_____Other: _____

5. The Trust is (check one): _____ Revocable _____ Irrevocable

The name of the person who may revoke the Trust is: _____

6. The number of trustees who must sign documents in order to exercise the powers of the Trust is (are): _____, whose name(s) is (are): _____

7. Title to Trust assets is to be taken as follows: _____

PC ORIGINAL PKG

8. The Trust has not been revoked, modified or amended in any manner which would cause the representations contained herein to be incorrect.

9. I (we) am (are) all of the currently acting trustees.

10. I (we) understand that I (we) may be required to provide copies of excerpts from the original Trust documents which designate the trustees and confer the power to act in the pending transaction.

Dated: _____

(Acknowledgement must be attached)

PC ORIGINAL PKG

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

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STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

PC ORIGINAL PKG

OWNER'S DECLARATION

Escrow No.: 30052456-997-MAT-ML6
Property Address: No situs APN 025-260-011 & 025-260-019
Unincorporated County of Imperial, CA

The undersigned hereby declares as follows:

1. (Fill in the applicable paragraph and strike the other)

   a. Declarant ("Owner") is the owner or lessee, as the case may be, of certain premises located at No situs APN 025-260-011 & 025-260-019, Unincorporated County of Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

   b. Declarant is the _____ of _____ ("Owner"), which is the owner or lessee, as the case may be, of certain premises located at No situs APN 025-260-011 & 025-260-019, Unincorporated County of Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

2. (Fill in the applicable paragraph and strike the other)

   a. During the period of six months immediately preceding the date of this declaration no work has been done, no surveys or architectural or engineering plans have been prepared, and no materials have been furnished in connection with the erection, equipment, repair, protection or removal of any building or other structure on the Land or in connection with the improvement of the Land in any manner whatsoever.

   b. During the period of six months immediately preceding the date of this declaration certain work has been done and materials furnished in connection with _____ upon the Land in the approximate total sum of $_____, but no work whatever remains to be done and no materials remain to be furnished to complete the construction in full compliance with the plans and specifications, nor are there any unpaid bills incurred for labor and materials used in making such improvements or repairs upon the Land, or for the services of architects, surveyors or engineers, except as follows: _____. Owner, by the undersigned Declarant, agrees to and does hereby indemnify and hold harmless Fidelity National Title Company against any and all claims arising therefrom.

3. Owner has not previously conveyed the Land; is not a debtor in bankruptcy (and if a partnership, the general partner thereof is not a debtor in bankruptcy); and has not received notice of any pending court action affecting the title to the Land.

4. Except as shown in the above-referenced Preliminary Report/Commitment, there are no unpaid or unsatisfied mortgages, deeds of trust, Uniform Commercial Code financing statements, regular assessments, special assessments, periodic assessments or any assessment from any source, claims of lien, special assessments, or taxes that constitute a lien against the Land or that affect the Land but have not been recorded in the public records. There are no violations of the covenants, conditions and restrictions as shown in the above-referenced Preliminary Report/Commitment.

5. The Land is currently in use as _____; _____ occupy/occupies the Land; and the following are all of the leases or other occupancy rights affecting the Land:

   _____

6. There are no other persons or entities that assert an ownership interest in the Land, nor are there unrecorded easements, claims of easement, or boundary disputes that affect the Land.

7. There are no outstanding options to purchase or rights of first refusal affecting the Land.

PC ORIGINAL PKG

8. Between the most recent Effective Date of the above-referenced Preliminary Report/Commitment and the date of recording of the Insured Instrument(s), Owner has not taken or allowed, and will not take or allow, any action or inaction to encumber or otherwise affect title to the Land.

This declaration is made with the intention that Fidelity National Title Company (the "Company") and its policy issuing agents will rely upon it in issuing their title insurance policies and endorsements. Owner, by the undersigned Declarant, agrees to indemnify the Company against loss or damage (including attorneys fees, expenses, and costs) incurred by the Company as a result of any untrue statement made herein.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on _____ at _____.

Signature: _____

PC ORIGINAL PKG

FIDELITY NATIONAL TITLE GROUP
FNTG Western Region Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Issuing Policies of Fidelity National Title Insurance Company

Title Officer: Mitch LaRiva
Escrow Officer: Major Accounts OAC

Order No.: 997-**30053823**-ML6

TO:

ZGlobal
604 Sutter Street, Suite 250
Folsom, CA 95630

ATTN: **Jamie Nichole Nagel**
YOUR REFERENCE: **025-010-006**

PROPERTY ADDRESS: No Situs APN 025-010-006-000, Imperial, CA

PRELIMINARY REPORT

In response to the application for a policy of title insurance referenced herein, ***Fidelity National Title Company*** *hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a policy or policies of title insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.*

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Attachment One. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Attachment One. Copies of the policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

The policy(s) of title insurance to be issued hereunder will be policy(s) of Fidelity National Title Insurance Company, a Florida Corporation.

Please read the exceptions shown or referred to herein and the exceptions and exclusions set forth in Attachment One of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land.

Countersigned by:

Authorized Signature

PC ORIGINAL PKG

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

PRELIMINARY REPORT

EFFECTIVE DATE: **August 31, 2020 at 7:30 a.m.**

ORDER NO.: 997-30053823-ML6

The form of policy or policies of title insurance contemplated by this report is:

ALTA Standard Owners Policy (6-17-06)

1. THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

   A FEE

2. TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

   MESA WEST RANCH, L.L.C.

3. THE LAND REFERRED TO IN THIS REPORT IS DESCRIBED AS FOLLOWS:

   See Exhibit A attached hereto and made a part hereof.

PC ORIGINAL PKG

EXHIBIT A

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA OF IMPERIAL IN THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

SECTION 9, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN AN UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPT THAT PORTION CONVEYED TO THE UNITED STATES BY DEED RECORDED JULY 24, 1940 IN BOOK 553, PAGE 210 OF OFFICIAL RECORDS.

ALSO EXCEPT THEREFROM THAT PROPERTY TAKEN BY THE UNITED STATES OF AMERICA IN THE DECLARATION OF TAKING DATED APRIL 04, 1979 AND RECORDED MAY 23, 1979 AS INSTRUMENT NO. 32, IN BOOK 1434, PAGE 436 OF OFFICIAL RECORDS.

ALSO EXCEPT 25% OF ALL OIL, MINERALS, GAS, PETROLEUM, OR OTHER HYDROCARBONS WITHIN OR UNDERLYING WHICH MAY BE PRODUCED AND SAVED THEREFROM, BUT WITH NO RIGHT OF SURFACE ENTRY, RESERVED BY LOUIS MEITUS, ET UX., BY DEED RECORDED MARCH 24, 1964 IN BOOK 1180, PAGE 316 OF OFFICIAL RECORDS.

ALSO EXCEPT AN UNDIVIDED 12-1/2% INTEREST TO ALL OF THE SUBSURFACE BELOW 200 FEET, WITHOUT ANY RIGHT, TITLE, OR INTEREST TO THE SURFACE OR SUBSURFACE ABOVE 200 FEET AS THEREIN PROVIDED, CONVEYED TO VERNON NUSSBAUM, ET UX., BY DEED RECORDED SEPTEMBER 01, 1964 IN BOOK 1190, PAGE 762 OF OFFICIAL RECORDS.

ALSO EXCEPT ANY UNDIVIDED 12-1/2% INTEREST TO ALL SUBSURFACE BELOW 200 FEET, WITHOUT ANY RIGHT TO THE SURFACE OR THE SUBSURFACE ABOVE 200 FEET EXCEPT AS THEREIN PROVIDED, CONVEYED TO DONALD CANNON, ET UX., BY DEED RECORDED SEPTEMBER 25, 1964 IN BOOK 1194, PAGE 355 OF OFFICIAL RECORDS.

APN: 025-010-006-000

PC ORIGINAL PKG

EXCEPTIONS

AT THE DATE HEREOF, ITEMS TO BE CONSIDERED AND EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN SAID POLICY FORM WOULD BE AS FOLLOWS:

A. Property taxes, including any personal property taxes and any assessments collected with taxes, are as follows:

Tax Identification No.:	025-010-006-000
Fiscal Year:	2020-2021
1st Installment:	$1,751.76, OPEN (Delinquent after December 10, 2020)
Penalty:	$175.17
2nd Installment:	$1,751.76, OPEN (Delinquent after April 10, 2021)
Penalty and Cost:	$185.17
Homeowners Exemption:	$0.00
Code Area:	058-003

B. Taxes and assessments levied by the Imperial Irrigation District.

C. The lien of supplemental or escaped assessments of property taxes, if any, made pursuant to the provisions of Chapter 3.5 (commencing with Section 75) or Part 2, Chapter 3, Articles 3 and 4, respectively, of the Revenue and Taxation Code of the State of California as a result of the transfer of title to the vestee named in Schedule A or as a result of changes in ownership or new construction occurring prior to Date of Policy.

1. Water rights, claims or title to water, whether or not disclosed by the public records.

2. Easement(s) in favor of the public over any existing roads lying within said Land.

3. Lack of a legal right of access to and from a public street or highway.

4. Rights or claims of easements for canals, drains, laterals, irrigation pipelines, and gates not recorded in the public records.

5. The right, title, or interest which the Imperial Irrigation District may have or claim in and to that portion of the herein described land lying within the bounds of the Coachella Canal and Siphon #6 Canal.

6. The right, title, or interest which the County of Imperial may have or claim in and to those portions of the herein described lands lying within the bounds of Coachella Canal Road and Flowing Wells Road.

7. Serial No. LA 039762, dated February 28, 1921, Imperial Irrigation District affects said Section 9, Township 11 South, Range 15 East, as disclosed by the District Land Office of the Bureau of Land Management.

8. The herein described Land is located in an area frequently subject to Land Conservation Contracts executed pursuant to the Williamson Act (Cal. Govt. Code §§ 51200 et seq.). Land Conservation Contracts restrict the land use to agricultural, recreational, open-space and other compatible uses. If the herein described Land is subject to a Land Conservation Contract, please notify the Title Department.

The Company reserves the right to add additional items and/or make further requirements.

PC ORIGINAL PKG

EXCEPTIONS
(Continued)

9. Easement(s) for the purpose(s) shown below and rights incidental thereto as reserved in a document;

Reserved by:	Southern Pacific Railroad Company
Purpose:	A right of way of lawful width for any and all County Roads heretofore lawfully established and now in public use
Recording Date:	April 01, 1923
Recording No:	Book 30, Page 235 of Deeds
Affects:	A portion of said land as more particularly described in said document

10. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Southern Sierras Power Company
Purpose:	Power line 50 feet in width
Recording Date:	July 19, 1930
Recording No:	Book 283, Page 9 of Official Records
Affects:	A portion of said land as more particularly described in said document

11. Any existing rights of way in favor of the public or third parties for highways, roads, telegraph, telephone, and electrical transmission lines, and canals, laterals, ditches, flumes, siphons, and pipe lines on, over, and across said land as disclosed in deed recorded July 24, 1940 in Book 553, Page 210 of Official Records.

12. Covenants, conditions and restrictions but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, gender, gender identity, gender expression, sexual orientation, marital status, national origin, ancestry, familial status, source of income, disability, veteran or military status, genetic information, medical condition, citizenship, primary language, and immigration status, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document

Recording Date:	September 01, 1964
Recording No:	Book 1190, Page 762 of Official Records

13. Covenants, conditions and restrictions but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, gender, gender identity, gender expression, sexual orientation, marital status, national origin, ancestry, familial status, source of income, disability, veteran or military status, genetic information, medical condition, citizenship, primary language, and immigration status, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document

Recording Date:	September 25, 1964
Recording No:	Book 1194, Page 355 of Official Records

14. Please be advised that our search did not disclose any open Deeds of Trust of record. If you should have knowledge of any outstanding obligation, please contact the Title Department immediately for further review prior to closing.

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EXCEPTIONS
(Continued)

15. Any rights of the parties in possession of a portion of, or all of, said Land, which rights are not disclosed by the public records.

    The Company will require, for review, a full and complete copy of any unrecorded agreement, contract, license and/or lease, together with all supplements, assignments and amendments thereto, before issuing any policy of title insurance without excepting this item from coverage.

    The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

16. Any easements not disclosed by the public records as to matters affecting title to real property, whether or not said easements are visible and apparent.

17. Matters which may be disclosed by an inspection and/or by a correct ALTA/NSPS Land Title Survey of said Land that is satisfactory to the Company, and/or by inquiry of the parties in possession thereof.

PLEASE REFER TO THE "INFORMATIONAL NOTES" AND "REQUIREMENTS" SECTIONS WHICH FOLLOW FOR INFORMATION NECESSARY TO COMPLETE THIS TRANSACTION.

END OF EXCEPTIONS

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REQUIREMENTS SECTION

1. The Company will require the following documents for review prior to the issuance of any title insurance predicated upon a conveyance or encumbrance from the entity named below:

   Limited Liability Company: Mesa West Ranch, L.L.C.

   a) A copy of its operating agreement, if any, and all amendments, supplements and/or modifications thereto, certified by the appropriate manager or member.

   b) If a domestic Limited Liability Company, a copy of its Articles of Organization and all amendments thereto with the appropriate filing stamps.

   c) If the Limited Liability Company is member-managed, a full and complete current list of members certified by the appropriate manager or member.

   d) A current dated certificate of good standing from the proper governmental authority of the state in which the entity is currently domiciled.

   e) If less than all members, or managers, as appropriate, will be executing the closing documents, furnish evidence of the authority of those signing.

   f) If Limited Liability Company is a Single Member Entity, a Statement of Information for the Single Member will be required.

   g) Each member and manager of the LLC without an Operating Agreement must execute in the presence of a notary public the Certificate of California LLC (Without an Operating Agreement) Status and Authority form.

2. Unrecorded matters which may be disclosed by an Owner's Affidavit or Declaration. A form of the Owner's Affidavit/Declaration is attached to this Preliminary Report/Commitment. This Affidavit/Declaration is to be completed by the record owner of the land and submitted for review prior to the closing of this transaction. Your prompt attention to this requirement will help avoid delays in the closing of this transaction. Thank you.

   The Company reserves the right to add additional items or make further requirements after review of the requested Affidavit/Declaration.

END OF REQUIREMENTS

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INFORMATIONAL NOTES SECTION

1. None of the items shown in this report will cause the Company to decline to attach CLTA Endorsement Form 100 to an Extended Coverage Loan Policy, when issued.

2. The policy of title insurance will include an arbitration provision. The Company or the insured may demand arbitration. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. Please ask your escrow or title officer for a sample copy of the policy to be issued if you wish to review the arbitration provisions and any other provisions pertaining to your Title Insurance coverage.

3. Notice: Please be aware that due to the conflict between federal and state laws concerning the cultivation, distribution, manufacture or sale of marijuana, the Company is not able to close or insure any transaction involving Land that is associated with these activities.

4. Pursuant to Government Code Section 27388.1, as amended and effective as of 1-1-2018, a Documentary Transfer Tax (DTT) Affidavit may be required to be completed and submitted with each document when DTT is being paid or when an exemption is being claimed from paying the tax. If a governmental agency is a party to the document, the form will not be required. DTT Affidavits may be available at a Tax Assessor-County Clerk-Recorder.

5. There are NO conveyances affecting said Land recorded within 24 months of the date of this report.

END OF INFORMATIONAL NOTES

Mitch LaRiva/ah1

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Wire Fraud Alert

This Notice is not intended to provide legal or professional advice. If you have any questions, please consult with a lawyer.

All parties to a real estate transaction are targets for wire fraud and many have lost hundreds of thousands of dollars because they simply relied on the wire instructions received via email, without further verification. **If funds are to be wired in conjunction with this real estate transaction, we strongly recommend verbal verification of wire instructions through a known, trusted phone number prior to sending funds.**

In addition, the following non-exclusive self-protection strategies are recommended to minimize exposure to possible wire fraud.

- **NEVER RELY** on emails purporting to change wire instructions. Parties to a transaction rarely change wire instructions in the course of a transaction.
- **ALWAYS VERIFY** wire instructions, specifically the ABA routing number and account number, by calling the party who sent the instructions to you. DO NOT use the phone number provided in the email containing the instructions, use phone numbers you have called before or can otherwise verify. **Obtain the phone number of relevant parties to the transaction as soon as an escrow account is opened**. DO NOT send an email to verify as the email address may be incorrect or the email may be intercepted by the fraudster.
- **USE COMPLEX EMAIL PASSWORDS** that employ a combination of mixed case, numbers, and symbols. Make your passwords greater than eight (8) characters. Also, change your password often and do NOT reuse the same password for other online accounts.
- **USE MULTI-FACTOR AUTHENTICATION** for email accounts. Your email provider or IT staff may have specific instructions on how to implement this feature.

For more information on wire-fraud scams or to report an incident, please refer to the following links:

Federal Bureau of Investigation:
http://www.fbi.gov

Internet Crime Complaint Center:
http://www.ic3.gov

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FIDELITY NATIONAL TITLE GROUP
FNTG Western Region
Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Notice of Available Discounts

Pursuant to Section 2355.3 in Title 10 of the California Code of Regulations Fidelity National Financial, Inc. and its subsidiaries ("FNF") must deliver a notice of each discount available under our current rate filing along with the delivery of escrow instructions, a preliminary report or commitment. Please be aware that the provision of this notice does not constitute a waiver of the consumer's right to be charged the filed rate. As such, your transaction may not qualify for the below discounts.

You are encouraged to discuss the applicability of one or more of the below discounts with a Company representative. These discounts are generally described below; consult the rate manual for a full description of the terms, conditions and requirements for such discount. These discounts only apply to transactions involving services rendered by the FNF Family of Companies. This notice only applies to transactions involving property improved with a one-to-four family residential dwelling.

Not all discounts are offered by every FNF Company. The discount will only be applicable to the FNF Company as indicated by the named discount.

FNF Underwritten Title Company

CTC – Chicago Title company
CLTC – Commonwealth Land Title Company
FNTC – Fidelity National Title Company of California
FNTCCA - Fidelity National Title Company of California
TICOR – Ticor Title Company of California
LTC – Lawyer's Title Company
SLTC – ServiceLink Title Company

Underwritten by FNF Underwriters

CTIC – Chicago Title Insurance Company
CLTIC - Commonwealth Land Title Insurance Company
FNTIC – Fidelity National Title Insurance Company
FNTIC - Fidelity National Title Insurance Company
CTIC – Chicago Title Insurance Company
CLTIC – Commonwealth Land Title Insurance Company
CTIC – Chicago Title Insurance Company

Available Discounts

DISASTER LOANS (CTIC, CLTIC, FNTIC)

The charge for a Lender's Policy (Standard or Extended coverage) covering the financing or refinancing by an owner of record, within twenty-four (24) months of the date of a declaration of a disaster area by the government of the United States or the State of California on any land located in said area, which was partially or totally destroyed in the disaster, will be fifty percent (50%) of the appropriate title insurance rate.

CHURCHES OR CHARITABLE NON-PROFIT ORGANIZATIONS (CTIC, FNTIC)

On properties used as a church or for charitable purposes within the scope of the normal activities of such entities, provided said charge is normally the church's obligation the charge for an owner's policy shall be fifty percent (50%) to seventy percent (70%) of the appropriate title insurance rate, depending on the type of coverage selected. The charge for a lender's policy shall be forty (40%) to fifty percent (50%) of the appropriate title insurance rate, depending on the type of coverage selected.

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FIDELITY NATIONAL FINANCIAL, INC.
PRIVACY NOTICE

Effective April 9, 2020

Fidelity National Financial, Inc. and its majority-owned subsidiary companies (collectively, "FNF," "our," or "we") respect and are committed to protecting your privacy. This Privacy Notice explains how we collect, use, and protect personal information, when and to whom we disclose such information, and the choices you have about the use and disclosure of that information.

A limited number of FNF subsidiaries have their own privacy notices. If a subsidiary has its own privacy notice, the privacy notice will be available on the subsidiary's website and this Privacy Notice does not apply.

Collection of Personal Information

FNF may collect the following categories of Personal Information:

- contact information (*e.g.*, name, address, phone number, email address);
- demographic information (*e.g.*, date of birth, gender, marital status);
- identity information (*e.g.* Social Security Number, driver's license, passport, or other government ID number);
- financial account information (*e.g.* loan or bank account information); and
- other personal information necessary to provide products or services to you.

We may collect Personal Information about you from:

- information we receive from you or your agent;
- information about your transactions with FNF, our affiliates, or others; and
- information we receive from consumer reporting agencies and/or governmental entities, either directly from these entities or through others.

Collection of Browsing Information

FNF automatically collects the following types of Browsing Information when you access an FNF website, online service, or application (each an "FNF Website") from your Internet browser, computer, and/or device:

- Internet Protocol (IP) address and operating system;
- browser version, language, and type;
- domain name system requests; and
- browsing history on the FNF Website, such as date and time of your visit to the FNF Website and visits to the pages within the FNF Website.

Like most websites, our servers automatically log each visitor to the FNF Website and may collect the Browsing Information described above. We use Browsing Information for system administration, troubleshooting, fraud investigation, and to improve our websites. Browsing Information generally does not reveal anything personal about you, though if you have created a user account for an FNF Website and are logged into that account, the FNF Website may be able to link certain browsing activity to your user account.

Other Online Specifics

Cookies. When you visit an FNF Website, a "cookie" may be sent to your computer. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. Information gathered using cookies helps us improve your user experience. For example, a cookie can help the website load properly or can customize the display page based on your browser type and user preferences. You can choose whether or not to accept cookies by changing your Internet browser settings. Be aware that doing so may impair or limit some functionality of the FNF Website.

Web Beacons. We use web beacons to determine when and how many times a page has been viewed. This information is used to improve our websites.

Do Not Track. Currently our FNF Websites do not respond to "Do Not Track" features enabled through your browser.

Links to Other Sites. FNF Websites may contain links to unaffiliated third-party websites. FNF is not responsible for the privacy practices or content of those websites. We recommend that you read the privacy policy of every website you visit.

Use of Personal Information

FNF uses Personal Information for three main purposes:

- To provide products and services to you or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you about our, our affiliates', and others' products and services, jointly or independently.

When Information Is Disclosed

We may disclose your Personal Information and Browsing Information in the following circumstances:

- to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to nonaffiliated service providers who provide or perform services or functions on our behalf and who agree to use the information only to provide such services or functions;

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Order No. 30053823-997-MAT-ML6

- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to jointly market financial products or services to you;
- to law enforcement or authorities in connection with an investigation, or in response to a subpoena or court order; or
- in the good-faith belief that such disclosure is necessary to comply with legal process or applicable laws, or to protect the rights, property, or safety of FNF, its customers, or the public.

The law does not require your prior authorization and does not allow you to restrict the disclosures described above. Additionally, we may disclose your information to third parties for whom you have given us authorization or consent to make such disclosure. We do not otherwise share your Personal Information or Browsing Information with nonaffiliated third parties, except as required or permitted by law. We may share your Personal Information with affiliates (other companies owned by FNF) to directly market to you. Please see "Choices with Your Information" to learn how to restrict that sharing.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of bankruptcy, reorganization, insolvency, receivership, or an assignment for the benefit of creditors. By submitting Personal Information and/or Browsing Information to FNF, you expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings.

Security of Your Information
We maintain physical, electronic, and procedural safeguards to protect your Personal Information.

Choices With Your Information
If you do not want FNF to share your information among our affiliates to directly market to you, you may send an "opt out" request by email, phone, or physical mail as directed at the end of this Privacy Notice. We do not share your Personal Information with nonaffiliates for their use to direct market to you without your consent.

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you.

For California Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties, except as permitted by California law. For additional information about your California privacy rights, please visit the "California Privacy" link on our website (https://fnf.com/pages/californiaprivacy.aspx) or call (888) 413-1748.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 934-3354 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.
For Oregon Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not disclose information about your creditworthiness to our affiliates and will not disclose your personal information, financial information, credit report, or health information to nonaffiliated third parties to market to you, other than as permitted by Vermont law, unless you authorize us to make those disclosures.

Information From Children
The FNF Websites are not intended or designed to attract persons under the age of eighteen (18).We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian.

International Users
FNF's headquarters is located within the United States. If you reside outside the United States and choose to provide Personal Information or Browsing Information to us, please note that we may transfer that information outside of your country of residence. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection, transfer, and use of such information in accordance with this Privacy Notice.

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Certain FNF companies provide services to mortgage loan servicers, including hosting websites that collect customer information on behalf of mortgage loan servicers (the "Service Websites"). The Service Websites may contain links to both this Privacy Notice and the mortgage loan servicer or lender's privacy notice. The sections of this Privacy Notice titled When Information is Disclosed, Choices with Your Information, and Accessing and Correcting Information do not apply to the Service Websites. The mortgage loan servicer or lender's privacy notice governs use, disclosure, and access to your Personal Information. FNF does not share Personal Information collected through the Service Websites, except as required or authorized by contract with the mortgage loan servicer or lender, or as required by law or in the good-faith belief that such disclosure is necessary: to comply with a legal process or applicable law, to enforce this Privacy Notice, or to protect the rights, property, or safety of FNF or the public.

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Accessing and Correcting Information; Contact Us

If you have questions, would like to correct your Personal Information, or want to opt-out of information sharing for affiliate marketing, send your requests to privacy@fnf.com, by phone to (888) 934-3354, or by mail to:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer

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ATTACHMENT ONE (Revised 05-06-16)

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE POLICY – 1990

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division; and
   f. environmental protection.
   This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;

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c. that result in no loss to You; or
d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.
   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.
8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

- For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 10,000.00
Covered Risk 18:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 19:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 21:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 5,000.00

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13 or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

{Except as provided in Schedule B - Part II,{ t{or T}his policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

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{PART I

{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.}

PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:}

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:
{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown in the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records. }
7. {Variable exceptions such as taxes, easements, CC&R's, etc. shown here.}

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ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY – ASSESSMENTS PRIORITY (04-02-15)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

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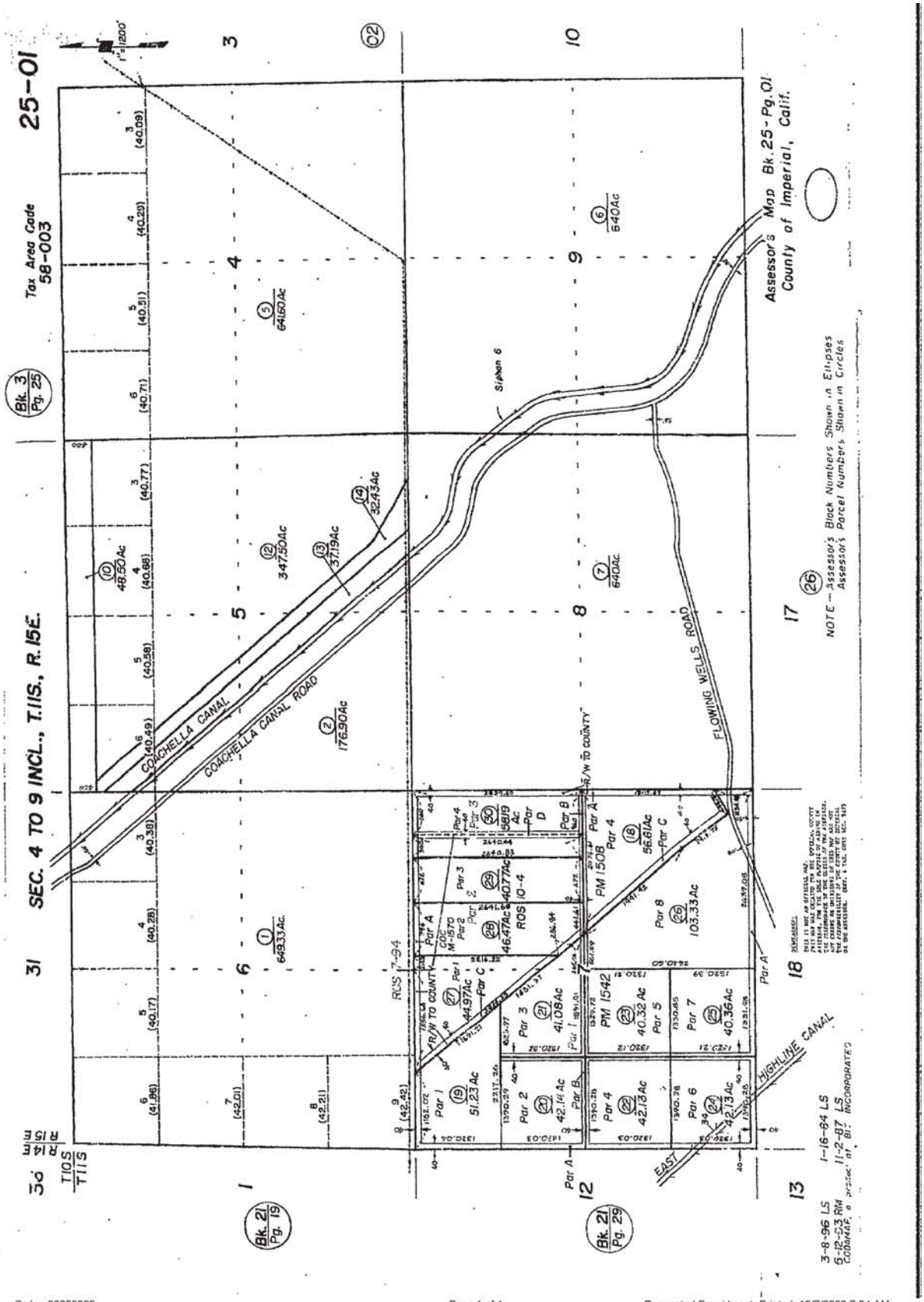

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OWNER'S DECLARATION

Escrow No.: 30053823-997-MAT-ML6
Property Address: No Situs APN 025-010-006-000
Imperial, CA

The undersigned hereby declares as follows:

1. (Fill in the applicable paragraph and strike the other)

   a. Declarant ("Owner") is the owner or lessee, as the case may be, of certain premises located at No Situs APN 025-010-006-000, Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

   b. Declarant is the _____ of _____ ("Owner"), which is the owner or lessee, as the case may be, of certain premises located at No Situs APN 025-010-006-000, Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

2. (Fill in the applicable paragraph and strike the other)

   a. During the period of six months immediately preceding the date of this declaration no work has been done, no surveys or architectural or engineering plans have been prepared, and no materials have been furnished in connection with the erection, equipment, repair, protection or removal of any building or other structure on the Land or in connection with the improvement of the Land in any manner whatsoever.

   b. During the period of six months immediately preceding the date of this declaration certain work has been done and materials furnished in connection with _____ upon the Land in the approximate total sum of $_____, but no work whatever remains to be done and no materials remain to be furnished to complete the construction in full compliance with the plans and specifications, nor are there any unpaid bills incurred for labor and materials used in making such improvements or repairs upon the Land, or for the services of architects, surveyors or engineers, except as follows: _____. Owner, by the undersigned Declarant, agrees to and does hereby indemnify and hold harmless Fidelity National Title Company against any and all claims arising therefrom.

3. Owner has not previously conveyed the Land; is not a debtor in bankruptcy (and if a partnership, the general partner thereof is not a debtor in bankruptcy); and has not received notice of any pending court action affecting the title to the Land.

4. Except as shown in the above-referenced Preliminary Report/Commitment, there are no unpaid or unsatisfied mortgages, deeds of trust, Uniform Commercial Code financing statements, regular assessments, special assessments, periodic assessments or any assessment from any source, claims of lien, special assessments, or taxes that constitute a lien against the Land or that affect the Land but have not been recorded in the public records. There are no violations of the covenants, conditions and restrictions as shown in the above-referenced Preliminary Report/Commitment.

5. The Land is currently in use as _____; _____ occupy/occupies the Land; and the following are all of the leases or other occupancy rights affecting the Land:

   _____

6. There are no other persons or entities that assert an ownership interest in the Land, nor are there unrecorded easements, claims of easement, or boundary disputes that affect the Land.

7. There are no outstanding options to purchase or rights of first refusal affecting the Land.

8. Between the most recent Effective Date of the above-referenced Preliminary Report/Commitment and the date of recording of the Insured Instrument(s), Owner has not taken or allowed, and will not take or allow, any action or inaction to encumber or otherwise affect title to the Land.

This declaration is made with the intention that Fidelity National Title Company (the "Company") and its policy issuing agents will rely upon it in issuing their title insurance policies and endorsements. Owner, by the undersigned Declarant, agrees to indemnify the Company against loss or damage (including attorneys fees, expenses, and costs) incurred by the Company as a result of any untrue statement made herein.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on _____ at _____.

Signature: _____

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FIDELITY NATIONAL TITLE GROUP
FNTG Western Region Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Issuing Policies of Fidelity National Title Insurance Company

Title Officer: Mitch LaRiva
Escrow Officer: Major Accounts OAC

Order No.: 997-**30053937**-ML6

TO:

ZGlobal
604 Sutter Street, Suite 250
Folsom, CA 95630

ATTN: **Jamie Nichole Nagel**
YOUR REFERENCE: **025-270-023**

PROPERTY ADDRESS: **No situs APN 025-270-023, Unincorporated County of Imperial, CA**

PRELIMINARY REPORT

In response to the application for a policy of title insurance referenced herein, ***Fidelity National Title Company*** *hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a policy or policies of title insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.*

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Attachment One. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Attachment One. Copies of the policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

The policy(s) of title insurance to be issued hereunder will be policy(s) of Fidelity National Title Insurance Company, a Florida Corporation.

Please read the exceptions shown or referred to herein and the exceptions and exclusions set forth in Attachment One of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land.

Countersigned by:

Authorized Signature

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FIDELITY NATIONAL TITLE GROUP
FNTG Western Region Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

PRELIMINARY REPORT

EFFECTIVE DATE: **August 31, 2020 at 7:30 a.m.**

ORDER NO.: 997-30053937-ML6

The form of policy or policies of title insurance contemplated by this report is:

ALTA Standard Owners Policy (6-17-06)

1. THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

   A FEE

2. TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

   ERNEST LO and TRACI LO as Trustees of the Ernest & Traci Lo Living Trust 1999, dated October 11, 1999, as to an undivided 40% interest; LI TONG WANG and SUCHU CHOU WANG, Co-Trustees or their successor trustees, under The Wang Family Trust, dated June 21, 2001, and any amendments thereto, as to an undivided 30% interest and TIEN-SHIH LIN, a married man, as to an undivided 30% interest, subject to Item No. 7 of Schedule "B"

3. THE LAND REFERRED TO IN THIS REPORT IS DESCRIBED AS FOLLOWS:

   See Exhibit A attached hereto and made a part hereof.

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EXHIBIT A

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA OF IMPERIAL, IN THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

ALL OF SECTION 15, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE U.S.A. BY DEED RECORDED AUGUST 11, 1978 IN BOOK 1420, PAGE 912 OF OFFICIAL RECORDS.

APN: 025-270-023

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EXCEPTIONS

AT THE DATE HEREOF, ITEMS TO BE CONSIDERED AND EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN SAID POLICY FORM WOULD BE AS FOLLOWS:

A. Property taxes, including any personal property taxes and any assessments collected with taxes, are as follows:

Tax Identification No.:	025-270-023-000
Fiscal Year:	2020-2021
1st Installment:	$290.65, OPEN (Delinquent after December 10)
Penalty:	$29.06
2nd Installment:	$290.65, OPEN (Delinquent after April 10)
Penalty and Cost:	$39.06
Homeowners Exemption:	$0.00
Code Area:	058-003

B. The lien of supplemental or escaped assessments of property taxes, if any, made pursuant to the provisions of Chapter 3.5 (commencing with Section 75) or Part 2, Chapter 3, Articles 3 and 4, respectively, of the Revenue and Taxation Code of the State of California as a result of the transfer of title to the vestee named in Schedule A or as a result of changes in ownership or new construction occurring prior to Date of Policy.

1. Water rights, claims or title to water, whether or not disclosed by the public records.

2. Easement(s) in favor of the public over any existing roads lying within said Land.

3. Lack of a legal right of access to and from a public street or highway.

4. The right, title, or interest, which the Imperial Irrigation District may have or claim in and to that portion of the herein described land lying within the bounds of:

   The Coachella Canal

5. The right, title, or interest, which the Imperial Irrigation District may have or claim in and to that portion of the herein described land lying within the bounds of:

   County Road No. 7G01

6. Rights or claims of easements for canals, drains, laterals, irrigation pipelines and gates not recorded in the public records.

7. The community interest of the spouse of the vestee named below.

   Vestee: Tien-Shih Lin

   The Company will require that the spouse of the vestee shown above join in any conveyance or encumbrance before such transaction will be insured.

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EXCEPTIONS
(Continued)

8. Any invalidity or defect in the title of the vestees in the event that the trust referred to herein is invalid or fails to grant sufficient powers to the trustee(s) or in the event there is a lack of compliance with the terms and provisions of the trust instrument.

   If title is to be insured in the trustee(s) of a trust, (or if their act is to be insured), this Company will require a Trust Certification pursuant to California Probate Code Section 18100.5.

   The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

9. Please be advised that our search did not disclose any open Deeds of Trust of record. If you should have knowledge of any outstanding obligation, please contact the Title Department immediately for further review prior to closing.

10. Any rights of the parties in possession of a portion of, or all of, said Land, which rights are not disclosed by the public records.

    The Company will require, for review, a full and complete copy of any unrecorded agreement, contract, license and/or lease, together with all supplements, assignments and amendments thereto, before issuing any policy of title insurance without excepting this item from coverage.

    The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

11. Any easements not disclosed by the public records as to matters affecting title to real property, whether or not said easements are visible and apparent.

12. Matters which may be disclosed by an inspection and/or by a correct ALTA/NSPS Land Title Survey of said Land that is satisfactory to the Company, and/or by inquiry of the parties in possession thereof.

PLEASE REFER TO THE "INFORMATIONAL NOTES" AND "REQUIREMENTS" SECTIONS WHICH FOLLOW FOR INFORMATION NECESSARY TO COMPLETE THIS TRANSACTION.

END OF EXCEPTIONS

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REQUIREMENTS SECTION

1. Prior to the close of escrow, the Company requires a Statement of Information to be completed by the following party(s),

   Party(s): All Parties

   The Company reserves the right to add additional items or make further requirements after review of the requested Statement of Information.

2. The Company will require either (a) a complete copy of the trust agreement and any amendments thereto certified by the trustee(s) to be a true and complete copy with respect to the hereinafter named trust, or (b) a Certification, pursuant to California Probate Code Section 18100.5, executed by all of the current trustee(s) of the hereinafter named trust, a form of which is attached.

   Name of Trust: Ernest and Traci Lo Living Trust 1999, dated 10-11-1999

3. The Company will require either (a) a complete copy of the trust agreement and any amendments thereto certified by the trustee(s) to be a true and complete copy with respect to the hereinafter named trust, or (b) a Certification, pursuant to California Probate Code Section 18100.5, executed by all of the current trustee(s) of the hereinafter named trust, a form of which is attached.

   Name of Trust: Li Tong Wang & Suchu Chou Wang, Co-Trustees under the Wang Family Trust, dated June 21, 2001

4. Unrecorded matters which may be disclosed by an Owner's Affidavit or Declaration. A form of the Owner's Affidavit/Declaration is attached to this Preliminary Report/Commitment. This Affidavit/Declaration is to be completed by the record owner of the land and submitted for review prior to the closing of this transaction. Your prompt attention to this requirement will help avoid delays in the closing of this transaction. Thank you.

   The Company reserves the right to add additional items or make further requirements after review of the requested Affidavit/Declaration.

END OF REQUIREMENTS

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INFORMATIONAL NOTES SECTION

1. Note: The policy of title insurance will include an arbitration provision. The Company or the insured may demand arbitration. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. Please ask your escrow or title officer for a sample copy of the policy to be issued if you wish to review the arbitration provisions and any other provisions pertaining to your Title Insurance coverage.

2. Notice: Please be aware that due to the conflict between federal and state laws concerning the cultivation, distribution, manufacture or sale of marijuana, the Company is not able to close or insure any transaction involving Land that is associated with these activities.

3. Pursuant to Government Code Section 27388.1, as amended and effective as of 1-1-2018, a Documentary Transfer Tax (DTT) Affidavit may be required to be completed and submitted with each document when DTT is being paid or when an exemption is being claimed from paying the tax. If a governmental agency is a party to the document, the form will not be required. DTT Affidavits may be available at a Tax Assessor-County Clerk-Recorder.

4. Note: There are NO conveyances affecting said Land recorded within 24 months of the date of this report.

END OF INFORMATIONAL NOTES

Mitch LaRiva/ng

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Wire Fraud Alert

This Notice is not intended to provide legal or professional advice. If you have any questions, please consult with a lawyer.

All parties to a real estate transaction are targets for wire fraud and many have lost hundreds of thousands of dollars because they simply relied on the wire instructions received via email, without further verification. **If funds are to be wired in conjunction with this real estate transaction, we strongly recommend verbal verification of wire instructions through a known, trusted phone number prior to sending funds.**

In addition, the following non-exclusive self-protection strategies are recommended to minimize exposure to possible wire fraud.

- **NEVER RELY** on emails purporting to change wire instructions. Parties to a transaction rarely change wire instructions in the course of a transaction.
- **ALWAYS VERIFY** wire instructions, specifically the ABA routing number and account number, by calling the party who sent the instructions to you. DO NOT use the phone number provided in the email containing the instructions, use phone numbers you have called before or can otherwise verify. **Obtain the phone number of relevant parties to the transaction as soon as an escrow account is opened**. DO NOT send an email to verify as the email address may be incorrect or the email may be intercepted by the fraudster.
- **USE COMPLEX EMAIL PASSWORDS** that employ a combination of mixed case, numbers, and symbols. Make your passwords greater than eight (8) characters. Also, change your password often and do NOT reuse the same password for other online accounts.
- **USE MULTI-FACTOR AUTHENTICATION** for email accounts. Your email provider or IT staff may have specific instructions on how to implement this feature.

For more information on wire-fraud scams or to report an incident, please refer to the following links:

Federal Bureau of Investigation:
http://www.fbi.gov

Internet Crime Complaint Center:
http://www.ic3.gov

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FNTG Western Region
Energy Services
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Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Notice of Available Discounts

Pursuant to Section 2355.3 in Title 10 of the California Code of Regulations Fidelity National Financial, Inc. and its subsidiaries ("FNF") must deliver a notice of each discount available under our current rate filing along with the delivery of escrow instructions, a preliminary report or commitment. Please be aware that the provision of this notice does not constitute a waiver of the consumer's right to be charged the filed rate. As such, your transaction may not qualify for the below discounts.

You are encouraged to discuss the applicability of one or more of the below discounts with a Company representative. These discounts are generally described below; consult the rate manual for a full description of the terms, conditions and requirements for such discount. These discounts only apply to transactions involving services rendered by the FNF Family of Companies. This notice only applies to transactions involving property improved with a one-to-four family residential dwelling.

Not all discounts are offered by every FNF Company. The discount will only be applicable to the FNF Company as indicated by the named discount.

FNF Underwritten Title Company

CTC – Chicago Title company
CLTC – Commonwealth Land Title Company
FNTC – Fidelity National Title Company of California
FNTCCA - Fidelity National Title Company of California
TICOR – Ticor Title Company of California
LTC – Lawyer's Title Company
SLTC – ServiceLink Title Company

Underwritten by FNF Underwriters

CTIC – Chicago Title Insurance Company
CLTIC - Commonwealth Land Title Insurance Company
FNTIC – Fidelity National Title Insurance Company
FNTIC - Fidelity National Title Insurance Company
CTIC – Chicago Title Insurance Company
CLTIC – Commonwealth Land Title Insurance Company
CTIC – Chicago Title Insurance Company

Available Discounts

DISASTER LOANS (CTIC, CLTIC, FNTIC)

The charge for a Lender's Policy (Standard or Extended coverage) covering the financing or refinancing by an owner of record, within twenty-four (24) months of the date of a declaration of a disaster area by the government of the United States or the State of California on any land located in said area, which was partially or totally destroyed in the disaster, will be fifty percent (50%) of the appropriate title insurance rate.

CHURCHES OR CHARITABLE NON-PROFIT ORGANIZATIONS (CTIC, FNTIC)

On properties used as a church or for charitable purposes within the scope of the normal activities of such entities, provided said charge is normally the church's obligation the charge for an owner's policy shall be fifty percent (50%) to seventy percent (70%) of the appropriate title insurance rate, depending on the type of coverage selected. The charge for a lender's policy shall be forty (40%) to fifty percent (50%) of the appropriate title insurance rate, depending on the type of coverage selected.

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FIDELITY NATIONAL FINANCIAL, INC.
PRIVACY NOTICE

Effective April 9, 2020

Fidelity National Financial, Inc. and its majority-owned subsidiary companies (collectively, "FNF," "our," or "we") respect and are committed to protecting your privacy. This Privacy Notice explains how we collect, use, and protect personal information, when and to whom we disclose such information, and the choices you have about the use and disclosure of that information.

A limited number of FNF subsidiaries have their own privacy notices. If a subsidiary has its own privacy notice, the privacy notice will be available on the subsidiary's website and this Privacy Notice does not apply.

Collection of Personal Information

FNF may collect the following categories of Personal Information:

- contact information (*e.g.*, name, address, phone number, email address);
- demographic information (*e.g.*, date of birth, gender, marital status);
- identity information (*e.g.* Social Security Number, driver's license, passport, or other government ID number);
- financial account information (*e.g.* loan or bank account information); and
- other personal information necessary to provide products or services to you.

We may collect Personal Information about you from:

- information we receive from you or your agent;
- information about your transactions with FNF, our affiliates, or others; and
- information we receive from consumer reporting agencies and/or governmental entities, either directly from these entities or through others.

Collection of Browsing Information

FNF automatically collects the following types of Browsing Information when you access an FNF website, online service, or application (each an "FNF Website") from your Internet browser, computer, and/or device:

- Internet Protocol (IP) address and operating system;
- browser version, language, and type;
- domain name system requests; and
- browsing history on the FNF Website, such as date and time of your visit to the FNF Website and visits to the pages within the FNF Website.

Like most websites, our servers automatically log each visitor to the FNF Website and may collect the Browsing Information described above. We use Browsing Information for system administration, troubleshooting, fraud investigation, and to improve our websites. Browsing Information generally does not reveal anything personal about you, though if you have created a user account for an FNF Website and are logged into that account, the FNF Website may be able to link certain browsing activity to your user account.

Other Online Specifics

Cookies. When you visit an FNF Website, a "cookie" may be sent to your computer. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. Information gathered using cookies helps us improve your user experience. For example, a cookie can help the website load properly or can customize the display page based on your browser type and user preferences. You can choose whether or not to accept cookies by changing your Internet browser settings. Be aware that doing so may impair or limit some functionality of the FNF Website.

Web Beacons. We use web beacons to determine when and how many times a page has been viewed. This information is used to improve our websites.

Do Not Track. Currently our FNF Websites do not respond to "Do Not Track" features enabled through your browser.

Links to Other Sites. FNF Websites may contain links to unaffiliated third-party websites. FNF is not responsible for the privacy practices or content of those websites. We recommend that you read the privacy policy of every website you visit.

Use of Personal Information

FNF uses Personal Information for three main purposes:

- To provide products and services to you or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you about our, our affiliates', and others' products and services, jointly or independently.

When Information Is Disclosed

We may disclose your Personal Information and Browsing Information in the following circumstances:

- to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to nonaffiliated service providers who provide or perform services or functions on our behalf and who agree to use the information only to provide such services or functions;

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- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to jointly market financial products or services to you;
- to law enforcement or authorities in connection with an investigation, or in response to a subpoena or court order; or
- in the good-faith belief that such disclosure is necessary to comply with legal process or applicable laws, or to protect the rights, property, or safety of FNF, its customers, or the public.

The law does not require your prior authorization and does not allow you to restrict the disclosures described above. Additionally, we may disclose your information to third parties for whom you have given us authorization or consent to make such disclosure. We do not otherwise share your Personal Information or Browsing Information with nonaffiliated third parties, except as required or permitted by law. We may share your Personal Information with affiliates (other companies owned by FNF) to directly market to you. Please see "Choices with Your Information" to learn how to restrict that sharing.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of bankruptcy, reorganization, insolvency, receivership, or an assignment for the benefit of creditors. By submitting Personal Information and/or Browsing Information to FNF, you expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings.

Security of Your Information
We maintain physical, electronic, and procedural safeguards to protect your Personal Information.

Choices With Your Information
If you do not want FNF to share your information among our affiliates to directly market to you, you may send an "opt out" request by email, phone, or physical mail as directed at the end of this Privacy Notice. We do not share your Personal Information with nonaffiliates for their use to direct market to you without your consent.

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you.

For California Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties, except as permitted by California law. For additional information about your California privacy rights, please visit the "California Privacy" link on our website (https://fnf.com/pages/californiaprivacy.aspx) or call (888) 413-1748.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 934-3354 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.
For Oregon Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not disclose information about your creditworthiness to our affiliates and will not disclose your personal information, financial information, credit report, or health information to nonaffiliated third parties to market to you, other than as permitted by Vermont law, unless you authorize us to make those disclosures.

Information From Children
The FNF Websites are not intended or designed to attract persons under the age of eighteen (18).We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian.

International Users
FNF's headquarters is located within the United States. If you reside outside the United States and choose to provide Personal Information or Browsing Information to us, please note that we may transfer that information outside of your country of residence. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection, transfer, and use of such information in accordance with this Privacy Notice.

FNF Website Services for Mortgage Loans
Certain FNF companies provide services to mortgage loan servicers, including hosting websites that collect customer information on behalf of mortgage loan servicers (the "Service Websites"). The Service Websites may contain links to both this Privacy Notice and the mortgage loan servicer or lender's privacy notice. The sections of this Privacy Notice titled When Information is Disclosed, Choices with Your Information, and Accessing and Correcting Information do not apply to the Service Websites. The mortgage loan servicer or lender's privacy notice governs use, disclosure, and access to your Personal Information. FNF does not share Personal Information collected through the Service Websites, except as required or authorized by contract with the mortgage loan servicer or lender, or as required by law or in the good-faith belief that such disclosure is necessary: to comply with a legal process or applicable law, to enforce this Privacy Notice, or to protect the rights, property, or safety of FNF or the public.

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Your Consent To This Privacy Notice; Notice Changes; Use of Comments or Feedback

By submitting Personal Information and/or Browsing Information to FNF, you consent to the collection and use of the information in accordance with this Privacy Notice. We may change this Privacy Notice at any time. The Privacy Notice's effective date will show the last date changes were made. If you provide information to us following any change of the Privacy Notice, that signifies your assent to and acceptance of the changes to the Privacy Notice. We may use comments or feedback that you submit to us in any manner without notice or compensation to you.

Accessing and Correcting Information; Contact Us

If you have questions, would like to correct your Personal Information, or want to opt-out of information sharing for affiliate marketing, send your requests to privacy@fnf.com, by phone to (888) 934-3354, or by mail to:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer

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ATTACHMENT ONE (Revised 05-06-16)

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE POLICY – 1990

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division; and
   f. environmental protection.
   This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;

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c. that result in no loss to You; or
d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.
   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.
8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

- For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 10,000.00
Covered Risk 18:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 19:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 21:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 5,000.00

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13 or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

{Except as provided in Schedule B - Part II,{ t{or T}his policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

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{PART I

{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.}

PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:}

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:
{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown in the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records. }
7. {Variable exceptions such as taxes, easements, CC&R's, etc. shown here.}

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ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY – ASSESSMENTS PRIORITY (04-02-15)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

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This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.

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RECORDING REQUESTED BY
Fidelity National Title Company
WHEN RECORDED MAIL TO:
=addressee=

ORDER NO.: **30053937-997-ML6**

SPACE ABOVE THIS LINE FOR RECORDER'S USE

CERTIFICATION OF TRUST
California Probate Code Section 18100.5

The undersigned declare(s) under penalty of perjury under the laws of the State of California that the following is true and correct:

1. The Trust known as _____, executed on _____, is a valid and existing trust.

2. The name(s) of the settlor(s) of the Trust is (are): _____
_____

3. The name(s) of the currently acting trustee(s) is (are): _____
_____

4. The trustee(s) of the Trust have the following powers (initial applicable line(s)):
_____Power to acquire additional property.
_____Power to sell and execute deeds.
_____Power to encumber, and execute deeds of trust.
_____Other: _____

5. The Trust is (check one): _____ Revocable _____ Irrevocable

   The name of the person who may revoke the Trust is: _____

6. The number of trustees who must sign documents in order to exercise the powers of the Trust is (are): _____, whose name(s) is (are): _____

7. Title to Trust assets is to be taken as follows: _____

8. The Trust has not been revoked, modified or amended in any manner which would cause the representations contained herein to be incorrect.

9. I (we) am (are) all of the currently acting trustees.

10. I (we) understand that I (we) may be required to provide copies of excerpts from the original Trust documents which designate the trustees and confer the power to act in the pending transaction.

Dated: _____

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(Acknowledgement must be attached)

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CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

PC ORIGINAL PKG

RECORDING REQUESTED BY
Fidelity National Title Company
WHEN RECORDED MAIL TO:
=addressee=

ORDER NO.: **30053937-997-ML6**

SPACE ABOVE THIS LINE FOR RECORDER'S USE

CERTIFICATION OF TRUST
California Probate Code Section 18100.5

The undersigned declare(s) under penalty of perjury under the laws of the State of California that the following is true and correct:

1. The Trust known as _____, executed on _____, is a valid and existing trust.

2. The name(s) of the settlor(s) of the Trust is (are): _____
_____

3. The name(s) of the currently acting trustee(s) is (are): _____
_____

4. The trustee(s) of the Trust have the following powers (initial applicable line(s)):
_____Power to acquire additional property.
_____Power to sell and execute deeds.
_____Power to encumber, and execute deeds of trust.
_____Other: _____

5. The Trust is (check one): _____ Revocable _____ Irrevocable

   The name of the person who may revoke the Trust is: _____

6. The number of trustees who must sign documents in order to exercise the powers of the Trust is (are): _____, whose name(s) is (are): _____

7. Title to Trust assets is to be taken as follows: _____

8. The Trust has not been revoked, modified or amended in any manner which would cause the representations contained herein to be incorrect.

9. I (we) am (are) all of the currently acting trustees.

10. I (we) understand that I (we) may be required to provide copies of excerpts from the original Trust documents which designate the trustees and confer the power to act in the pending transaction.

Dated: _____

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(Acknowledgement must be attached)

PC ORIGINAL PKG

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

PC ORIGINAL PKG

OWNER'S DECLARATION

Escrow No.: 30053937-997-MAT-ML6
Property Address: No situs APN 025-270-023
Unincorporated County of Imperial, CA

The undersigned hereby declares as follows:

1. (Fill in the applicable paragraph and strike the other)

   a. Declarant ("Owner") is the owner or lessee, as the case may be, of certain premises located at No situs APN 025-270-023, Unincorporated County of Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

   b. Declarant is the _____ of _____ ("Owner"), which is the owner or lessee, as the case may be, of certain premises located at No situs APN 025-270-023, Unincorporated County of Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

2. (Fill in the applicable paragraph and strike the other)

   a. During the period of six months immediately preceding the date of this declaration no work has been done, no surveys or architectural or engineering plans have been prepared, and no materials have been furnished in connection with the erection, equipment, repair, protection or removal of any building or other structure on the Land or in connection with the improvement of the Land in any manner whatsoever.

   b. During the period of six months immediately preceding the date of this declaration certain work has been done and materials furnished in connection with _____ upon the Land in the approximate total sum of $_____, but no work whatever remains to be done and no materials remain to be furnished to complete the construction in full compliance with the plans and specifications, nor are there any unpaid bills incurred for labor and materials used in making such improvements or repairs upon the Land, or for the services of architects, surveyors or engineers, except as follows: _____. Owner, by the undersigned Declarant, agrees to and does hereby indemnify and hold harmless Fidelity National Title Company against any and all claims arising therefrom.

3. Owner has not previously conveyed the Land; is not a debtor in bankruptcy (and if a partnership, the general partner thereof is not a debtor in bankruptcy); and has not received notice of any pending court action affecting the title to the Land.

4. Except as shown in the above-referenced Preliminary Report/Commitment, there are no unpaid or unsatisfied mortgages, deeds of trust, Uniform Commercial Code financing statements, regular assessments, special assessments, periodic assessments or any assessment from any source, claims of lien, special assessments, or taxes that constitute a lien against the Land or that affect the Land but have not been recorded in the public records. There are no violations of the covenants, conditions and restrictions as shown in the above-referenced Preliminary Report/Commitment.

5. The Land is currently in use as _____; _____ occupy/occupies the Land; and the following are all of the leases or other occupancy rights affecting the Land:

   _____

6. There are no other persons or entities that assert an ownership interest in the Land, nor are there unrecorded easements, claims of easement, or boundary disputes that affect the Land.

7. There are no outstanding options to purchase or rights of first refusal affecting the Land.

8. Between the most recent Effective Date of the above-referenced Preliminary Report/Commitment and the date of recording of the Insured Instrument(s), Owner has not taken or allowed, and will not take or allow, any action or inaction to encumber or otherwise affect title to the Land.

This declaration is made with the intention that Fidelity National Title Company (the "Company") and its policy issuing agents will rely upon it in issuing their title insurance policies and endorsements. Owner, by the undersigned Declarant, agrees to indemnify the Company against loss or damage (including attorneys fees, expenses, and costs) incurred by the Company as a result of any untrue statement made herein.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on _____ at _____.

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Signature: _____

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APPENDIX K

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GS Lyon

Steven K. Williams, CEG
Senior Engineering Geologist

Education
M.S. Geology
University of Utah, 1993
B.S. Geology
University of Utah, 1989

Registration
Registered Geologist
Arizona 3759
California 6975
Certified Engineering Geologist
California 2261

Professional Experience

2000 – Present	Project Geologist GS Lyon Consultants, Inc.
1994 - 2000	Staff Geologist GS Lyon Consultants, Inc.
1994	Field Geologist Bureau of Land Management
1991 - 1992	Exploration Geologist Kennecott Corporation

Summary of Experience
Mr. Williams has performed geotechnical investigations in southern California and southwestern Arizona. His field experience includes logging of soil borings and exploratory trenches, collection and documentation of soil samples, collection of field geotechnical data, and monitoring pile driving operations. Mr. Williams is also responsible for preparing computer generated data and figures, drafting and subsequent writing of geotechnical reports for a variety of projects including road improvements, fault studies, liquefaction potential evaluation, foundation preparation, seepage studies, structural distress, and soil investigations. He has performed geotechnical, geologic, and environmental studies for a wide variety of projects including correctional facilities, water and wastewater facilities, schools, residential subdivisions, commercial developments, and landfills throughout southern California and southwestern Arizona.

Mr. Williams also performs Phase I Environmental Site Assessments throughout the Imperial and Coachella Valleys. The scope of work for these projects typically include a site reconnaissance, review of government records pertaining to previous site uses, and preparation of a report identifying potential environmental risks.

He also conducts investigations for the potential of asbestos-containing materials and lead-based paint in old building projects and potential for soil contamination by hydrocarbons, pesticides, and other hazardous materials.

Professional Affiliations
Geological Society of America, Member

Selected Project Experience
- **El Centro Seniors Apartments, El Centro, CA**

Performed Phase I and Phase II environmental site assessments for apartment complex at old school district office site with underground storage tanks.
- **Central Main Canal Seepage Study, Imperial, CA**

Conducted 6-month groundwater seepage study for Imperial Irrigation District to evaluate high groundwater levels in Sandalwood Glen Subdivision
- **Gateway to the Americas, Calexico, CA**

Conducted Phase I ESA, geologic hazards study and geotechnical investigation including liquefaction evaluation for 1,700 acre development associated with new Port of Entry east of Calexico
- **El Centro Magistrate Court, El Centro, CA**

Conducted geotechnical investigation and Phase I ESA for new Federal Magistrate Court building at site with soft soil conditions requiring foundation settlement analysis
- **El Centro Regional Medical Center, El Centro, CA**

Conducted Phase I ESA and geotechnical investigation for 50,000 sf, 2-story addition to the medical center's emergency room, operating rooms, and recovery rooms.
- **Brawley Union High School, Brawley, CA**

Conducted Phase II investigation for PCB and lead contamination of surficial soil and hydrocarbon contamination of subsurface soil of a property proposed for purchase.
- **EW Corporation Site, Westmorland, CA**

Conducted Phase II investigation for hydrocarbon contamination of subsurface soil of a service station site with leaking underground storage tanks prior to property purchase
- **Various Apartment Complexes, Imperial County, CA**

Conducted Phase I environmental investigation at numerous proposed apartment complex site within the Imperial Valley
- **Oasis Elementary School, Mecca, CA**

Conducted PEA environmental investigation for the new Oasis Elementary School prior to construction of school

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Phase I ESA Report

Vega 5 (Te Dana and SW Clark) Solar Site
NEC Schrimpf Road and Wiest Road
Niland, California

Prepared for:

Apex Energy Solutions, LLC
750 Main Street
El Centro, CA 92243

Prepared by:

GS Lyon Consultants, Inc.
780 N. 4th Street
El Centro, CA 92243
(760) 337-1100

December 2020

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GSL Lyon

Engineering And
Information Technology

December 18, 2020

Mr. Ziad Alaynon
Apex Energy Solutions, LLC
750 Main Street
El Centro, CA 92243

Phase I Environmental Site Assessment Report
Vega 5 (Te Dana and SW Clark) Solar Site
NEC Schrimpf and Wiest Roads
Niland, California
GSL Report No. GS2016

Dear Mr. Alaynon:

We have performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM E1527-13 of the approximately 240-acre property located at the northeast corner of Schrimpf Road and Wiest Road approximately 4.5 miles southeast of Niland, California. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report. **This assessment has revealed the following "de minimis" condition in connection with the property:**

- Pesticide residues (low concentrations) typical to agricultural crop applications may be present in the near surface soils in the agricultural field in the southwestern portion of the subject property.

This assessment has not revealed any recognized environmental conditions (REC's) in connection with the property.

We declare that, to the best of our professional knowledge and belief, we meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR §312 and we have the specific qualifications based on education, training and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

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Attached is our report which describes the procedures used and results of the assessment. If you have any questions or require additional information, please do not hesitate to contact the undersigned at (760) 337-1100. We appreciate the opportunity to provide our professional review for this subject property.

Respectfully Submitted,
GS Lyon Consultants, Inc.

Jeffrey O. Lyon, PE
Principal Engineer

Steven K. Williams, PG, CEG
Consulting Geologist

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Appendix B: Vicinity, Site, and Soils Maps
Appendix C: Historical Aerial Photographs
Appendix D: Historical Topographic Maps
Appendix E: EDR Environmental Records Search Report
Appendix F: Other Environmental Records Search Results
Appendix G: Preliminary Title Report
Appendix H: User Questionnaire and EDR Environmental Lien and AUL Search
Appendix I: Resumes of Environmental Professionals

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1.0 INTRODUCTION

1.1 Purpose

GS Lyon Consultants, Inc. was retained by Apex Energy Solutions, LLC to conduct a Phase I Environmental Site Assessment (ESA) for the Property (herein referred to as the subject property or subject property in this Phase I ESA Report) as a prerequisite to property transaction (purchase, sale, refinance, etc.). The subject property is located at the northeast corner of Schrimpf Road and Wiest Road approximately 4.5 miles southeast of Niland, California. See Plate 1 in Appendix B for a Vicinity Map of the subject property.

The purpose of this Phase I Environmental Site Assessment (ESA) is to identify, to the extent feasible, recognized environmental conditions (RECs) associated with past and present activities on the subject property or in the immediate subject property vicinity in general conformance to ASTM Standard E1527-13 "*Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*" that may affect future uses of the subject property.

This report is intended to satisfy the Phase I ESA portion of "*all appropriate inquiry*" into the previous ownership and uses of the subject property as defined under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) at Title 42 of the United States Code (U.S.C.) §9601(35)(B) and in accordance with 40 Code of Federal Regulations (CFR) Part 312, Standards and Practices for All Appropriate Inquiries; Final Rule (AAI Rule).

1.2 Scope of Services

The scope of work for this ESA is in general accordance with the requirements of ASTM Standard E1527-13. This assessment included:

- Reconnaissance of the subject property and adjacent properties
- Review user-provided information
- Interviews with persons with significant knowledge of the subject property
- Review of a regulatory database report provided by a third-party vendor
- Review readily-available historical sources (including but not limited to: aerial photographs, fire insurance maps, property tax files, recorded land title records, and topographical maps)
- Prepare report of findings

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1.3 Limitations

No Phase I ESA can completely eliminate uncertainty regarding the potential for RECs in connection with a property. Conformance of this assessment with ASTM Standard E1527-13 is intended to reduce, but not eliminate uncertainty regarding the potential for RECs in connection with the Subject Property. While GS Lyon has made reasonable effort to discover and interpret available historical and current information on the property within the time available, the possibility of undiscovered contamination remains. Our assessment of the subject property and surrounding areas was conducted in accordance with ASTM guidelines and the *generally accepted environmental engineering standard of practice* which existed in Imperial County, California at the time that the report was prepared. No warranty, express or implied, is made.

GS Lyon Consultants, Inc. derived the data in this report primarily from visual inspections, examination of public records and information in the public domain, informal interviews with individuals, and readily available information about the subject property. The passage of time, manifestation of latent conditions or occurrence of future events may require further exploration of the subject property, analysis of the data, and reevaluation of the findings, observations, and conclusions expressed in this report.

The findings, observations, and conclusions expressed by GS Lyon Consultants in this report are not, and should not be considered, an opinion concerning the compliance of any past or present owner or operator of the subject property with any federal, state or local law or regulation.

This report should not be relied upon after **180 days** from the date of issuance, unless additional services are performed as defined in ASTM E1527-13 - Section 4.7.

1.4 Deviations or Data Gaps

ASTM Standard E1527-13 requires any significant data gaps, deviations, and deletions from the ASTM Standard to be identified and addressed in the Phase I ESA. A significant data gap would be one that affected the ability to identify a REC on the subject property or adjacent properties.

Through the course of this assessment, *data failures* or *data gaps* may have been encountered. These failures or gaps, if any, are discussed below. The following provides the opinion of the Environmental Professional as to the significance of the data gaps in terms of defining *recognized environmental conditions* at the subject property. Data failures may or may not be significant data gaps, and the discussion also provides information pertaining to whether the data failures resulted in significant data gaps.

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1.4.1 Data Failures

Data failure is a failure to achieve the historical (property use) research objectives specified in the ASTM Standard Practice even after reviewing the eight standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

No *data failures w*ere encountered during this investigation.

1.4.2 Data Gaps

A *data gap* is a lack of or inability to obtain information required by the ASTM Standard Practice, despite good faith efforts by the Environmental Professional (EP) to gather such information. This could include any component of the Practice, e.g., standard environmental records, interviews, or a complete reconnaissance. A data gap by itself is not inherently significant, but if other information and/or the EP's experience raises reasonable concerns about the gap, it may be judged to be significant.

Due to the location of the subject property, Sanborn Fire Insurance maps were not available for the subject property. Because there is no historical data or physical indications that the property has ever been developed or occupied by a business that would have produced hazardous materials, the lack of Sanborn Fire Insurance maps is not considered a significant data gap.

Aerial photographs and other historical records were not available at 5 year intervals as required under the ASTM E1527-13 standard. This resulted in a data gap for years that records were not available regarding the area of the subject property. However, based upon other historical information reviewed, the subject property has been agricultural fields along the west of the East Highline (EHL) Canal and vacant desert land to the east of the East Highline Canal. Therefore, this data gap is not considered to be significant.

Interviews with past owners, operators and occupants were not reasonably ascertainable and thus constitute a data gap. Based on information obtained from other historical sources (as discussed in Section 3.0), this data gap is not expected to alter the findings of this assessment.

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1.5 Significant Assumptions

In preparing this report, GS Lyon Consultants, Inc. has relied upon and presumed accurate certain information (or the absence thereof) about the subject property and adjacent properties by governmental officials and agencies, the Client, and others identified herein. Except as otherwise stated in the report, GS Lyon Consultants has not attempted to verify the accuracy or completeness of any such information.

1.6 User Reliance

This report has been prepared on behalf of and for the exclusive use of Apex Energy Solutions, LLC for the particular subject property identified in this report, and is subject to and issued in connection with the referenced Agreement and the provisions thereof. This report should not be relied upon by any party other than the client, its legal counsel, and financial institution without the express permission of GS Lyon Consultants, Inc. Any reliance on this report by other parties shall be at such party's sole risk. Any future consultation or provision of services to third parties related to the subject property requires written authorization from Apex Energy Solutions, LLC or their representatives. Any such services may be provided at GS Lyon Consultants sole discretion and under terms and conditions acceptable to GS Lyon Consultants, including potential additional compensation.

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2.0 SITE DESCRIPTION

2.1 Site Location and Legal Description

The approximately 240-acre subject property (APNs 025-260-019 and 025-260-022) is located at the northeast corner of Schrimpf Road and Wiest Road approximately 4.5 miles southeast of Niland, California. The subject property location is depicted on Plate 1, Site Map.

2.2 Current Property Use and Description

The subject property currently consists of two distinct parcels: a fallow agricultural field located along the west side of the East Highline (EHL) Canal and vacant desert land located on the east side of the EHL Canal. Descriptions of the two parcels are provided below.

Agricultural Area: The parcel west of the EHL consists of a fallow agricultural field. Scattered dry crop residue and weeds cover the site. The field is bounded on the north by McDonald Road and the south by Schrimpf Road. Wiest Road forms the western boundary. The EHL earthen canal banks are approximately 6 to 20 feet higher in elevation than the agricultural land west of the canal. The EHL Canal is aligned diagonally in a northwest-southeast direction. Citrus orchards are located to the south and north sides of the subject site. The "O" and "N" Lateral irrigation canals are located parallel to the north and south sides, respectively, of the agricultural field.

Subsurface tile drainage pipelines exist within the farm field. The tile lines are generally aliened north-south and are spaced at 100 feet on center, with some closer spaced lines along east side of the field. The tile lines carry irrigation wastewater to the N Drain at the southwest corner of the field.

Desert Area: The desert area consist of two triangular areas located east of the EHL Canal. The Union Pacific Railroad (UPRR) tracks form the eastern boundary of the desert area. Dry wash beds cross the desert area in a northeast to southwest direction. Flash flooding can occur in the desert wash that fans out across the subject parcel. Desert vegetation is scattered throughout the site. High voltage powerlines (230-kV) form the western boundary of the northern triangle parcel and the eastern boundary of the southern triangle parcel. Noffsinger Road, an unpaved road that parallels the railroad tracks, forms the northeastern boundary of the desert area.

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2.3 Adjoining Property Use

The subject property is located at the boundary between the cultivated portion and the desert margins of the Imperial Valley southeast of Niland, California. Adjacent properties consist of agricultural fields and citrus orchards west of the EHL Canal and vacant desert lands east of the EHL Canal.

2.4 Physical Site Characteristics

Topography: Topographic maps (USGS 7.5 minute Iris, CA Quadrangle) indicate that the subject property elevation is approximately 65 feet below to 16 feet above mean sea level (MSL) or Elevation 935 to 1015 (local datum). The Imperial Irrigation District, which supplies power and raw (irrigation) water to the area, established local datum by equating mean sea level to El. 1000.00 feet.

Geologic Setting: The subject property is located in the Colorado Desert Physiographic province of southern California. The dominant feature of the Colorado Desert province is the Salton Trough, a geologic structural depression resulting from large-scale regional faulting. The trough is bounded on the northeast by the San Andreas Fault and the southwest by faults of the San Jacinto Fault Zone. The Salton Trough represents northward extension of the Gulf of California, which has experienced continual in-filling with both marine and non-marine sediments since the Miocene Epoch (25 million years before present). The tectonic activity that formed the trough continues at a high rate as evidenced by deformed young sedimentary deposits and high levels of historic seismicity.

The subject property is directly underlain by Holocene (0-11,000 years before present) Cahuilla Lake sediments, which consist of interbedded lenticular and tabular sand, silt, and clay. The predominant surface soil is silty clay. The Holocene lake deposits are considered to be less than 100 feet thick and are characterized by surficial clay and silt deposits with varying amounts of fine sand. The topography of the Imperial Valley is relatively flat, with few significant land features. The valley floor slopes gently to the north (less than 0.5 percent) from an elevation of sea level at Calexico to approximately 225 feet below sea level at the Salton Sea.

Soil Conditions: The U. S. Soil Conservation Service compiled a map of surface soil conditions and published a soil survey report including maps in 1980. The soil survey maps indicate that surficial deposits at the subject property and surrounding area consist predominantly of sandy loams of the Meloland, Niland, Rositas, and Vint-Indio soil groups (see Appendix B).

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These loams are formed in sediment and alluvium of mixed origin (Colorado River overflows, fresh-water lake-bed sediments, and alluvial fan deposits). Based on Unified Soil Classification System presented in the Soils Survey Report, the permeability of these soils is expected to be low to moderate.

Groundwater Conditions: The groundwater in the agricultural portion of the subject property is brackish and is encountered at a depth of 2.5 to 12 feet below the ground surface. The groundwater is shallowest along the unlined EHL Canal due to seepage.

Groundwater levels may fluctuate with precipitation, EHL Canal water elevation, irrigation of adjacent properties, site watering, drainage, and site grading. Based on the regional topography, groundwater flow is assumed to be generally towards the southwest within the subject property area. Flow directions may also vary locally in the vicinity of the subject property.

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3.0 USER PROVIDED INFORMATION

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *Brownfields Amendments*), the *User* must provide the following information (if available) to the *environmental professional*. Failure to provide this information could result in a determination that *all appropriate inquiry* is not complete. The user was asked to provide information or knowledge of the following:

- Environmental cleanup liens that are filed or recorded against the subject property.
- Activity and land use limitations that are in place on the subject property or that have been filed or recorded in a registry.
- Specialized knowledge or experience of the person seeking to qualify for the LLPs.
- Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.
- Commonly known or *reasonably ascertainable* information about the *property*.
- The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.
- The reason for preparation of this Phase I ESA.

A user questionnaire was provided to the user to aid in gathering information that may be pertinent to the evaluation of the subject property for environmental conditions. The completed user questionnaire is provided in Appendix I.

3.1 Title Records

GS Lyon reviewed preliminary title reports as part of this assessment and did not find past ownership or easements that would indicate environmentally hazardous uses on the parcels.

3.2 Environmental Liens or Activity and Use Limitations

An environmental lien is a charge, security, or encumbrance upon the title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous substances or petroleum products upon the property. According to the User Questionnaire, Ms. Jamie Nagel of Apex Energy Solutions, LLP is not aware of any Environmental Liens or Activity and Use Limitations associated with the subject property that have been filed or recorded under federal, tribal, state or local law (Appendix G). No environmental liens associated with the subject property were noted in the preliminary title report.

3.3 Specialized Knowledge

According to the User Questionnaire, Ms. Nagel is not aware of any specialized knowledge or experience associated with the subject property or nearby properties.

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GS Lyon does not have any personal knowledge of the subject property.

3.4 Commonly Known or Reasonable Ascertainable Information

No information was provided by the Client regarding any commonly known or reasonably ascertainable information within the local community that is material to RECs in connection with the subject property.

3.5 Valuation Reduction for Environmental Issues

The client indicated that the purchase price of this property reasonably reflects the fair market value of the property with no discounts for environmental issues.

3.6 Owner, Property Manager, and Occupant Information

The current owner of the subject property APN 025-260-022 is Ms. Dana Te and the property owners of APN 025-260-019 are The Marjorie A. Hoffmeister Gardner Trust, Bay Family Trust, and the Joseph G. Clark Revocable Trust.

The subject property is currently undeveloped desert land and fallow agricultural land. No property manager or occupant information is available.

3.7 Previous Reports and Other Provided Documentation

No previous reports or other pertinent documentation was provided to GS Lyon for review during the course of this assessment.

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4.0 RECORDS REVIEW

A review of historic aerial photographs (Appendix C), historic topographic maps (Appendix D), governmental regulatory databases (Appendix E), other regulatory and agency databases (Appendix F), and historic telephone and city directories was performed to evaluate potentially adverse environmental conditions resulting from previous ownership and uses of the subject property. The details of the review are presented in Sections 4.1 through 4.5 of this report.

4.1 Regulatory Database Review

4.1.1 Standard Environmental Record Sources

GS Lyon Consultants contracted Environmental Data Resources, Inc. (EDR) of Shelton, Connecticut which queries and maintains comprehensive environmental databases and historical information, including proprietary databases, aerial photography, topographic maps, Sanborn Maps, and city directories to generate a compilation of Federal, State and Tribal regulatory lists containing information regarding hazardous materials occurrences on or within the prescribed radii of ASTM E1527-13. The search of each database was conducted using the approximate minimum search distances from the subject property defined by the ASTM E1527-13 Standard. The purpose of the records review is to obtain and review *reasonably ascertainable* records that will help identify *recognized environmental conditions* or *historical recognized environmental conditions* in connection with the subject property.

EDR‘s Phase I ESA search package was ordered and performed on August 28, 2020. The search package included: Radius Map with Geocheck, aerial photographs, and historic topographic maps.

The results of EDR’s search were used to evaluate if the subject property and/or properties within prescribed search distances are listed as having a past or present record of actual or potential environmental impact. Inclusion of a property in a government database list does not necessarily indicate that the property has an environmental problem.

The following is a brief synopsis of sites identified in the EDR Radius Map with Geocheck report. The government record search report is included in its entirety in Appendix D.

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Federal NPL List

The Environmental Protection Agency's (EPA) National Priorities List (NPL) of uncontrolled or abandoned hazardous waste sites was reviewed for risk sites within a 1 mile radius of the subject property. The NPL identifies sites for priority cleanup and long-term care of properties under the Superfund Program that are contaminated with hazardous substances.

The database search did not identify any NPL sites within 1 mile of the subject property.

Federal CERCLIS List

The EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) listings were reviewed to determine if risks sites within ½ mile are listed for investigation. The CERCLIS database identifies hazardous waste sites that are on or proposed to be included in the NPL and sites that require investigation and possible remedial action to mitigate potential negative impacts on human health or the environment.

The CERCLIS database search did not identify any risk sites within 0.5 mile of the subject property.

Federal CERCLIS – No Further Remedial Action Planned

The EPA's CERCLIS – No Further Remedial Action Planned (NFRAP) database was reviewed to determine if risks sites within ½ mile are listed. CERCLIS NFRAP site are risk sites that have been removed from and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at the subject property has been completed and the EPA has determined that no further steps will be taken to list this subject property on the NPL, unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time.

This designation is for sites where no contamination was found, contamination was quickly removed without the need for the subject property to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

The CERCLIS – NFRAP database search did not identify any risk sites within ½mile of the subject property.

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Federal RCRA List

The Federal Resource Conservation Recovery Act (RCRA) Notifiers List was reviewed to determine if RCRA treatment, storage or disposal sites (TSD) are located within 1 mile of the subject property. The RCRA Correction Action Sites List (CORRACTS) is maintained for risk sites which are undergoing "a corrective action". A corrective action order is issued when there has been a release of hazardous waste constituents into the environment from a RCRA facility.

The RCRA and RCRA CORRACTS database searches did not identify any RCRA TSD or RCRA CORRACTS risk sites within ½ mile of the subject property.

The RCRA regulated hazardous waste generator notifiers list was reviewed to determine if RCRA generator facilities are located on or adjoining the subject property. No RCRA generator facilities within ¼ mile of the subject property were identified in the database.

Federal ERNS List

The Federal Emergency Response Notification System (ERNS) List was reviewed to determine if reported release of oil and/or hazardous substances occurred on the subject property.

The ERNS database searches did not identify any reported releases for the subject property.

State and Tribal NPL List

The Environmental Protection Agency's (EPA) National Priorities List (NPL) of uncontrolled or abandoned hazardous waste sites was reviewed for risk sites within a 1 mile radius of the subject property. The NPL identifies sites for priority cleanup and long-term care of properties under the Superfund Program that are contaminated with hazardous substances.

The database search did not identify any NPL sites within 1 mile of the subject property.

State and Tribal equivalent CERCLIS

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites.

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EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

The EnviroStor database search did not identify and risk sites within 1 mile of the subject property.

State and Tribal Leaking Underground Storage Tank Sites

The California State Water Resources Control Board (SWRCB) maintains a list of information concerning reported leaking underground storage tanks (LUST). The LUST inventory list was reviewed to determine if any LUSTs are located within ½ mile the subject property.

The SWRCB LUST database did not identify any risk sites within ½ mile of the subject property.

State and Tribal Underground and Aboveground Storage Tank Sites

The California State Water Resource Control Board (SWRCB) underground storage tank (UST) and above ground storage tank (AST) inventory list was reviewed to determine if any UAST's are located on or adjacent to the subject property.

The SWRCB UST and AST databases did not identify any risk sites within ¼ mile of the subject property.

Solid Waste Disposal/Landfill Facilities

The Solid Waste Disposal/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data comes from the Integrated Waste Management Board's Solid Waste Information System (SWIS) database.

A review of the SWF/LF list database did not identify any risk sites within ½ mile of the subject property.

Unmapped (Orphan) Sites

Not all sites or facilities identified in the database records can be accurately located in relation to the Subject Property due to incomplete information being supplied to the regulatory agencies and are referred to as "orphan sites" by EDR.

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The "Orphan Summary" section of the EDR Radius Map Report identified several orphan sites. Based on a drive-by reconnaissance of the Subject Property vicinity and review of location and status information provided in the database report, none of the identified orphan sites are located within the search radii for databases specified by the Standard.

No unmapped (orphan) listings were reported.

4.1.2 Additional Environmental Record Sources

California Department of Toxic Substances Control (DTSC) Records – Envirostor Database: EnviroStor is an online search and Geographic Information System tool for identifying sites that have known contamination or sites for which there may be reasons to investigate further. Public Access to EnviroStor is accessible via the DTSC Web Page located at: http://www.envirostor.dtsc.ca.gov/public/. The EnviroStor database includes the following site types: Federal Superfund sites (National Priority List); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. The information includes site name, site type, status, address, any restricted use (recorded deed restrictions), past use(s) that caused contamination, potential contaminants of concern, potential environmental media affected, site history, planned and completed activities. The EnviroStor database also contains current and historical information relating to Permitted and Corrective Action facilities. The EnviroStor database includes current and historical information on the following permit-related documents: facility permits; permit renewal applications; permit modifications to an existing permit; closure of hazardous waste management units (HWMUs) or entire facilities; facility corrective action (investigation and/or cleanup); and/or post-closure permits or other required post-closure activities.

The EnviroStor database was queried on September 10, 2020. A map showing the results of the query is provided in Appendix F. No reported cases were found on the subject property. No risk sites were located within ½ mile of the subject property.

California State Water Resources Control Board Records – GeoTracker Database: GeoTracker is a geographic information system (GIS) maintained by the California State Water Resources Control Board (SWRCB) that provides online access to environmental data at http://www.geotracker.swrcb.ca.gov\. GeoTracker tracks regulatory data about underground fuel tanks, fuel pipelines, and public drinking water supplies. Site information from the Spills, Leaks, Investigations, and Cleanups (SLIC) Program is also included in GeoTracker.

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The GeoTracker database was queried for environmental data pertaining to the Subject property on September 10, 2020. A map showing the results of the query is provided in Appendix F. No reported cases were found on the subject property. No risk sites were located within ½ mile of the subject property.

CUPA Records Search: The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. Cal/EPA and other state agencies set the standards for their programs while local governments implement the standards—these local implementing agencies are called Certified Unified Program Agencies (CUPA).

The DTSC Imperial CUPA office was contacted (Veronica Lopez) by email on September 16, 2020. CUPA records were searched for environmental issues related to the subject property. The DTSC indicated that records are filed per address, and with no known address associated with the subject property, no records were found associated with the subject property.

4.2 Historical Use Records

ASTM E1527-13 requires the environmental professional to identify all obvious uses of the property from the present back to the property's first developed use or 1940, whichever is earliest. This information is collected to identify the likelihood that past uses have led to RECs in connection with the property. This task is accomplished by reviewing standard historical sources to the extent that they are necessary, reasonably ascertainable, and likely to be useful. These standard records include aerial photographs, fire insurance maps, property tax files, land title records, topographic maps, city directories, telephone directories, building department records, and zoning/land use records.

The general type of historical use (i.e., commercial, retail, residential, industrial, undeveloped, office) should be identified at 5-year intervals, unless the specific use of the property appears to be unchanged over a period longer than 5 years. The historical research is complete when the use is defined or when data failure occurs. Data failure occurs when all of the standard historical sources have been reviewed, yet the property use cannot be identified back to its first developed use or to 1940. Data failure is not uncommon in trying to identify the use of the property at 5-year intervals back to first use or 1940, whichever is earlier.

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GS Lyon reviewed the following historical records to identify obvious uses of the subject property from the present back to the property's first developed use, or to 1940, whichever is earlier. The results of this research and data failure, if encountered, are presented in the following sections.

4.2.1 Title Records

GS Lyon reviewed preliminary title reports as part of this assessment and did not find past ownership or easements that would indicate environmentally hazardous uses on the parcels.

4.2.2 Sanborn Fire Insurance Maps

Sanborn Fire Insurance Maps are large scale maps depicting the commercial, industrial, and residential sections of various cities across the United States. Since the primary use of the fire insurance maps was to assess the buildings that were being insured, the existence and location of fuel storage tanks, flammable or other potentially toxic substances, and the nature of businesses are often shown on these maps.

Due to the rural undeveloped nature of the subject property and vicinity for the years the Sanborn Fire Insurance Maps were available for this subject property, no maps are available for the subject property.

4.2.3 Aerial Photographs

Aerial photographs obtained from Environmental Data Resources (EDR) dating back to 1937 and Google Earth aerial photographs dating back to 1996 were reviewed for historical development of the subject property. Reproductions of the historical aerial photographs reviewed are included in Appendix C.

The 1937 aerial photograph shows the subject site as being vacant desert ground. The East Highline Canal crosses diagonally through the western parcel. A dry wash is shown crossing both parcels from a northeast to southwest direction. Adjacent parcels appear to be vacant desert lands. An agricultural field is present to the southwest of the subject site.

The 1940 and 1953 aerial photographs show the subject site as being similar to the 1937 aerial photograph except there are several small structures located adjacent to the west side of the EHL Canal on McDonald Road. The vegetation in the dry was area adjacent to the EHL Canal is thicker. Agricultural fields are located to the west and south of the western parcel.

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The 1976 aerial photograph shows the subject site to the west of the EHL Canal has been cleared of vegetation and the structures in the northeast corner of this parcel have been removed. The parcels east of the EHL Canal are still vacant desert land.

The 1984 aerial photograph shows the subject site as being similar to the 1976 photograph.

The 2004, 2008, and 2012 aerial photographs show the subject site west of the EHL Canal is apparently fallow agricultural land. The parcels east of the EHL Canal are still vacant desert land.

The 1992 and 1996 aerial photographs show the subject site west of the EHL Canal is under cultivation. The parcels east of the EHL Canal are still vacant desert land.

The 2015 aerial photograph shows the northern portion of the subject site west of the EHL Canal is under agricultural cultivation and the southern portion is fallow. The parcels east of the EHL Canal are still vacant desert land.

4.2.4 Street Directories

City directories are used for locating individuals and businesses in a particular urban or suburban area. City directories are generally divided into three sections: a business index, a list of resident names and addresses, the name and type of businesses (if unclear from the name). While city directory coverage is comprehensive for major cities, it may be spotty for rural and small towns.

Polk City Directories: The Polk City Directories for the years 1965 and 1983 were reviewed. No listings for the subject properties were found.

4.2.5 Historic Topographic Maps

Historic topographic maps (1940, 1945, 1947, 1956, 1965, 1976, 1992, 2002, and 2012), USGS 7.5 Min. Iris, CA Quadrangle, showed the subject property the subject property as being predominantly vacant. The 1940, 1945, and 1947 historical topographic maps showed development in the northeast portion of the parcel west of the East Highline Canal (Appendix D).

4.2.6 Historical Telephone Directories

Telephone Directories: Telephone directories for the Imperial County, which included the City of Niland businesses published in 1941, 1955, 1965, 1974, 1994, and 2004 were reviewed.

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No service stations, chemical manufacturers, petroleum manufacturers, distributors, or automotive repair facilities were noted at or in the immediate vicinity of the subject property. No listings for the subject site were found.

4.3 Historical Use Summary

4.3.1 Summary of the Historical Use of Property

Based on a review of the historical information, the western portion of the subject property was first developed in the 1960-70s for agricultural use. The portion of the subject property east of the East Highline Canal has remained vacant desert land.

4.3.2 Summary of the Historical Use of Adjacent Properties

Historically, the properties located immediately adjacent to the subject property have been comprised of agricultural field to the west and south and vacant desert lands to the east and north. Development of the agricultural fields began in the 1930s.

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5.0 SITE RECONNAISSANCE

5.1 Methodology and Limiting Conditions

A site reconnaissance was performed by Mr. Pete LaBrucherie, a consulting engineer to GS Lyon Consultants, on September 29, 2020. The site visit consisted of a walking the perimeter of the subject property and randomly crossing the subject property. The reconnaissance included visual observations of surficial conditions at the subject property and observation of adjoining properties to the extent that they were visible from public areas. Mr. LaBrucherie was unaccompanied during the site reconnaissance.

The site reconnaissance was limited to visual and/or physical observation of the exterior and interior of the subject property and its improvements, the current uses of the property and adjoining properties, and the current condition of the property. The site visit evaluated the subject property and adjoining properties for potential hazardous materials/waste and petroleum product use, storage, disposal, or accidental release, including the following: presence of tank and drum storage; mechanical or electrical equipment likely to contain liquids; evidence of soil or pavement staining or stressed vegetation; ponds, pits, lagoons, or sumps; suspicious odors; fill and depressions; or any other condition indicative of potential contamination. The site visit did not evaluate the presence of asbestos-containing materials, radon, lead-based paint, mold, indoor air quality, or structural defects, or other non-scope items.

A site reconnaissance can be limited by weather conditions, bodies of water, adjacent buildings, or other obstacles. The weather was warm and sunny and no access limitations were placed on the site visit.

5.2 General Site Setting

The subject property currently consists of two distinct parcels: a fallow agricultural field located on the west side of the East Highline (EHL) Canal and vacant desert land located on the east side of the EHL Canal. Descriptions of the two parcels are provided below.

Agricultural Area: The parcel west of the EHL consists of a fallow agricultural field. Scattered dry crop residue and weeds cover the site. The field is bounded on the north by McDonald Road and the south by Schrimpf Road. Wiest Road forms the western boundary. The EHL earthen canal banks are approximately 6 to 20 feet higher in elevation than the agricultural land west of the canal. The EHL Canal is aligned diagonally in a northwest-southeast direction. Citrus orchards are located to the south and north sides of the subject site. The "O" and "N" Lateral irrigation canals are located parallel to the north and south sides, respectively, of the agricultural field.

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Subsurface tile drainage pipelines exist within the farm field. The tile lines are generally aliened north-south and are spaced at 100 feet on center, with some closer spaced lines along east side of the field. The tile lines carry irrigation wastewater to the N Drain at the southwest corner of the field.

Desert Area: The desert area consist of two triangular areas located east of the EHL Canal. The Union Pacific Railroad (UPRR) tracks form the eastern boundary of the desert area. Dry wash beds cross the desert area in a northeast to southwest direction. Desert vegetation is scattered throughout the site. High voltage powerlines (230-kV) parallel the western boundary of the northern triangle parcel and the eastern boundary of the southern triangle parcel. Noffsinger Road, an unpaved road that parallels the railroad tracks, forms the northeastern boundary of the desert area.

Photographs of the subject property taken on September 29, 2020 during our site reconnaissance are included in Appendix A.

5.3 Adjacent Properties

The subject property is located at the boundary between the cultivated portion and the desert margins of the Imperial Valley southeast of Niland, California. Adjacent properties consist of agricultural fields and citrus orchards west of the EHL Canal and vacant desert lands east of the EHL Canal.

5.4 Exterior and Interior Observations

The following conditions were specifically assessed for their potential to indicate RECs and may include conditions inside or outside structures on the subject property.

5.4.1 Hazardous Substances and Petroleum Products

GS Lyon did not observe operations that use, treat, store, dispose of, or generate hazardous materials or petroleum products on the subject property.

5.4.2 Storage Tanks

Underground Storage Tanks (USTs) – No obvious visual evidence indicating the current presence of USTs (i.e. vent pipes, fill ports, etc.) was noted.

Aboveground Storage Tanks (ASTs) – No obvious visual evidence indicating the historical presence of ASTs (i.e. secondary containments, concrete saddles, etc.) was observed.

5.4.3 Odors

No obvious strong, pungent, or noxious odors were noted during the site reconnaissance.

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5.4.4 Pools of Liquid

Pools of liquid were not observed during the site reconnaissance.

5.4.5 Drums and Containers

GS Lyon did not observe drums or storage containers on the subject property.

5.4.6 Unidentified Substance Containers

GS Lyon did not observe open or damaged containers containing unidentified substances at the subject property.

5.4.7 Suspect Polychlorinated Biphenyl (PCB) Containing Equipment

No potential PCB containing equipment such as electrical transformers, capacitors, and hydraulic equipment were observed during the site reconnaissance on the subject property or immediate vicinity.

5.5 Interior Observations

The subject property is currently vacant with no structures; therefore, no interior observations were made.

5.6 Exterior Observations

5.6.1 Pits, Ponds, and Lagoons

No pits, ponds, or lagoons were noted on the subject property.

5.6.2 Stained Soils or Pavement

No evidence of significantly stained soil or pavement was noted on the subject property.

5.6.3 Stressed Vegetation

No evidence of stressed vegetation attributed to potential contamination was noted on the subject property.

5.6.4 Solid Waste

No dumpsters or solid waste containers exist on the subject property.

5.6.5 Wastewater

No wastewater is generated at the subject property.

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5.6.6 Wells

No evidence of wells (dry wells, drinking water, observation wells, groundwater monitoring wells, irrigation wells, injection wells or abandoned wells) was noted on the subject property.

5.6.7 Septic Systems

No septic systems are present on the subject property.

5.7 Non-Scope Issues

ASTM guidelines identify non-scope issues, which are beyond the scope of a Phase I ESA as defined by ASTM. These issues may affect environmental risk at the subject property and may warrant discussion and/or assessment. Some of these non-scope issues include; asbestos-containing building materials, radon, lead-based paint, and wetlands which are discussed below.

5.7.1 Asbestos-Containing Building Materials

The potential for asbestos containing materials (ACM) existing at the subject property is very low due to the lack of subject property structures.

5.7.2 Lead-Based Paint

The potential or lead based paint residues existing at the subject property is very low due to the lack of subject property development.

5.7.3 Radon

The subject property is located in Zone 3 as shown on the EPA Map of Radon Zones indicating a predicted average indoor radon screening level of less than 2 pCi/L; therefore, no further action is required. Radon gas is not believed to be a potential hazard at the subject property.

5.7.4 Wetlands

No wetlands are located within one (1) mile of the subject property.

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5.7.5 Agricultural Use

Based on our review of environmental records, historical documents, and subject property conditions, the property has been in agricultural use intermittently and/or vacant since the 1960's. Residues of currently available pesticides and currently banned pesticides such as DDT/DDE may be present in near surface soils in limited concentrations. The concentrations of these pesticides found on other Imperial Valley agricultural sites are typically less than 25% of the current regulatory threshold limits and, at those levels, are not considered a significant environmental hazard. The presence and concentration of near surface pesticides at this subject property can be accurately characterized only by site-specific sampling and testing.

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6.0 INTERVIEWS

GS Lyon interviewed various individuals familiar with the subject property, as identified to us, and/or government officials in order to evaluate historical uses and identify potential RECs existing on the subject property. The individuals interviewed were asked to provide responses in good faith and to the best of their knowledge. The following sections identify the individuals interviewed and summarize the information each provided; however, additional information provided by these individuals may be presented in other sections of this report.

6.1 Interview with Owner

GS Lyon we not able to contact the current property owner; therefore, no interview was conducted.

6.2 Interview with the Site Manager

The subject property is vacant, undeveloped land; therefore, there is no site manager.

6.3 Interview with Occupants

The subject property is vacant, undeveloped land and fallow agricultural land; therefore, there are no occupants.

6.4 Interview with Local Government Officials

The DTSC Imperial CUPA office was contacted (Veronica Lopez) by email on September 16, 2020. CUPA records were searched for environmental issues related to the subject property. The DTSC indicated that records are filed per address, and with no known address associated with the subject property, no records were found associated with the subject property.

Interviews with past owners, operators and occupants were not reasonably ascertainable and thus constitute a data gap.

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7.0 EVALUATION

7.1 Summary of Findings

The approximately 240-acre property located at the northeast corner of Schrimpf Road and Wiest Road approximately 4.5 miles southeast of Niland, California. The western portion of the subject property was first developed in the 1960-70s for agricultural use. The portion of the subject property east of the East Highline Canal has remained vacant desert land.

7.2 Conclusions

GS Lyon has performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM E1527-13 of the property located at the northeast corner of Schrimpf Road and Wiest Road approximately 4.5 miles southeast of Niland, California. Any exceptions to, or deviations from, this practice are described in Section 1.4 of this Phase I ESA report.

7.2.1 Recognized Environmental Conditions

A *recognized environmental condition (REC)* refers to the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term REC includes hazardous substances and petroleum products even under conditions that might be in compliance with laws. The term is not intended to include "de minimis" conditions as defined in Section 7.2.3 of this report.

This Phase I ESA has revealed no evidence of *recognized environmental conditions* in connection with the subject property.

7.2.2 Historical Recognized Environmental Conditions

A *historical recognized environmental condition (HREC)* refers to a past *release* of any *hazardous substances* or *petroleum products* that has occurred in connection with the *property* and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the *property* to any required controls (for example, *property* use restrictions, *activity and use limitations*, *institutional controls*, or *engineering controls*).

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This Phase I ESA has revealed no evidence of *historical recognized environmental conditions* in connection with the subject property.

7.2.3 Environmental Concerns and De Minimis Conditions

A *de minimis condition* is a condition that generally does not present a threat to human health or the *environment* and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis conditions* are not *recognized environmental conditions* nor *controlled recognized environmental conditions*.

This Phase I ESA has revealed the following *de minimis* conditions or environmental concerns in connection with the subject property:

1. Pesticide residues (low concentrations) typical to agricultural crop applications may be present in the near surface soils in the agricultural field in the southwestern portion of the subject property.

7.3 Recommendations

Based on the scope of work performed for this assessment, it is our professional opinion that no RECs have been identified in connection with the subject property that would warrant further environmental study (Phase II) at this time.

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8.0 REFERENCES

40 CFR 312, Standards and Practices for All Appropriate Inquiries; Final Rule, November 2005 (AAI Rule).

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Environmental Data Resources, Inc., *The EDR Aerial Photo Decade Package*. Inquiry number 6171651, dated August 28, 2020

State Water Resources Control Board. 2020. GeoTracker Database Website, http://geotracker.swrcb.ca.gov/

United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey, accessed via the Internet, September 2020

United States Environmental Protection Agency, EPA Map of Radon Zones (Document EPA-402-R-93-071), accessed via the Internet, September 2020

United States Geological Survey Topographic Map 1997, 7.5 minute series

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APPENDIX A

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Photo 1: Looking south from the northwest corner of the site at Noffsinger Road and the IID pole line.

Photo 2: Looking southeast across the northeast portion of the subject site from the corner of Noffsinger Road and IID pole line.

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Photo 3: Looking northeast across the northeast portion of the subject site from the middle corner of the site.

Photo 4: Looking east along the southern boundary of the northeast portion of the subject site from the middle corner.

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Photo 5: Looking southeast across the southwest portion of the subject site from the corner of McDonald and Weist Roads.

Photo 6: Looking east along the north boundary of the southwest portion of the subject site from the corner of McDonald and Weist Roads.

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Photo 7: Looking south along the west boundary of the southwest portion of the subject site from the corner of McDonald and Weist Roads.

Photo 8: Looking at the IID pole mounted transformers located across Weist Road west of the southwest corner of the subject site.

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Photo 9: Looking north across the southwest portion of the subject site from the southwest corner of the subject site.

Photo 10: Looking north along the west side of the East Highline canal that bisects the subject site.

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Photo 11: Looking at concrete ditch lining that exists along the west side of the East Highline canal that previously irrigated the agricultural fields on the west side of the subject site.

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APPENDIX B

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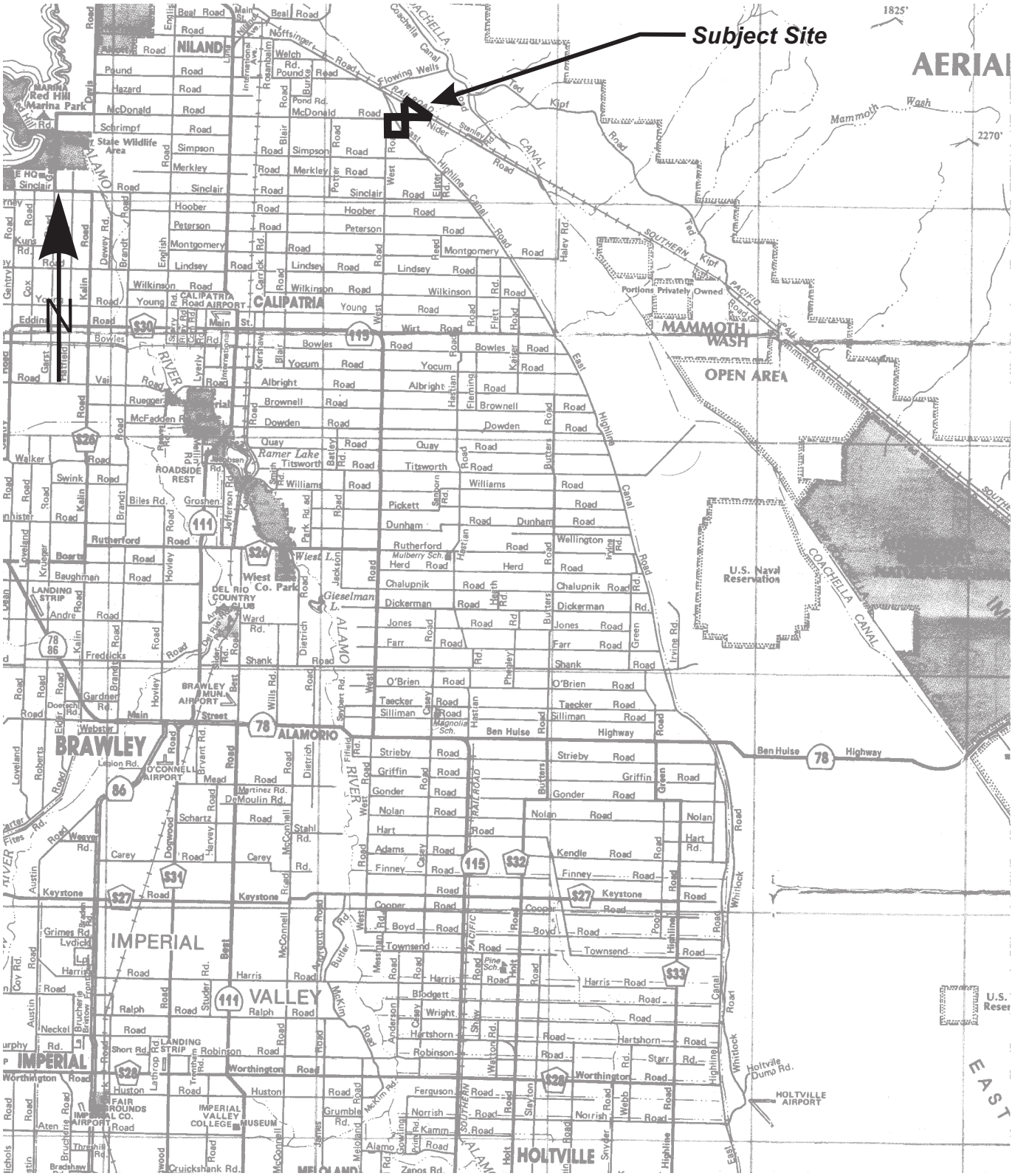

GS Lyon Project No.: GS2016	Vicinity Map	Plate 1

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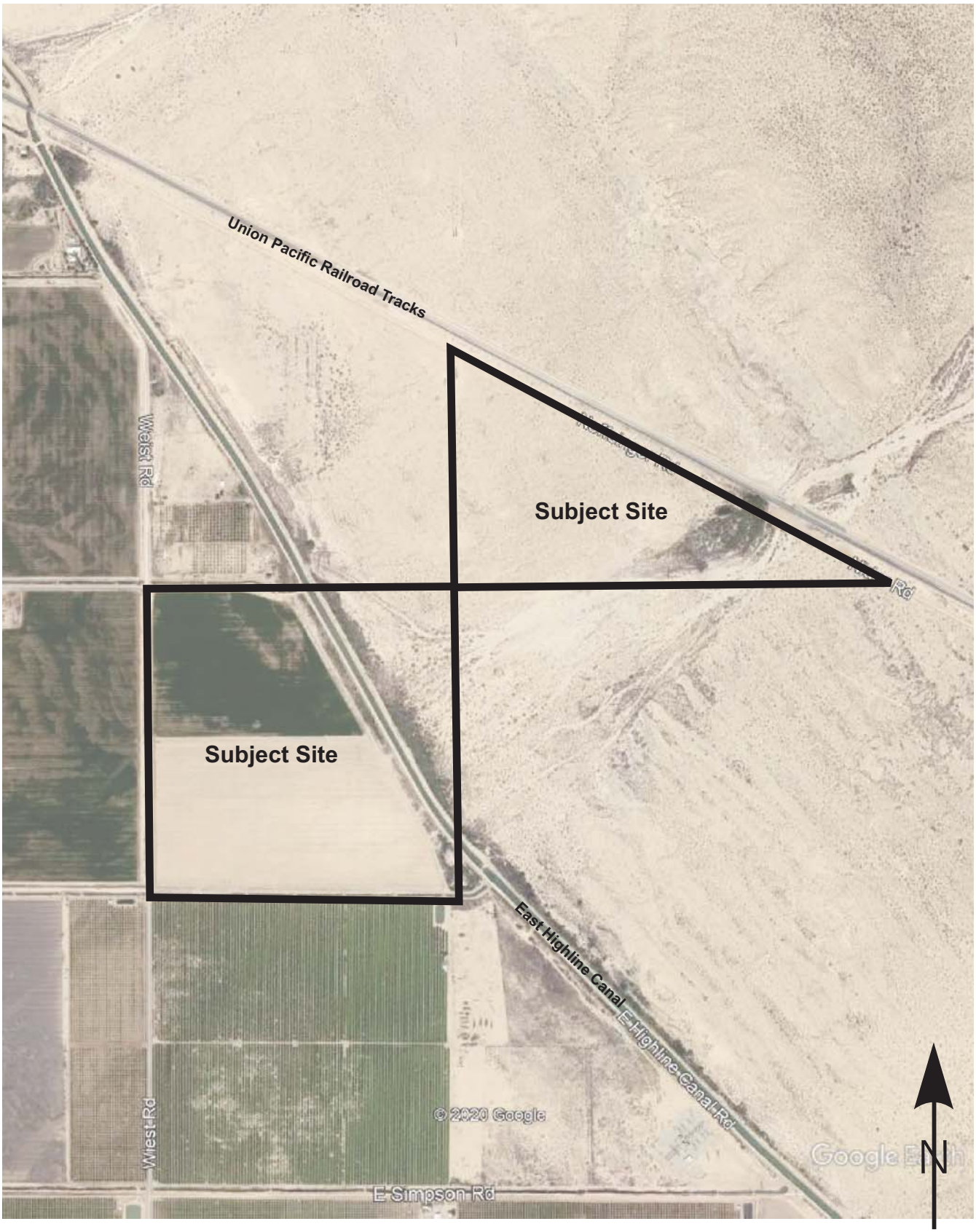
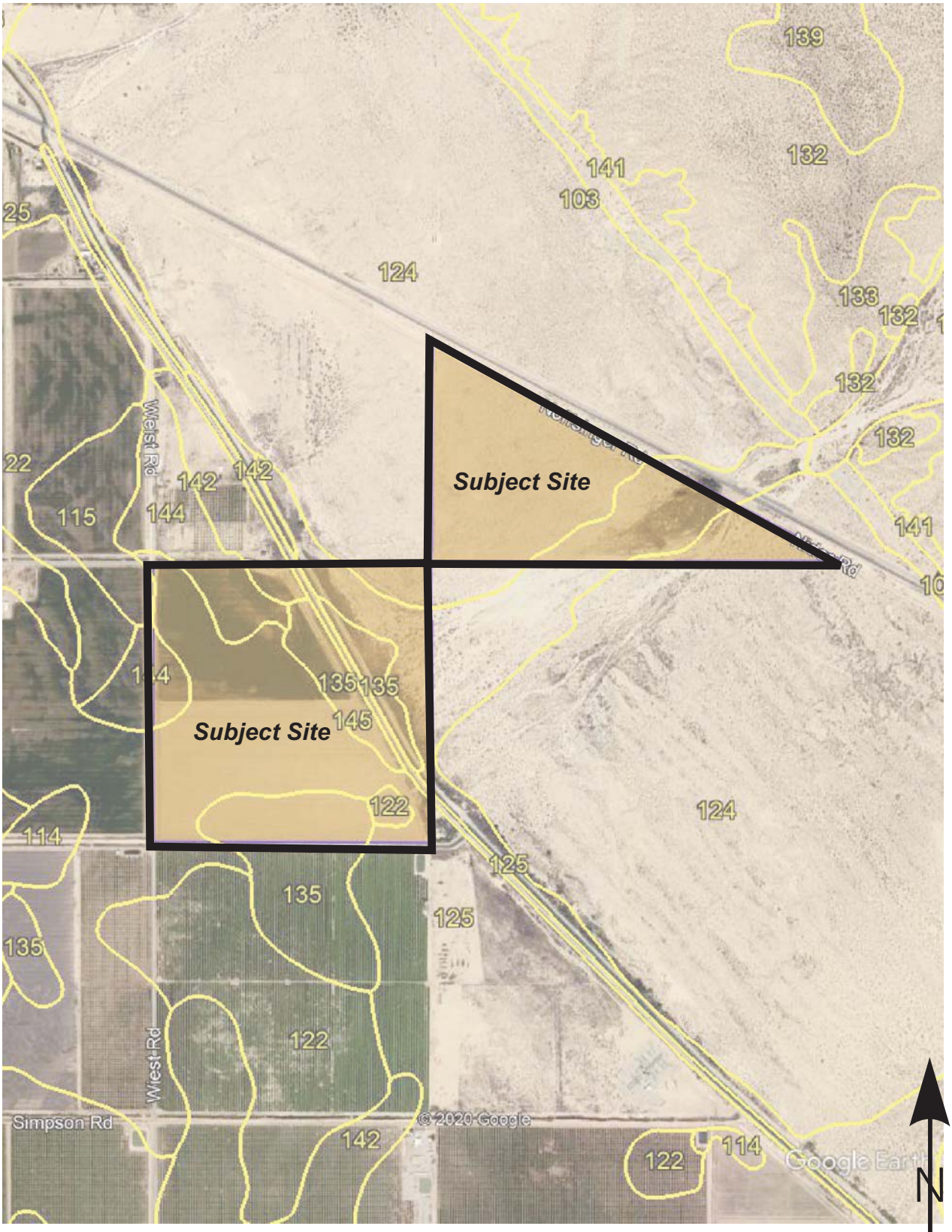


GS Lyon Project No.: GS2016	Site Map	Plate 2

PC ORIGINAL PKG

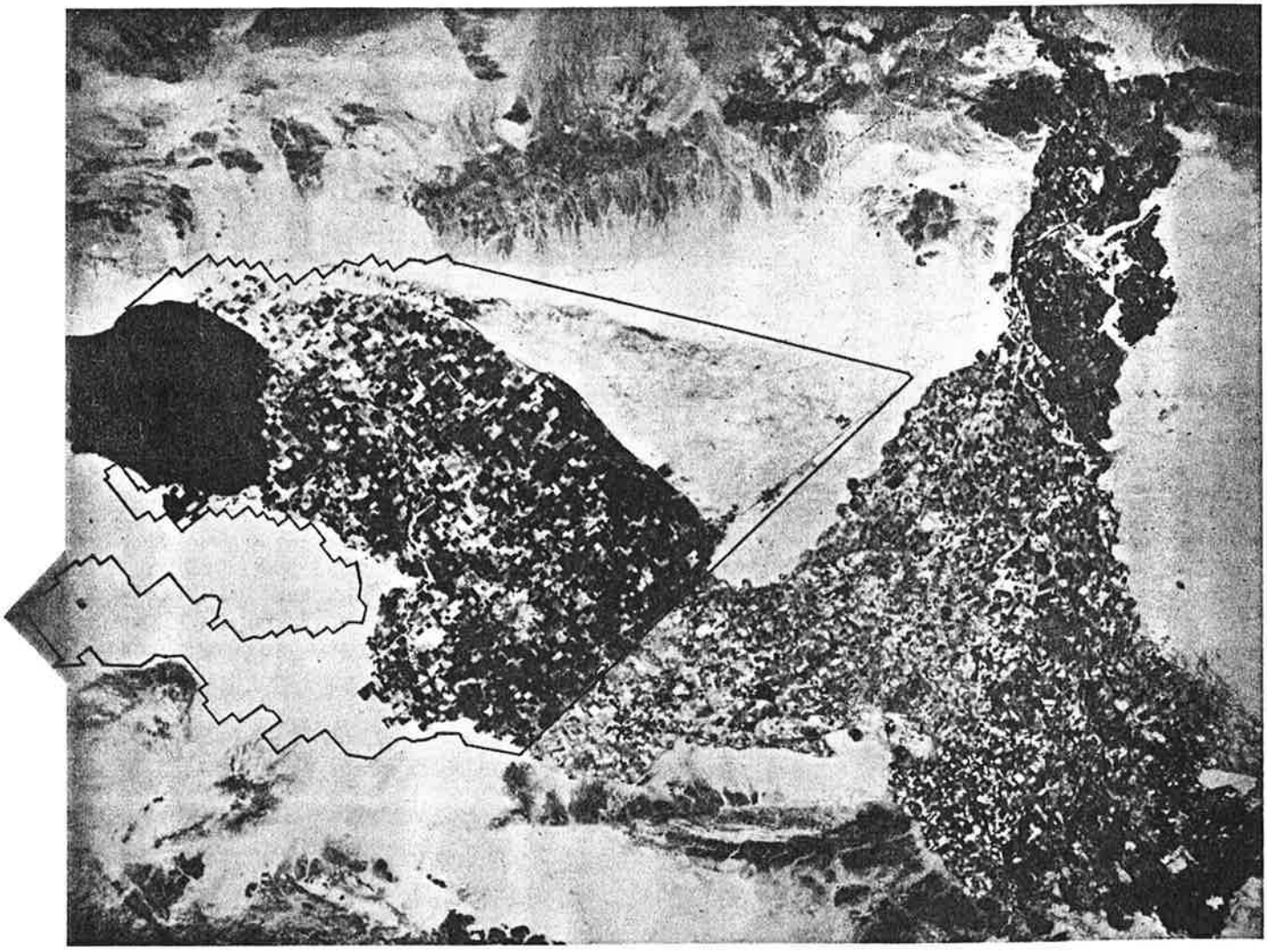


GS Lyon Project No.: GS2016	Soil Survey Map	Plate 3

PC ORIGINAL PKG

Soil Survey of

IMPERIAL COUNTY CALIFORNIA IMPERIAL VALLEY AREA



United States Department of Agriculture Soil Conservation Service
in cooperation with
University of California Agricultural Experiment Station
and
Imperial Irrigation District

PC ORIGINAL PKG

TABLE 11.--ENGINEERING INDEX PROPERTIES

[The symbol > means more than. Absence of an entry indicates that data were not estimated]

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
100----------	0-13	Loamy fine sand	SM	A-2	0	100	100	75-85	10-30	---	NP
Antho	13-60	Sandy loam, fine sandy loam.	SM	A-2, A-4	0	90-100	75-95	50-60	15-40	---	NP
101*:											
Antho----------	0-8	Loamy fine sand	SM	A-2	0	100	100	75-85	10-30	---	NP
	8-60	Sandy loam, fine sandy loam.	SM	A-2, A-4	0	90-100	75-95	50-60	15-40	---	NP
Superstition------	0-6	Fine sand-------	SM	A-2	0	100	95-100	70-85	15-25	---	NP
	6-60	Loamy fine sand, fine sand, sand.	SM	A-2	0	100	95-100	70-85	15-25	---	NP
102*. Badland											
103----------	0-10	Gravelly sand---	SP, SP-SM	A-1, A-2	0-5	60-90	50-85	30-55	0-10	---	NP
Carsitas	10-60	Gravelly sand, gravelly coarse sand, sand.	SP, SP-SM	A-1	0-5	60-90	50-85	25-50	0-10	---	NP
104* Fluvaquents											
105----------	0-13	Clay loam-------	CL	A-6	0	100	100	90-100	70-95	35-45	15-30
Glenbar	13-60	Clay loam, silty clay loam.	CL	A-6	0	100	100	90-100	70-95	35-45	15-30
106----------	0-13	Clay loam-------	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
Glenbar	13-60	Clay loam, silty clay loam.	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
107*----------	0-13	Loam----------	ML, CL-ML, CL	A-4	0	100	100	100	70-80	20-30	NP-10
Glenbar	13-60	Clay loam, silty clay loam.	CL	A-6, A-7	0	100	100	95-100	75-95	35-45	15-30
108----------	0-14	Loam----------	ML	A-4	0	100	100	85-100	55-95	25-35	NP-10
Holtville	14-22	Clay, silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	22-60	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	65-85	25-35	NP-10
109----------	0-17	Silty clay------	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
Holtville	17-24	Clay, silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	24-35	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	65-85	25-35	NP-10
	35-60	Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55	---	NP
110----------	0-17	Silty clay------	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-35
Holtville	17-24	Clay, silty clay	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-35
	24-35	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	55-85	25-35	NP-10
	35-60	Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55	---	NP

See footnote at end of table.

PC ORIGINAL PKG

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
111*:											
Holtville	0-10	Silty clay loam	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	10-22	Clay, silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	22-60	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	65-85	25-35	NP-10
Imperial	0-12	Silty clay loam	CL	A-7	0	100	100	100	85-95	40-50	10-20
	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
112	0-12	Silty clay	CH	A-7	0	100	100	100	85-95	50-70	25-45
Imperial	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
113	0-12	Silty clay	CH	A-7	0	100	100	100	85-95	50-70	25-45
Imperial	12-60	Silty clay, clay, silty clay loam.	CH	A-7	0	100	100	100	85-95	50-70	25-45
114	0-12	Silty clay	CH	A-7	0	100	100	100	85-95	50-70	25-45
Imperial	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
115*:											
Imperial	0-12	Silty clay loam	CL	A-7	0	100	100	100	85-95	40-50	10-20
	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
Glenbar	0-13	Silty clay loam	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
	13-60	Clay loam, silty clay loam.	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
116*:											
Imperial	0-13	Silty clay loam	CL	A-7	0	100	100	100	85-95	40-50	10-20
	13-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
Glenbar	0-13	Silty clay loam	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
	13-60	Clay loam, silty clay loam.	CL	A-6	0	100	100	90-100	70-95	35-45	15-30
117, 118	0-12	Loam	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
Indio	12-72	Stratified loamy very fine sand to silt loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
119*:											
Indio	0-12	Loam	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	12-72	Stratified loamy very fine sand to silt loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
Vint	0-10	Loamy fine sand	SM	A-2	0	95-100	95-100	70-80	25-35	---	NP
	10-60	Loamy sand, loamy fine sand.	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
120*	0-12	Loam	ML, CL-ML	A-4	0	100	95-100	75-85	55-65	20-30	NP-10
Laveen	12-60	Loam, very fine sandy loam.	ML, CL-ML	A-4	0	95-100	85-95	70-80	55-65	15-25	NP-10

See footnote at end of table.

PC ORIGINAL PKG

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
121---------- Meloland	0-12	Fine sand-------	SM, SP-SM	A-2, A-3	0	95-100	90-100	75-100	5-30	---	NP
	12-26	Stratified loamy fine sand to silt loam.	ML	A-4	0	100	100	90-100	50-65	25-35	NP-10
	26-71	Clay, silty clay, silty clay loam.	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-40
122---------- Meloland	0-12	Very fine sandy loam.	ML	A-4	0	95-100	95-100	95-100	55-85	25-35	NP-10
	12-26	Stratified loamy fine sand to silt loam.	ML	A-4	0	100	100	90-100	50-70	25-35	NP-10
	26-71	Clay, silty clay, silty clay loam.	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-40
123*: Meloland----------	0-12	Loam----------	ML	A-4	0	95-100	95-100	95-100	55-85	25-35	NP-10
	12-26	Stratified loamy fine sand to silt loam.	ML	A-4	0	100	100	90-100	50-70	25-35	NP-10
	26-38	Clay, silty clay, silty clay loam.	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-40
	38-60	Stratified silt loam to loamy fine sand.	SM, ML	A-4	0	100	100	75-100	35-55	25-35	NP-10
Holtville---------	0-12	Loam----------	ML	A-4	0	100	100	85-100	55-95	25-35	NP-10
	12-24	Clay, silty clay	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-35
	24-36	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	55-85	25-35	NP-10
	36-60	Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55	---	NP
124, 125---------- Niland	0-23	Gravelly sand---	SM, SP-SM	A-2, A-3	0	90-100	70-95	50-65	5-25	---	NP
	23-60	Silty clay, clay, clay loam.	CL, CH	A-7	0	100	100	85-100	80-95	40-65	20-40
126---------- Niland	0-23	Fine sand-------	SM, SP-SM	A-2, A-3	0	90-100	90-100	50-65	5-25	---	NP
	23-60	Silty clay------	CL, CH	A-7	0	100	100	85-100	80-95	40-65	20-40
127---------- Niland	0-23	Loamy fine sand	SM	A-2	0	90-100	90-100	50-65	15-30	---	NP
	23-60	Silty clay------	CL, CH	A-7	0	100	100	85-100	80-95	40-65	20-40
128*: Niland----------	0-23	Gravelly sand---	SM, SP-SM	A-2, A-3	0	90-100	70-95	50-65	5-25	---	NP
	23-60	Silty clay, clay, clay loam.	CL, CH	A-7	0	100	100	85-100	80-100	40-65	20-40
Imperial----------	0-12	Silty clay------	CH	A-7	0	100	100	100	85-95	50-70	25-45
	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
129*: Pits											
130, 131---------- Rositas	0-27	Sand----------	SP-SM	A-3, A-1, A-2	0	100	80-100	40-70	5-15	---	NP
	27-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP

See footnote at end of table.

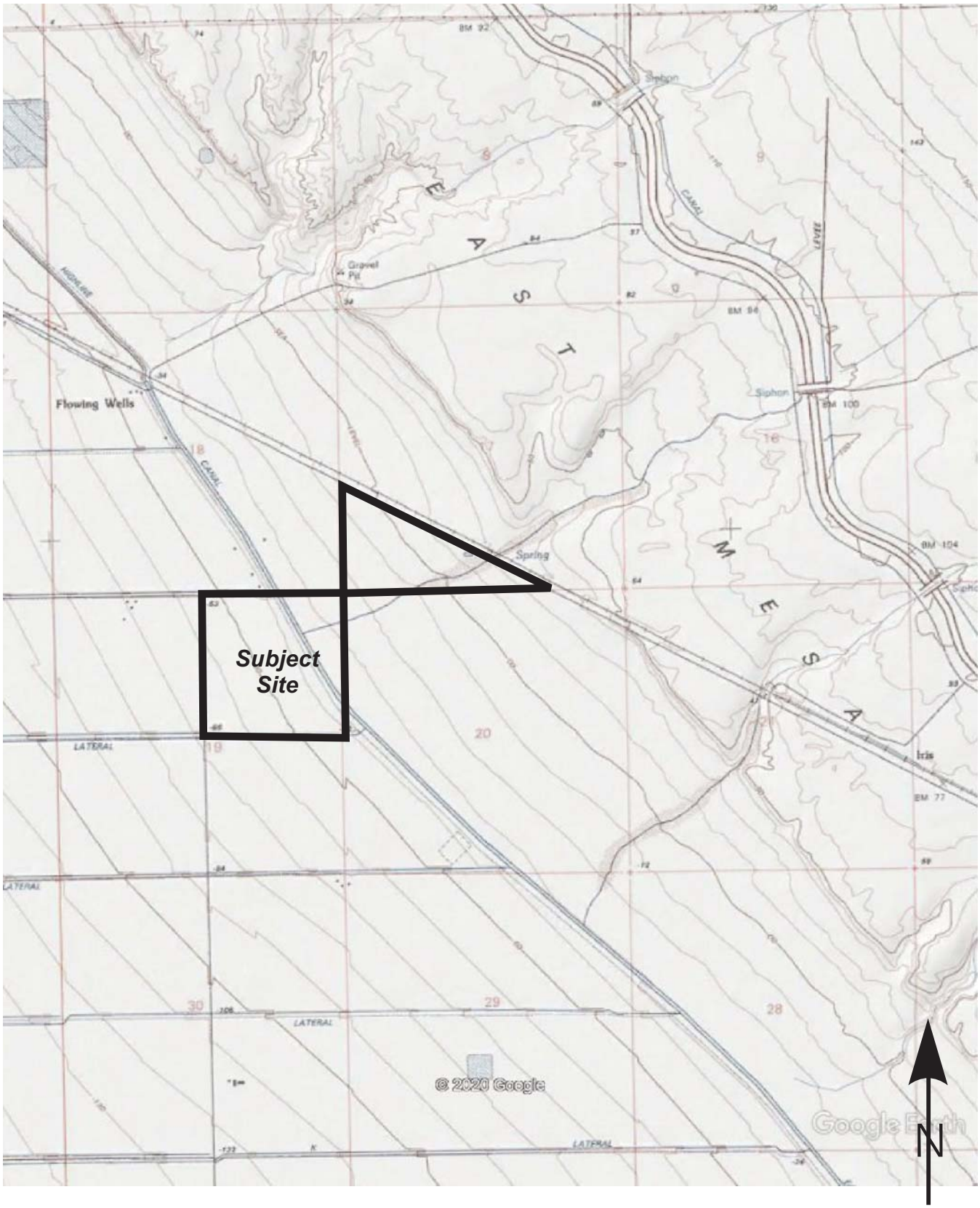
PC ORIGINAL PKG

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
132, 133, 134, 135-Rositas	0-9	Fine sand-------	SM	A-3, A-2	0	100	80-100	50-80	10-25	---	NP
	9-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
136----------	0-4	Loamy fine sand	SM	A-1, A-2	0	100	80-100	40-85	10-35	---	NP
Rositas	4-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
137----------	0-12	Silt loam-------	ML	A-4	0	100	100	90-100	70-90	20-30	NP-5
Rositas	12-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
138*:											
Rositas----------	0-4	Loamy fine sand	SM	A-1, A-2	0	100	80-100	40-85	10-35	---	NP
	4-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
Superstition------	0-6	Loamy fine sand	SM	A-2	0	100	95-100	70-85	15-25	---	NP
	6-60	Loamy fine sand, fine sand, sand.	SM	A-2	0	100	95-100	70-85	15-25	---	NP
139----------	0-6	Loamy fine sand	SM	A-2	0	100	95-100	70-85	15-25	---	NP
Superstition	6-60	Loamy fine sand, fine sand, sand.	SM	A-2	0	100	95-100	70-85	15-25	---	NP
140*:											
Torriorthents											
Rock outcrop											
141*:											
Torriorthents											
Orthids											
142----------	0-10	Loamy very fine sand.	SM, ML	A-4	0	100	100	85-95	40-65	15-25	NP-5
Vint	10-60	Loamy fine sand	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
143----------	0-12	Fine sandy loam	ML, CL-ML, SM, SM-SC	A-4	0	100	100	75-85	45-55	15-25	NP-5
Vint	12-60	Loamy sand, loamy fine sand.	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
144*:											
Vint----------	0-10	Very fine sandy loam.	SM, ML	A-4	0	100	100	85-95	40-65	15-25	NP-5
	10-40	Loamy fine sand	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
	40-60	Silty clay------	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
Indio----------	0-12	Very fine sandy loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	12-40	Stratified loamy very fine sand to silt loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	40-72	Silty clay------	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35

* See description of the map unit for composition and behavior characteristics of the map unit.

PC ORIGINAL PKG

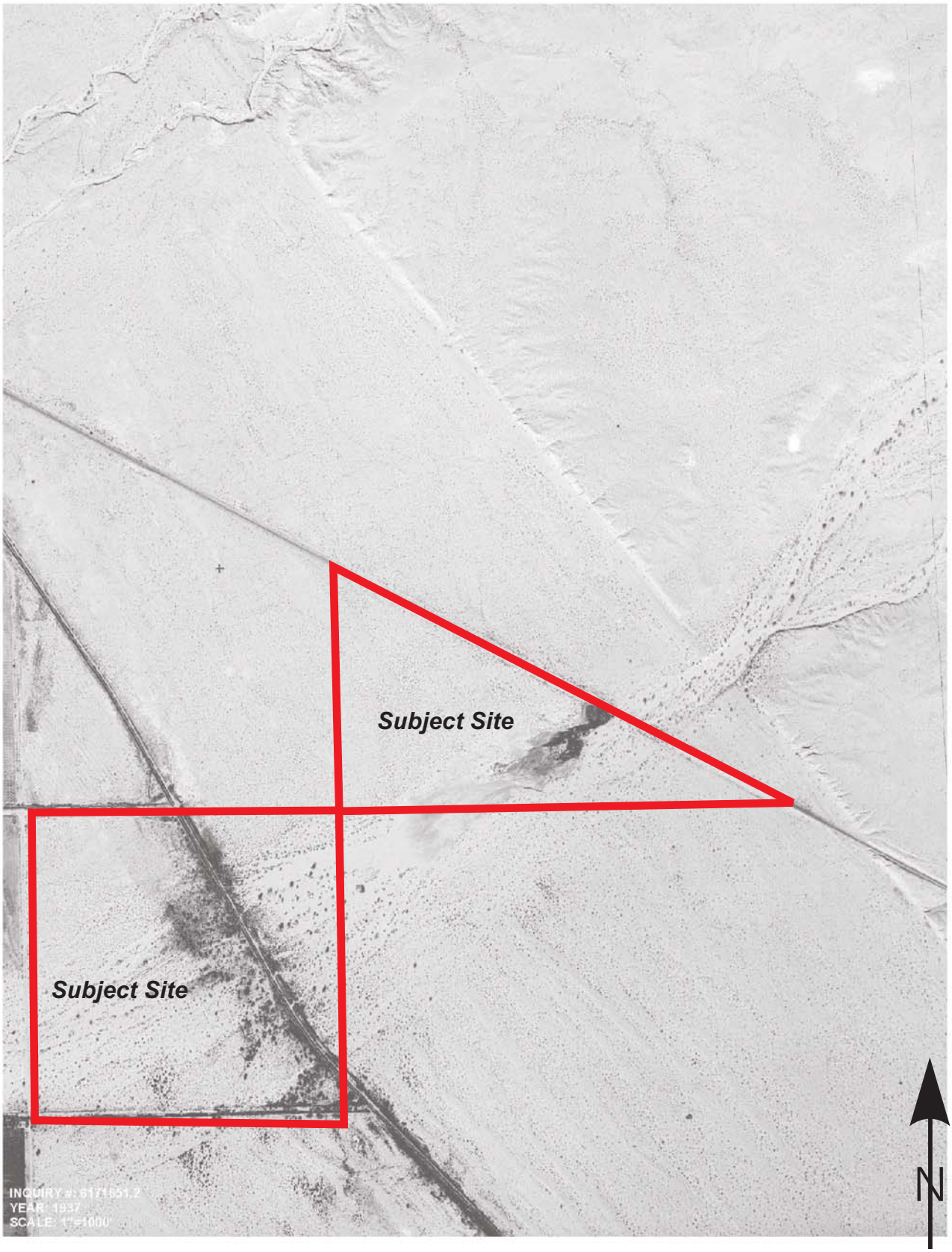


GS Lyon Project No.: GS2016	Topographic Map	Plate 4

PC ORIGINAL PKG

APPENDIX C

PC ORIGINAL PKG



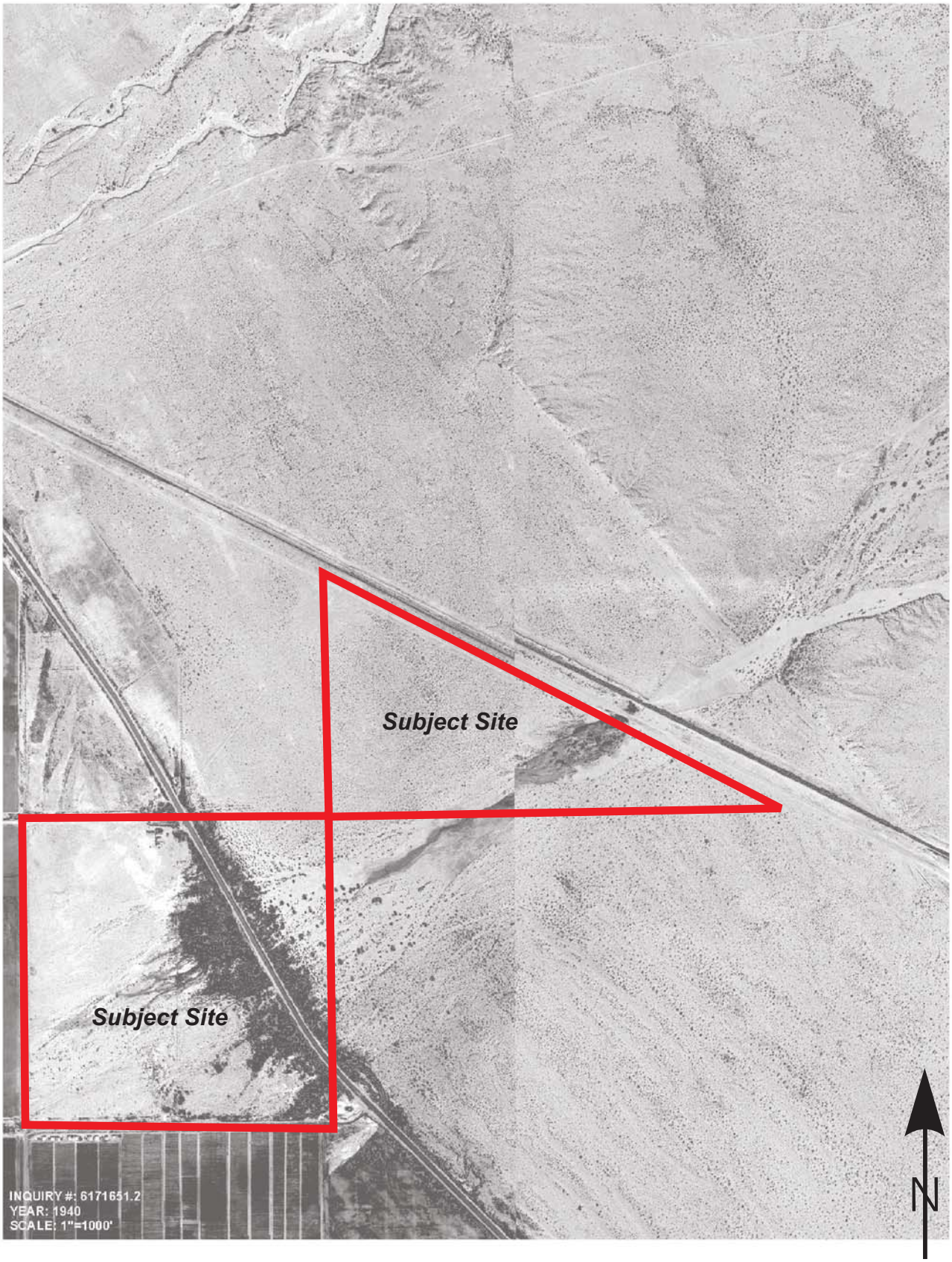
GS Lyon

Project No.: GS2016

1937 Aerial Photograph

Plate 5

PC ORIGINAL PKG



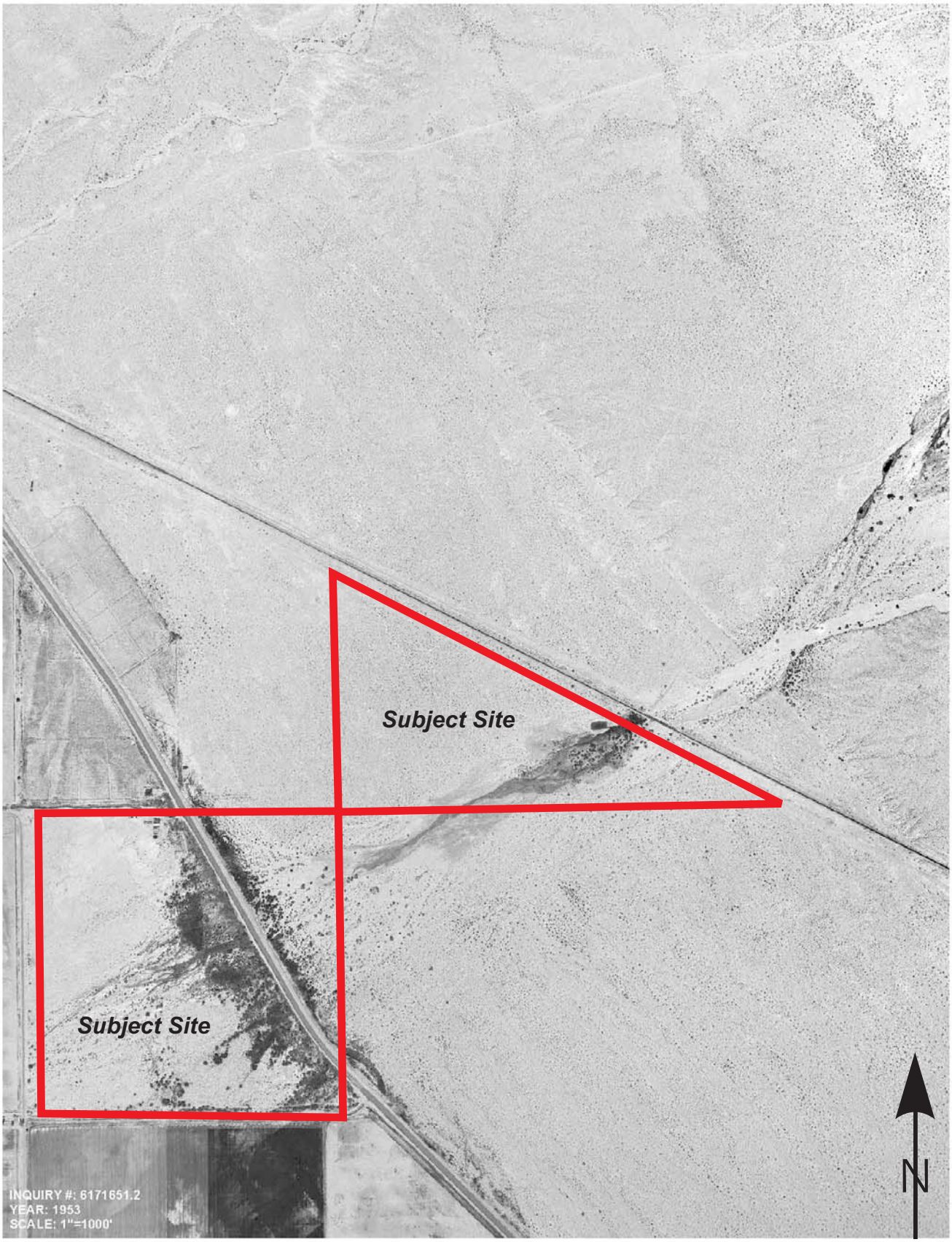
GS Lyon

Project No.: GS2016

1940 Aerial Photograph

Plate 6

PC ORIGINAL PKG



GS Lyon

Project No.: GS2016

1953 Aerial Photograph

Plate 7

PC ORIGINAL PKG

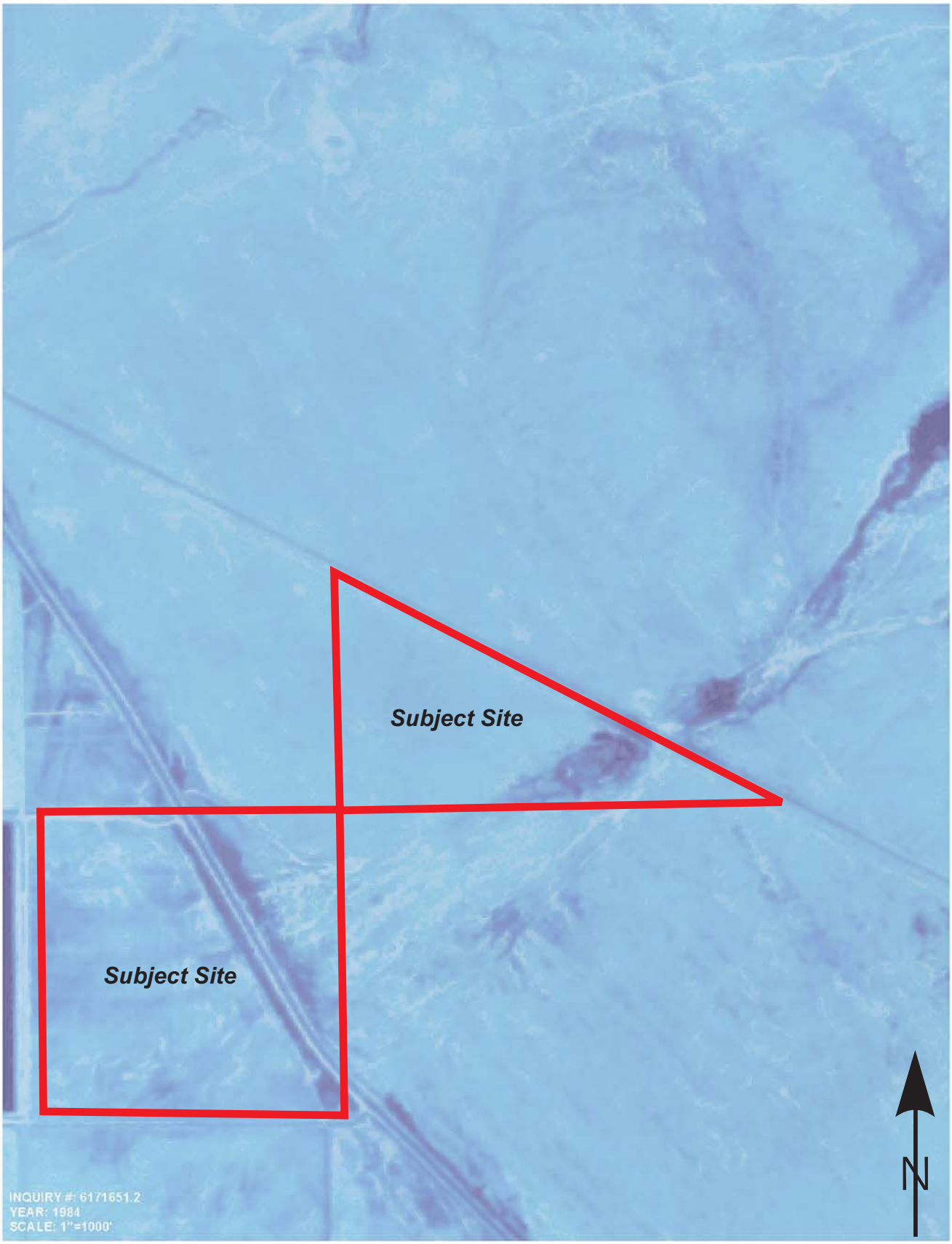
GS Lyon

Project No.: GS2016

1976 Aerial Photograph

Plate 8

PC ORIGINAL PKG



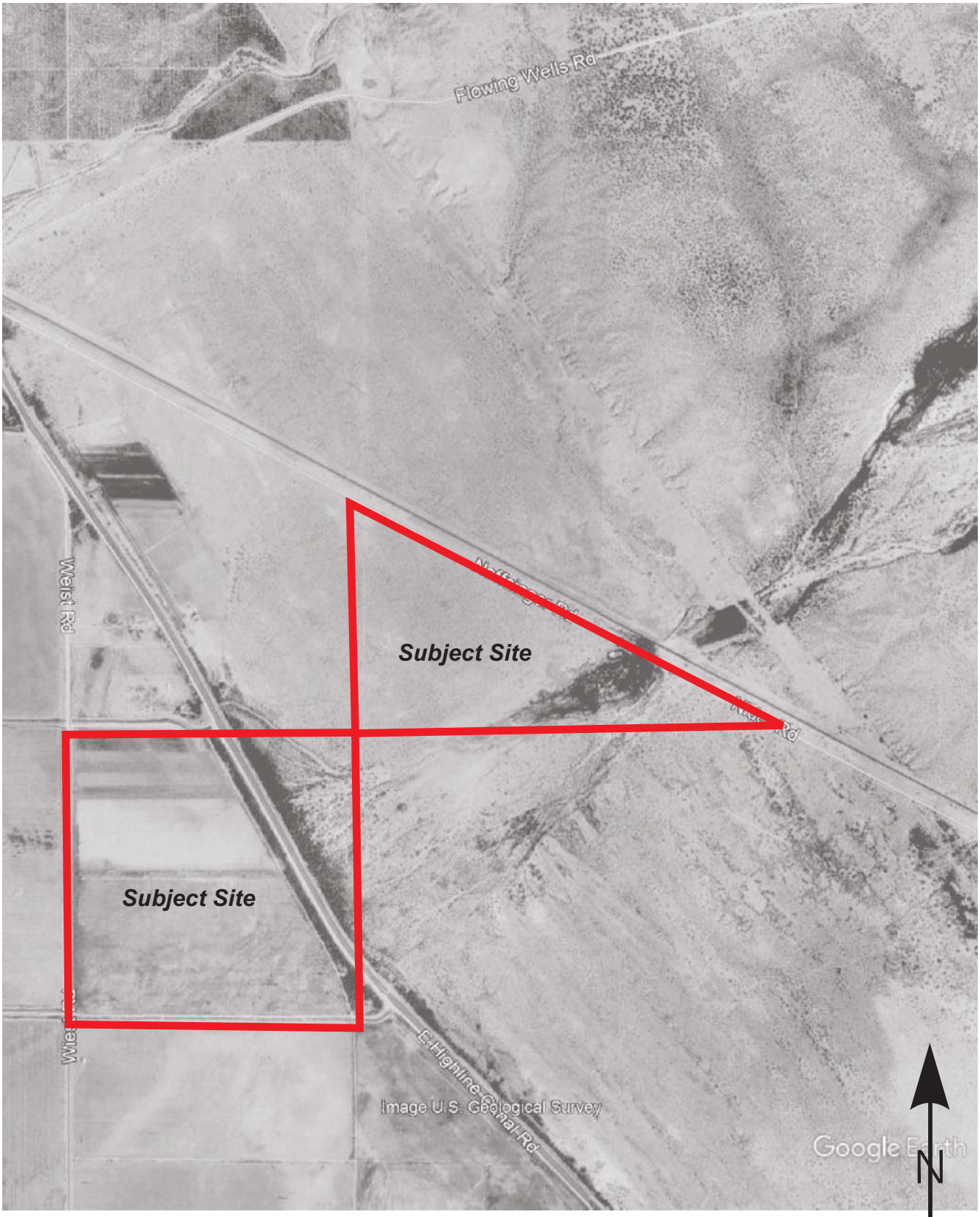
GS Lyon

Project No.: GS2016

1984 Aerial Photograph

Plate 9

PC ORIGINAL PKG



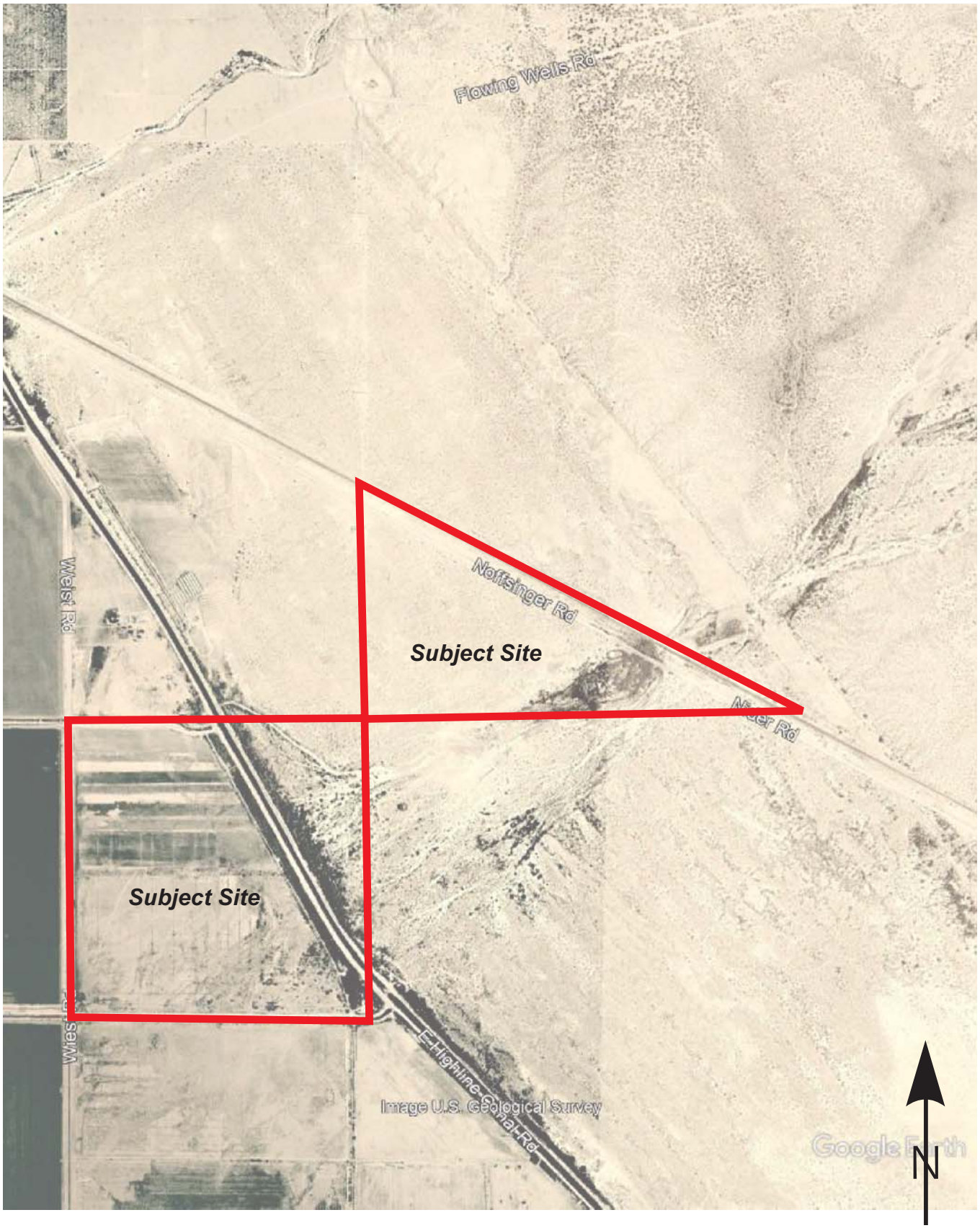
GSLyon

Project No.: GS2016

1992 Aerial Photograph

Plate 10

PC ORIGINAL PKG



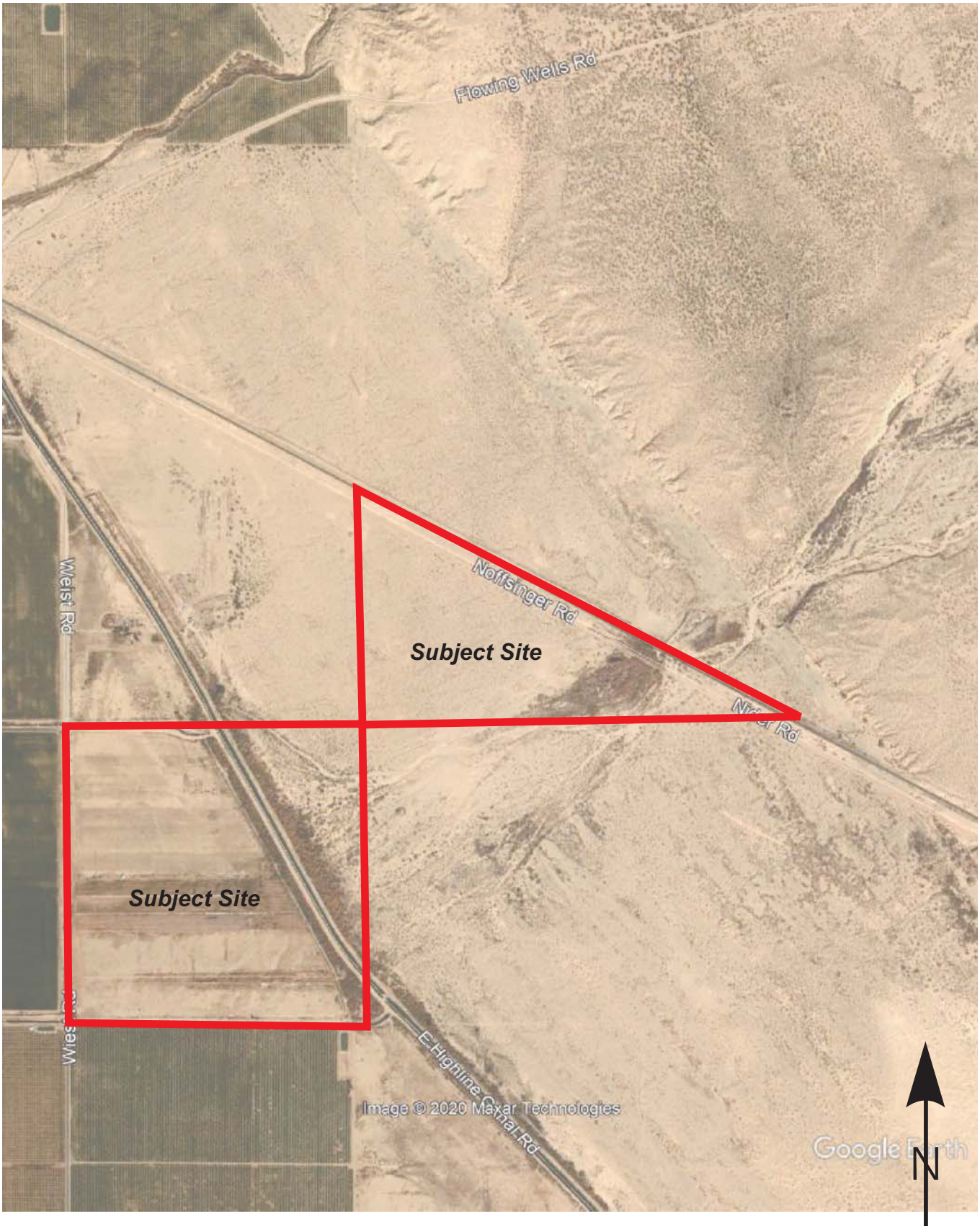
GS Lyon

Project No.: GS2016

1996 Aerial Photograph

Plate 11

PC ORIGINAL PKG



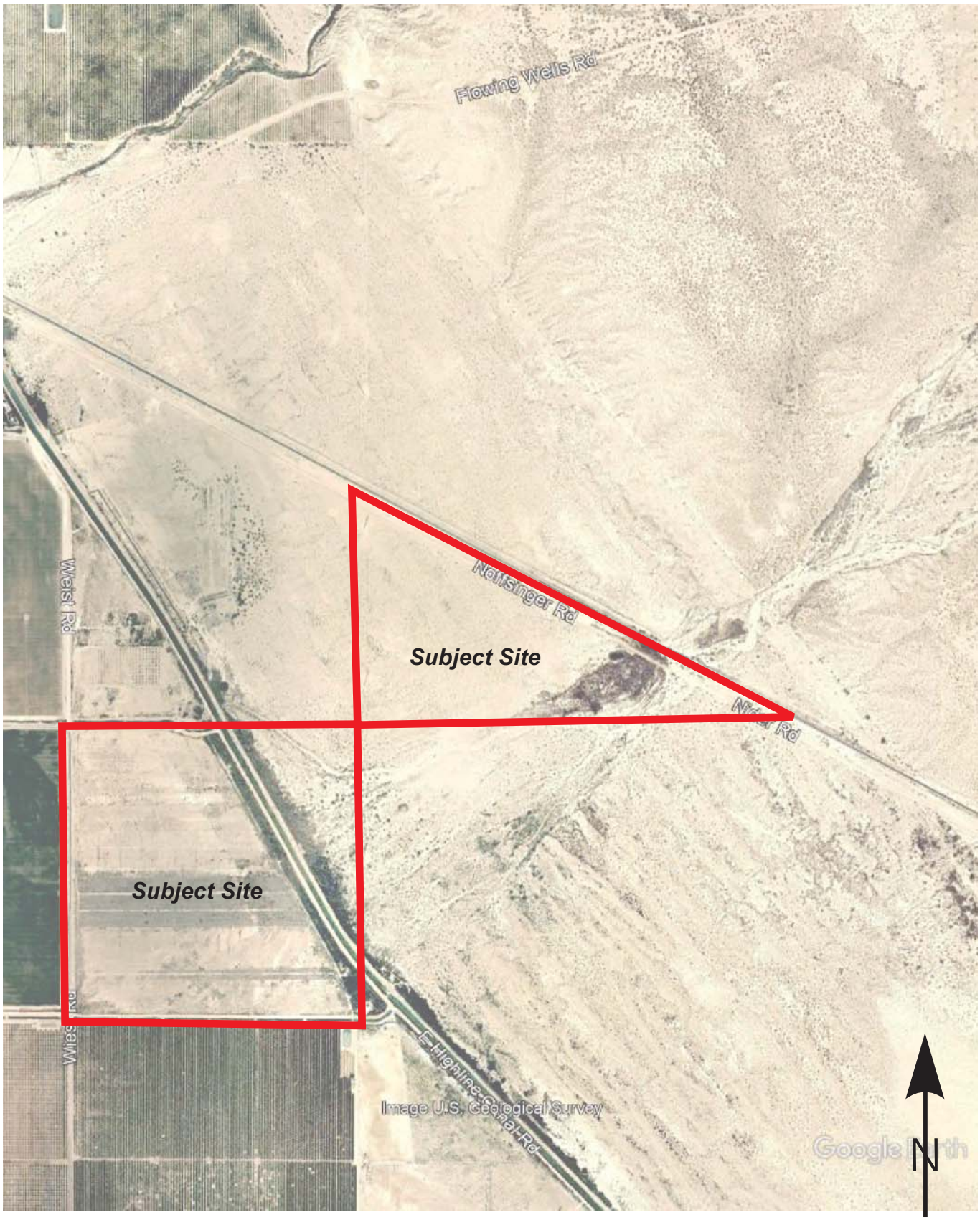
GS Lyon

Project No.: GS2016

2004 Aerial Photograph

Plate 12

PC ORIGINAL PKG



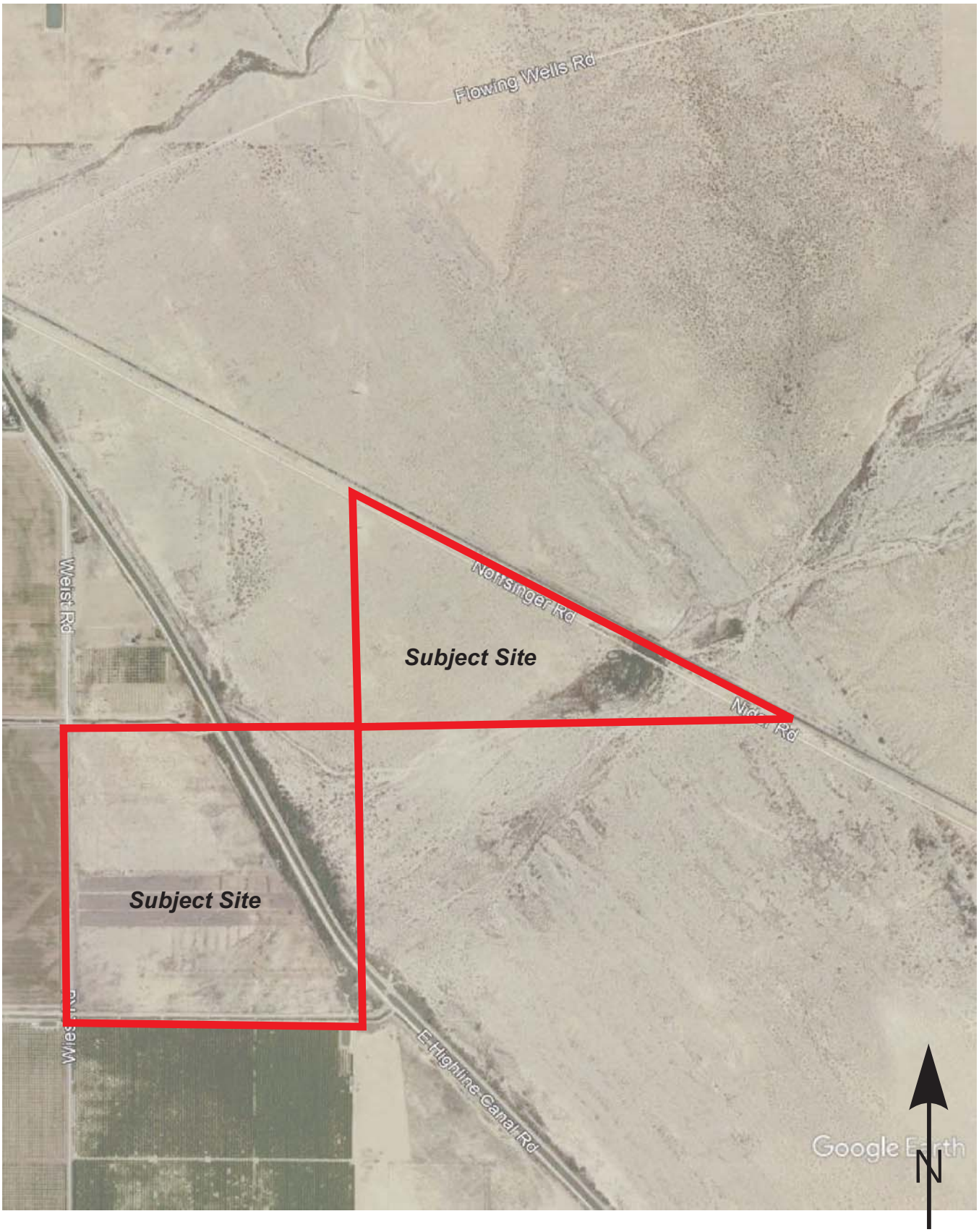
GS Lyon

Project No.: GS2016

2008 Aerial Photograph

Plate 13

PC ORIGINAL PKG



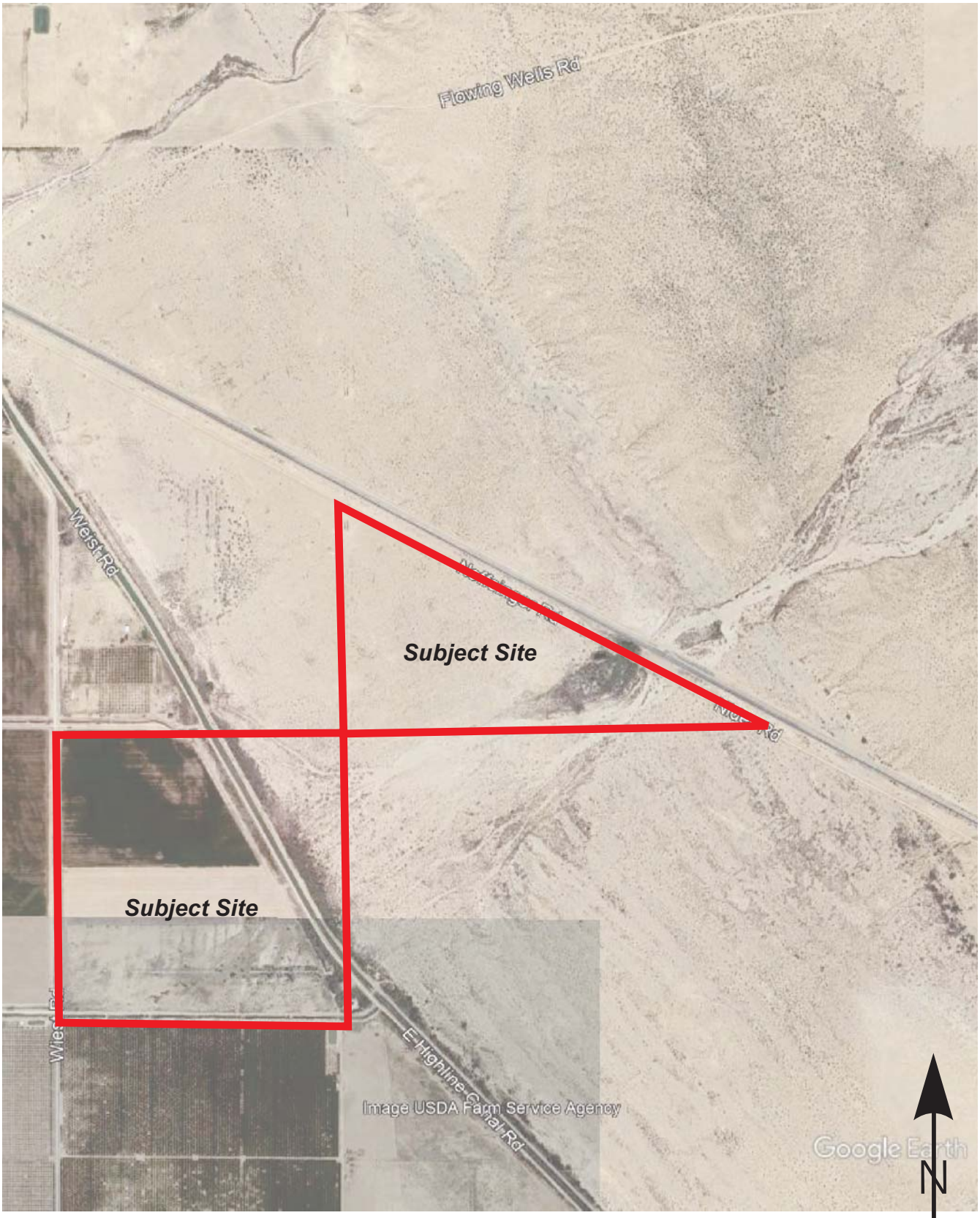
GS Lyon

Project No.: GS2016

2012 Aerial Photograph

Plate 14

PC ORIGINAL PKG



GSLyon

Project No.: GS2016

2015 Aerial Photograph

Plate 15

PC ORIGINAL PKG

APPENDIX D

PC ORIGINAL PKG

Cedar Solar 2

NEC Schrimpf and Wiest Rd. Imperial County

Calipatria, CA 92233

Inquiry Number: 6171651.1

August 28, 2020

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

EDR Historical Topo Map Report

08/28/20

Site Name:

Cedar Solar 2
NEC Schrimpf and Wiest Rd. Ir
Calipatria, CA 92233
EDR Inquiry # 6171651.1

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Peter E. Labrucherie

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by GS Lyon Consultants were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# NA
Project: GS2016

Coordinates:

Latitude:	33.208248 33° 12' 30" North
Longitude:	-115.438914 -115° 26' 20" West
UTM Zone:	Zone 11 North
UTM X Meters:	645493.86
UTM Y Meters:	3675459.43
Elevation:	-4.02' below sea level

Maps Provided:

2012	1940
2002	
1992	
1976	
1965	
1956	
1947	
1945	

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PC ORIGINAL PKG

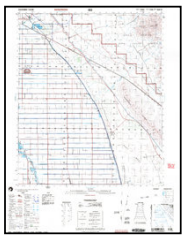
Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets

Iris
2012
7.5-minute, 24000

2002 Source Sheets



Iris
2002
15-minute, 50000

1992 Source Sheets

Iris
1992
7.5-minute, 24000
Aerial Photo Revised 1992

1976 Source Sheets

Iris
1976
7.5-minute, 24000
Aerial Photo Revised 1953

PC ORIGINAL PKG

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

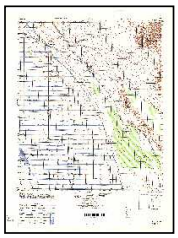
1965 Source Sheets

Iris
1965
7.5-minute, 24000
Aerial Photo Revised 1953

1956 Source Sheets

Iris
1956
7.5-minute, 24000
Aerial Photo Revised 1953

1947 Source Sheets



IRIS
1947
15-minute, 50000

1945 Source Sheets

Iris
1945
15-minute, 62500
Aerial Photo Revised 1940

PC ORIGINAL PKG

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

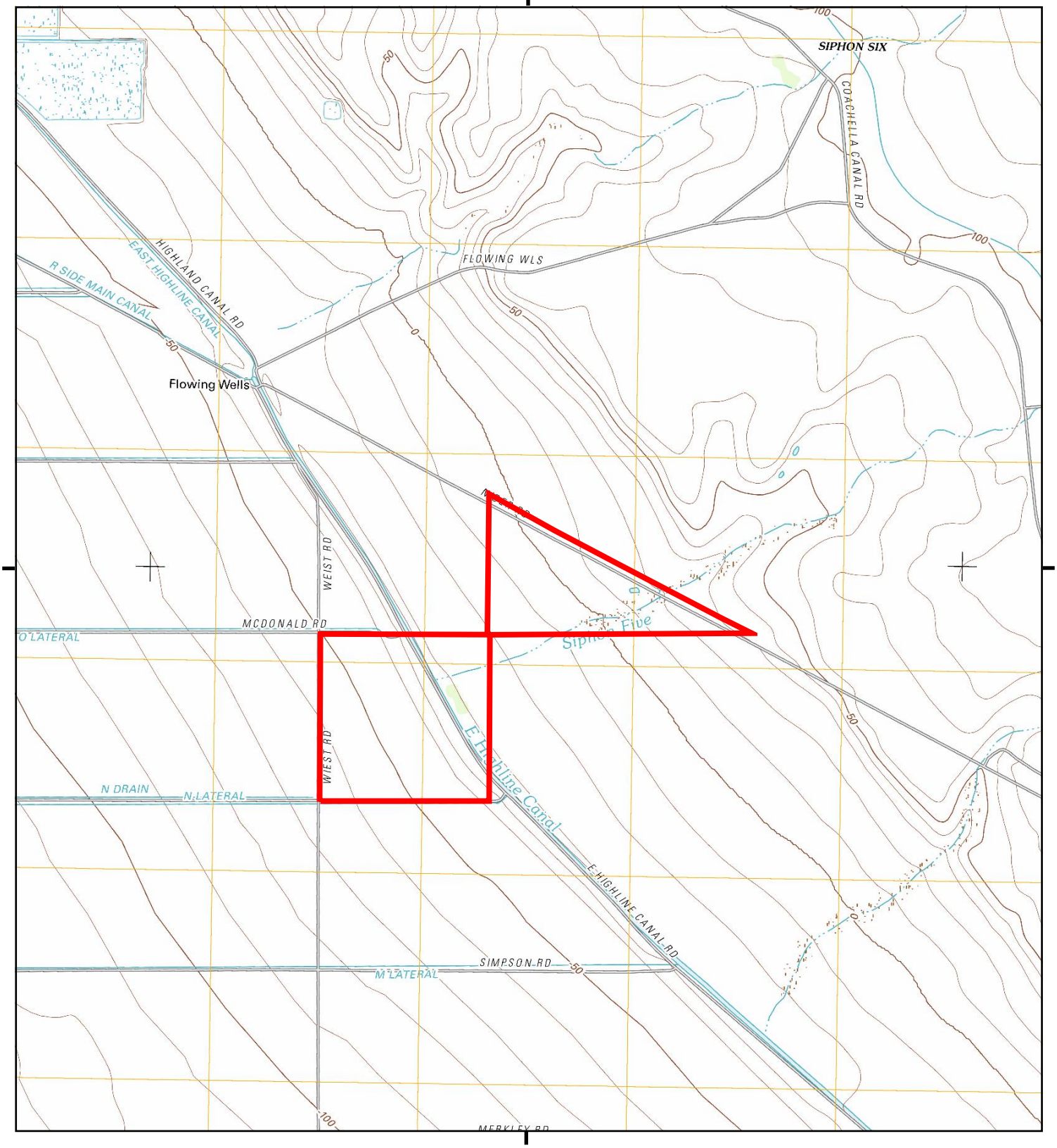
1940 Source Sheets

Iris
1940
15-minute, 62500
Aerial Photo Revised 1940

PC ORIGINAL PKG

Historical Topo Map

2012



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 2012, 7.5-minute

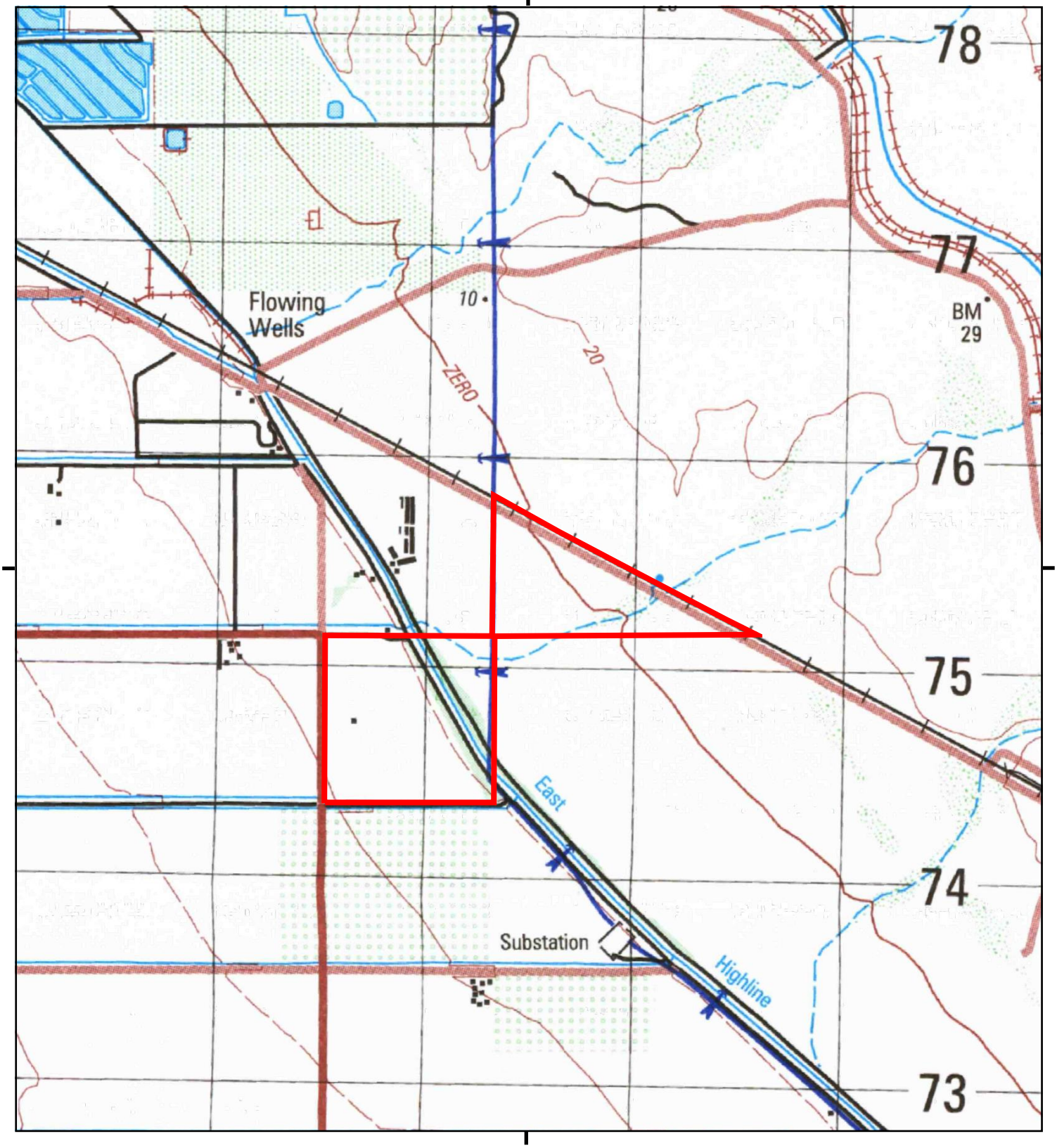
SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

2002



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 2002, 15-minute

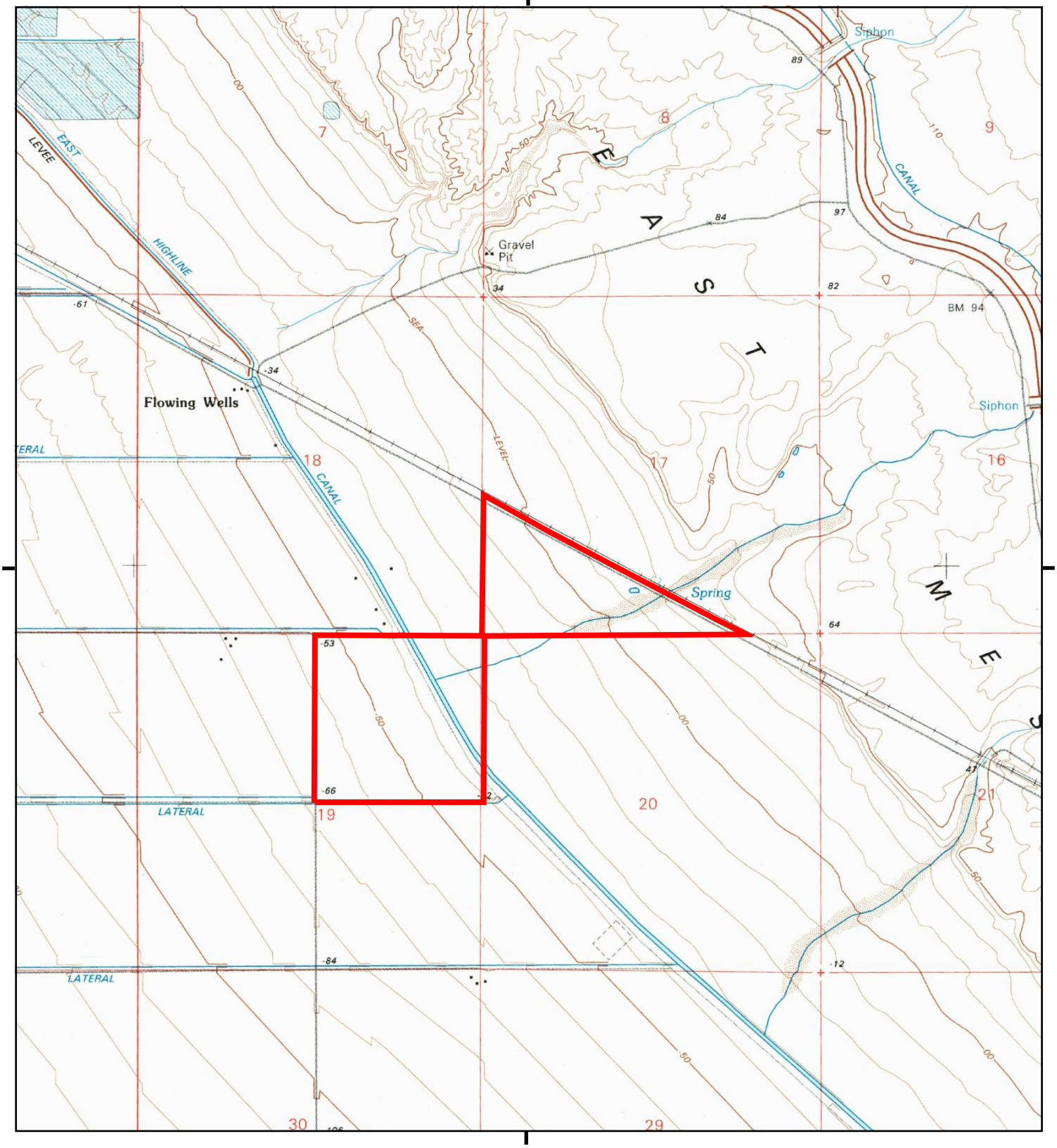
SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1992



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1992, 7.5-minute

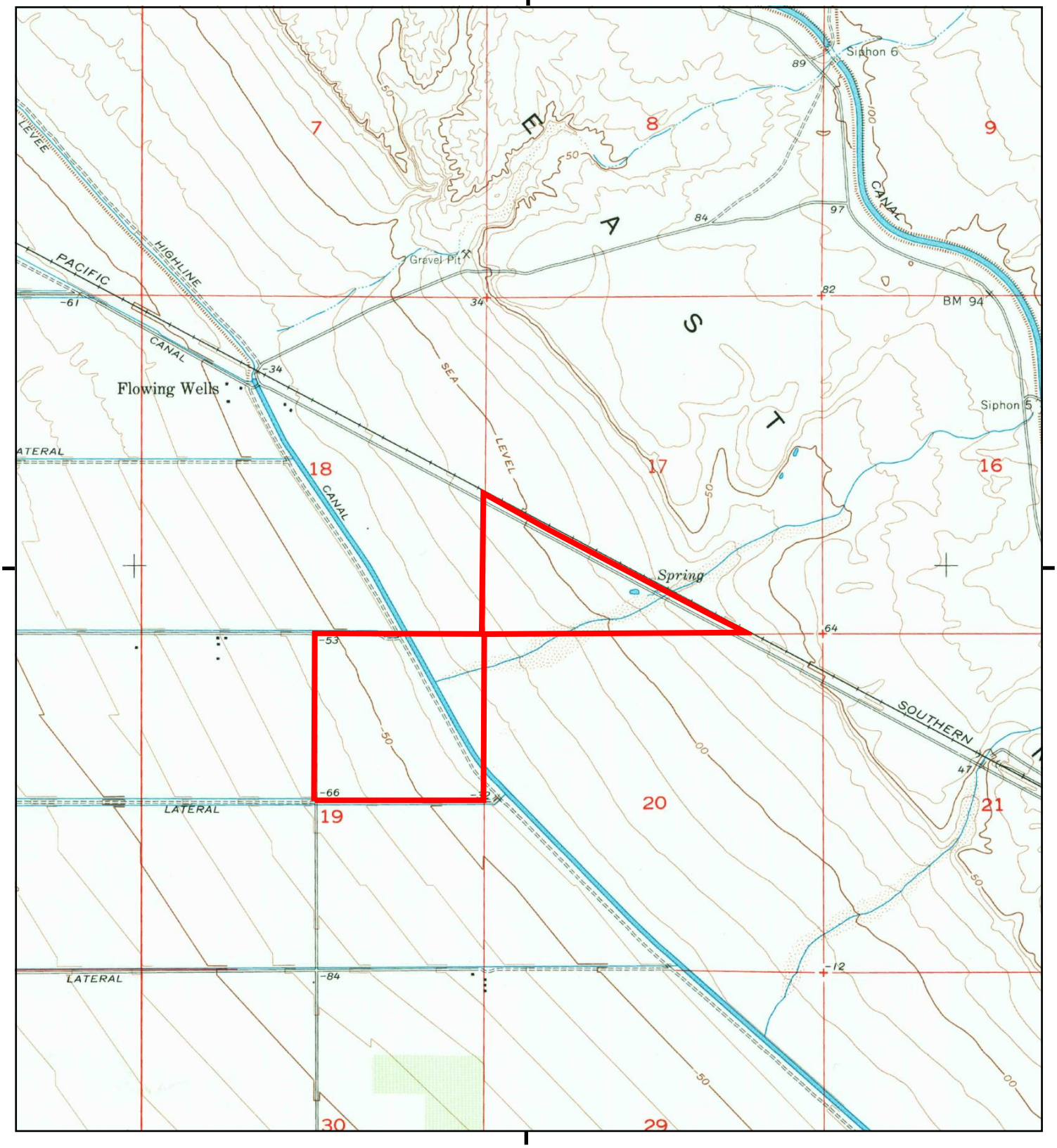
SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1976



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1976, 7.5-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

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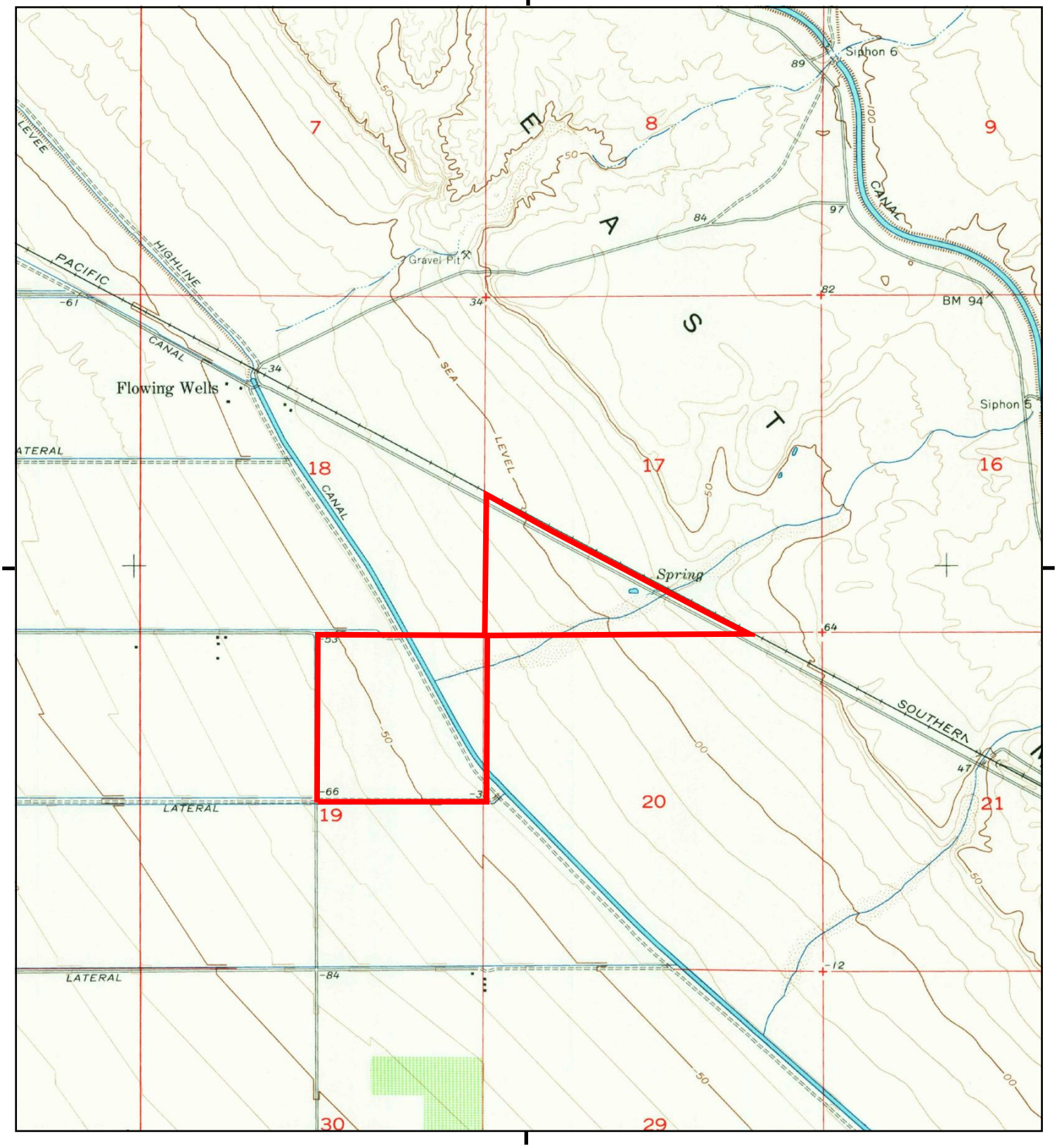
Historical Topo Map

1965



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1965, 7.5-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

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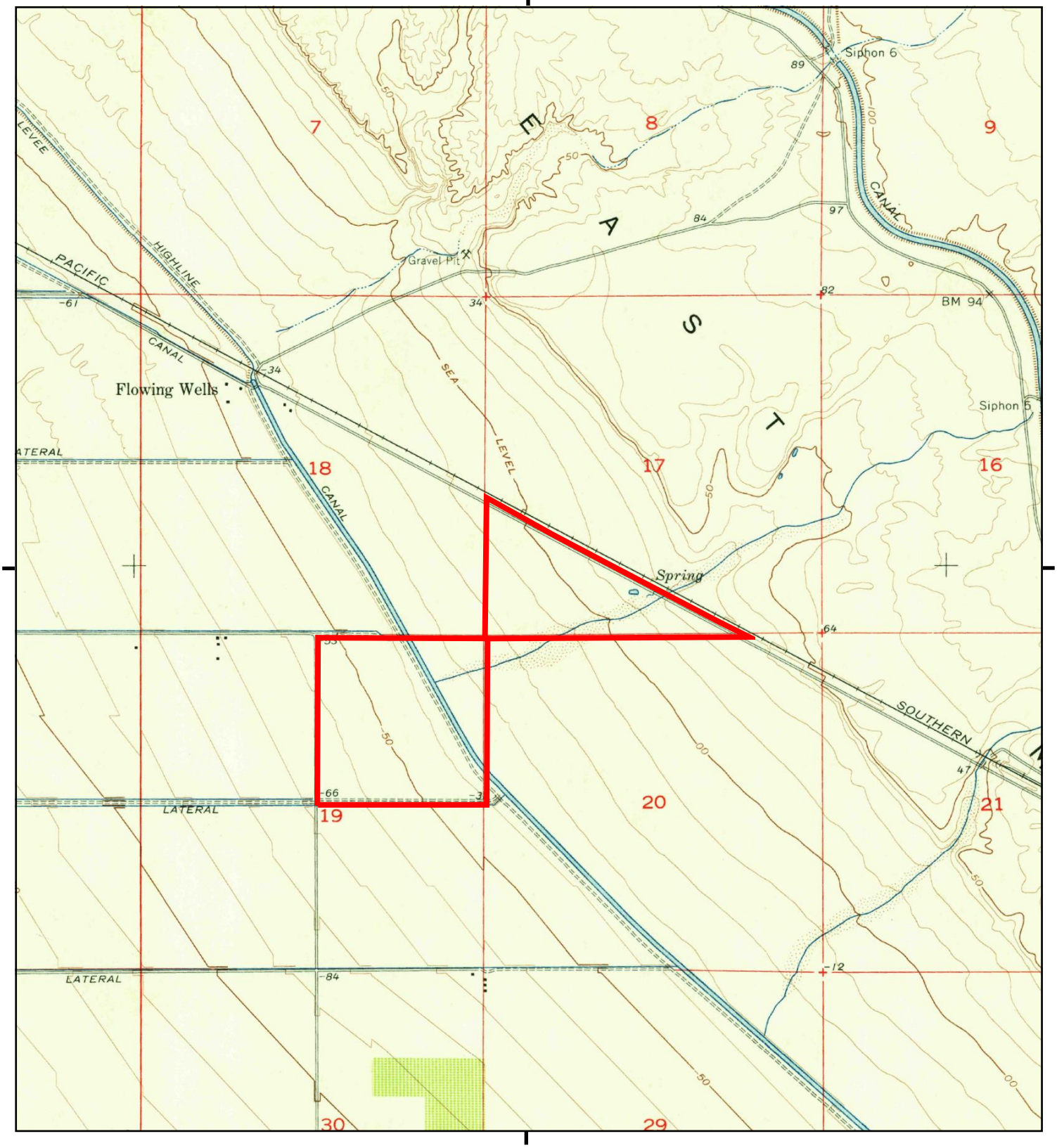
Historical Topo Map

1956



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1956, 7.5-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

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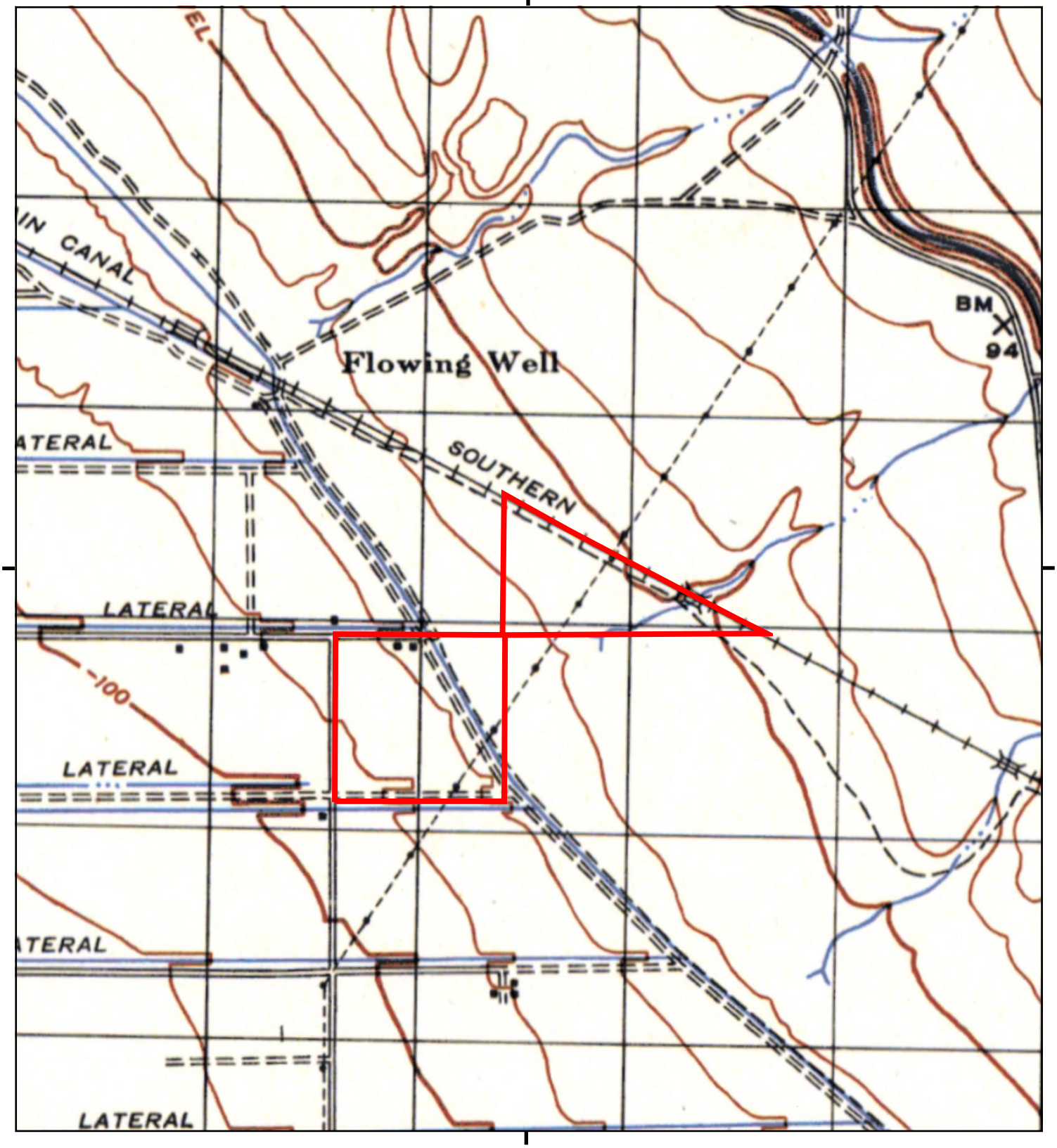


This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, IRIS, 1947, 15-minute

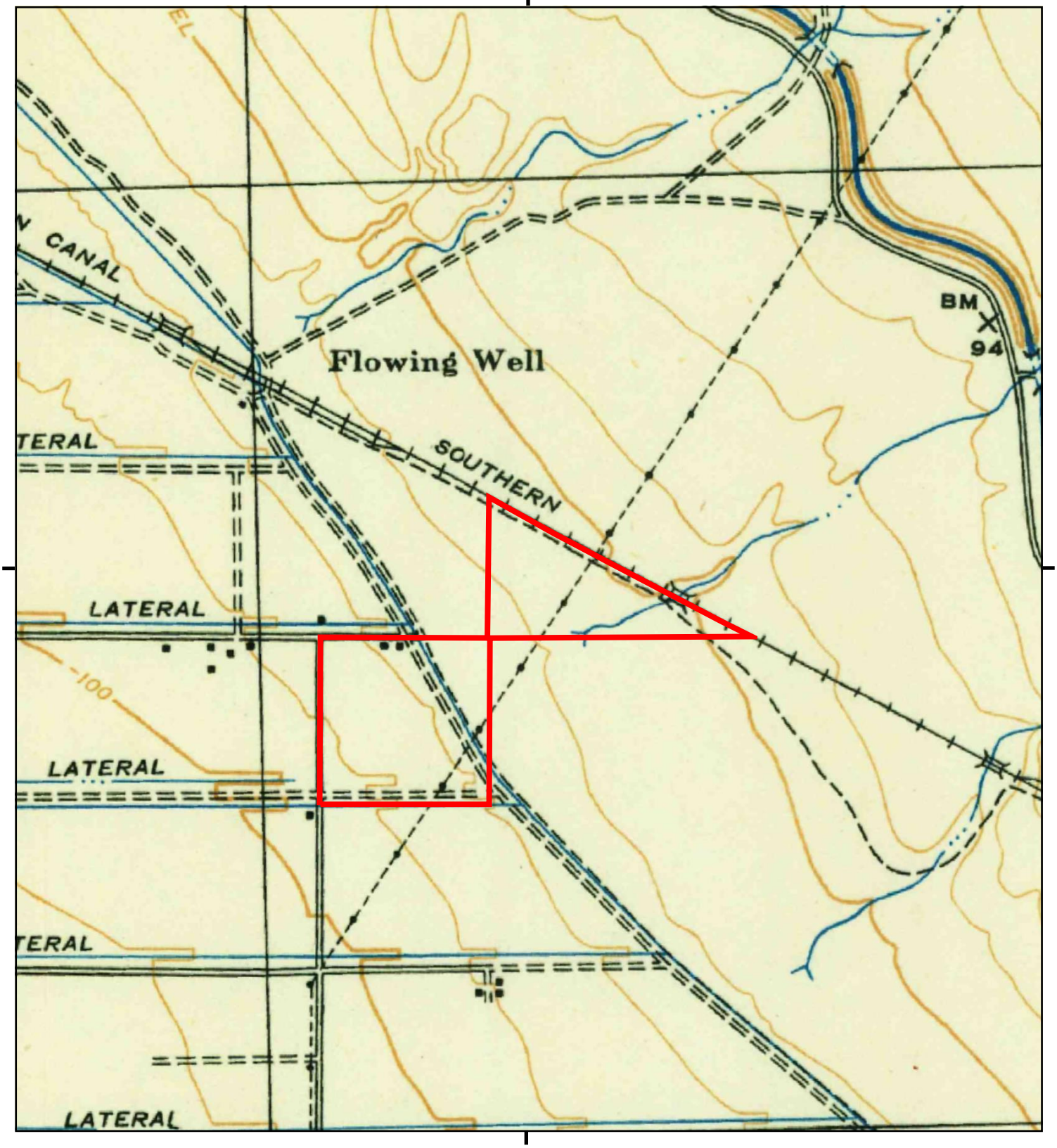
SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1945



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1945, 15-minute

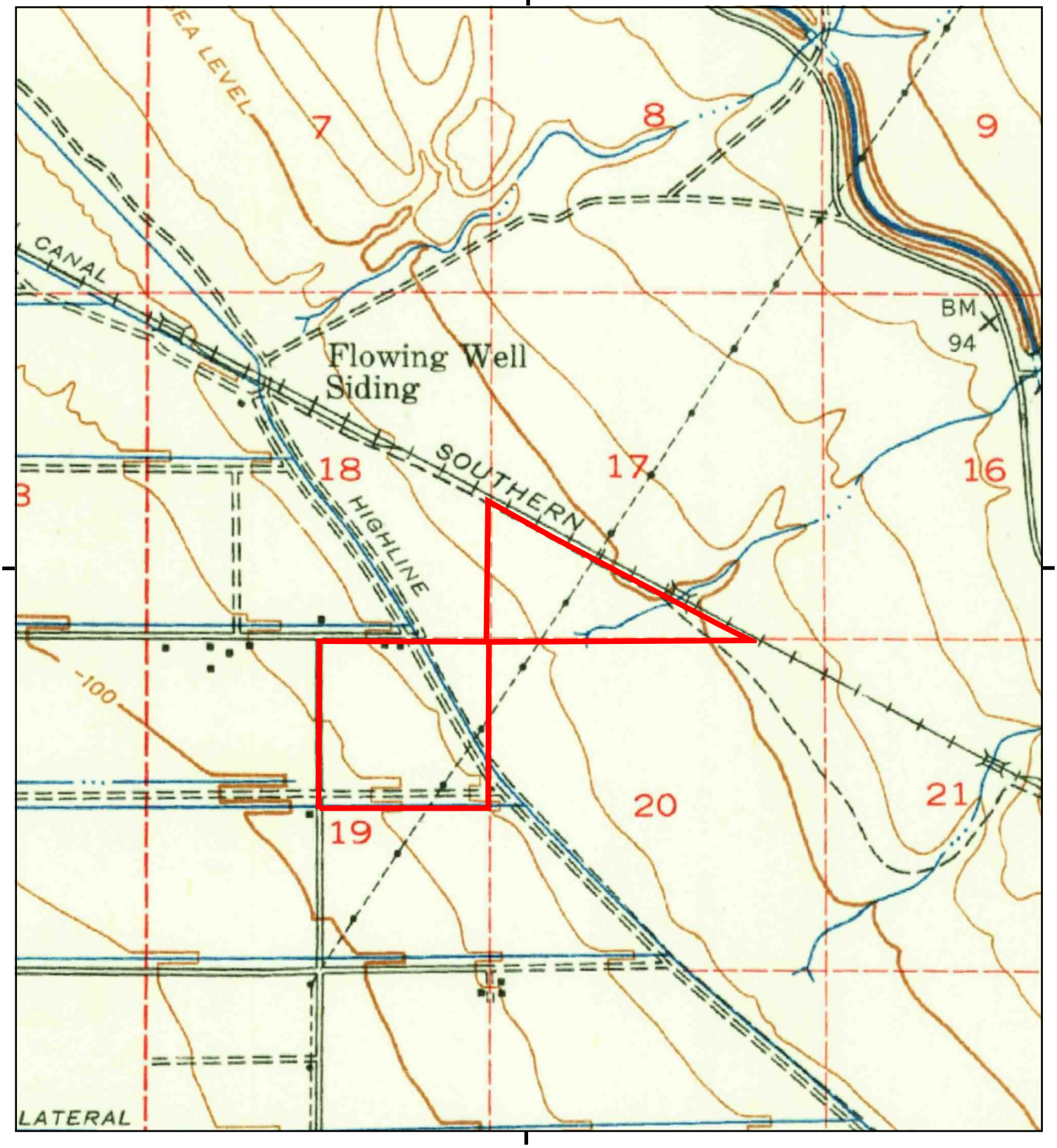
SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1940



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1940, 15-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

APPENDIX E

PC ORIGINAL PKG

Cedar Solar 2
NEC Schrimpf and Wiest Rd. Imperial County
Calipatria, CA 92233

Inquiry Number: 6171651.3s
August 27, 2020

EDR Area / Corridor Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

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Mapped Sites Summary	2
Key Map	2
Map Findings Summary	3
Focus Maps	8
Map Findings	26
Orphan Summary	OR-1
Government Records Searched/Data Currency Tracking	GR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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PC ORIGINAL PKG

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

SUBJECT PROPERTY INFORMATION

ADDRESS

NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

TARGET PROPERTY SEARCH RESULTS

The Target Property was identified in the following databases.

Page Numbers and Map Identifcations refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

MINES: Mines Site Location Listing

A review of the MINES list, as provided by EDR, and dated 06/08/2020 has revealed that there is 1 MINES site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
FLOWING WELLS	2095 HIGHWAY 111	2 / 5	26

MINES MRDS: Mineral Resources Data System

A review of the MINES MRDS list, as provided by EDR, and dated 04/06/2018 has revealed that there is 1 MINES MRDS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
FLOWING WELLS PIT		1 / 5	25

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

PC ORIGINAL PKG

EXECUTIVE SUMMARY

Page Numbers and Map Identifcations refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

A review of the MINES list, as provided by EDR, and dated 06/08/2020 has revealed that there is 1 MINES site within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
FLOWING WELLS		N 0 - 1/8 (0.073 mi.)	3 / 2	26

PC ORIGINAL PKG

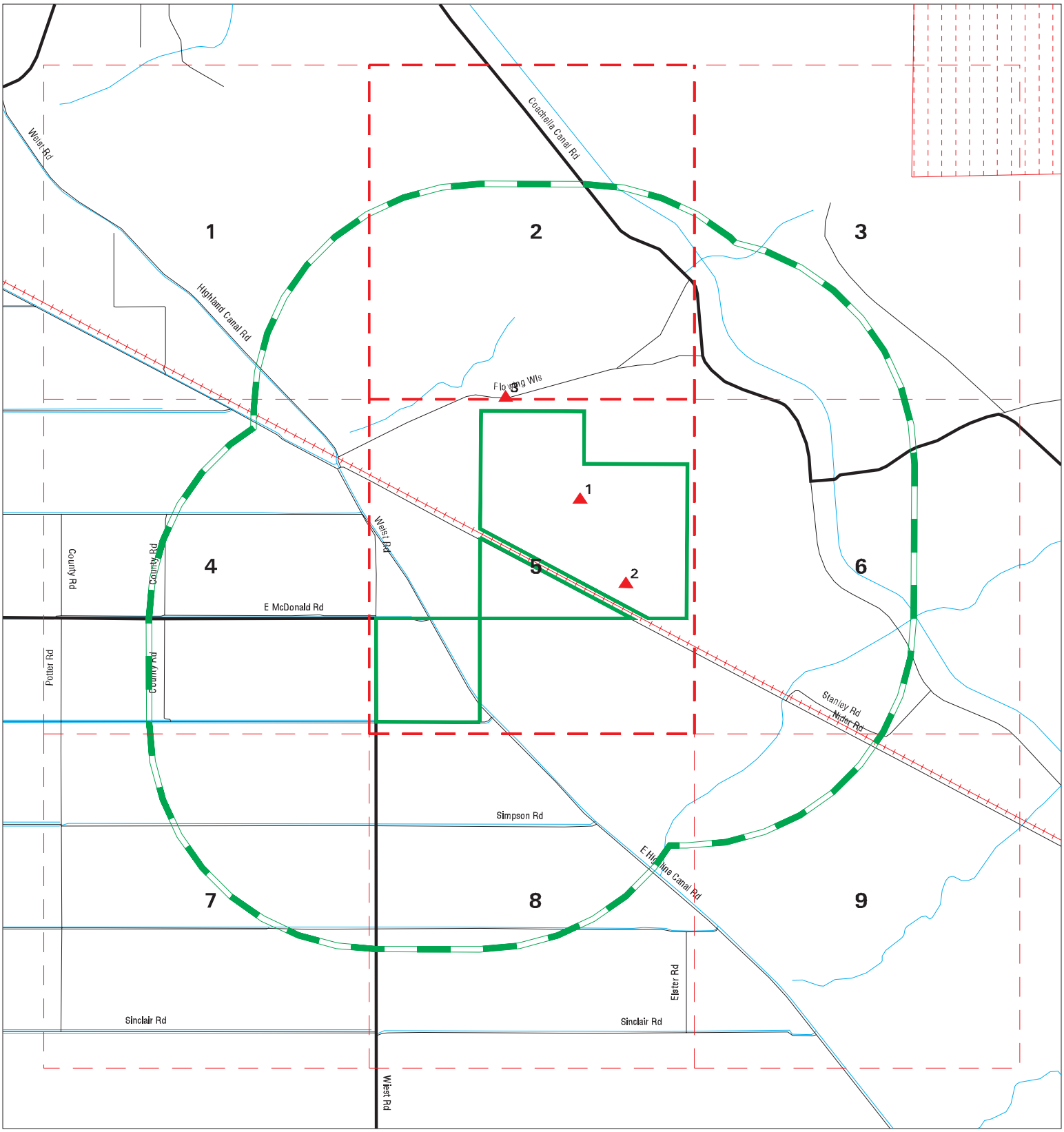
MAPPED SITES SUMMARY

Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
1 / 5	FLOWING WELLS PIT		MINES MRDS	TP
2 / 5	FLOWING WELLS	2095 HIGHWAY 111	MINES	TP
3 / 2	FLOWING WELLS		MINES	388 0.073 North

PC ORIGINAL PKG

Key Map - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/2 1 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20 4:50 PM

PC ORIGINAL PKG

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250	1	1	0	NR	NR	NR	2
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
WDR	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
CERS	TP		NR	NR	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
MINES MRDS	TP	1	NR	NR	NR	NR	NR	1
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		2	1	0	0	0	0	3

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

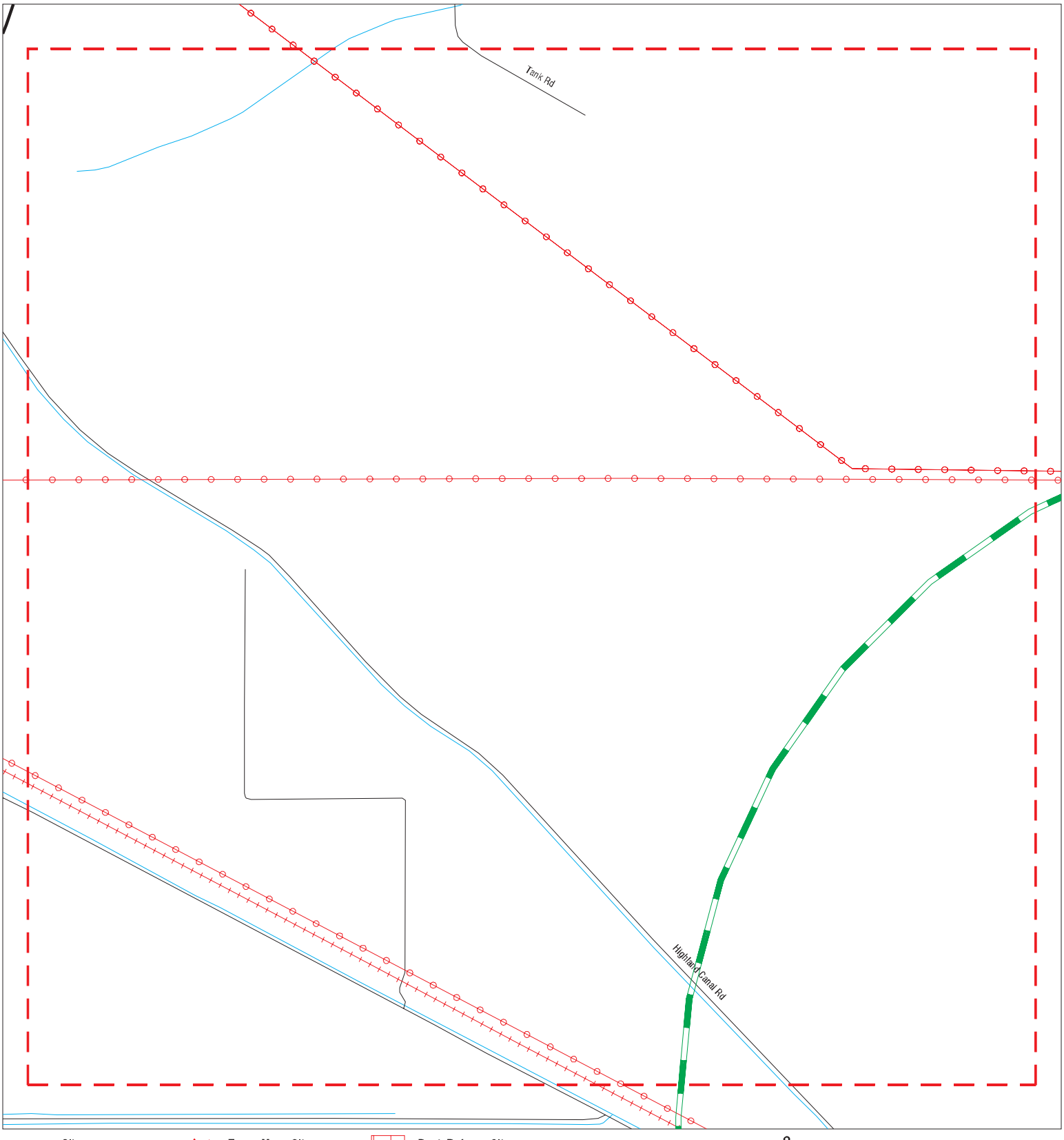
TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

PC ORIGINAL PKG

Focus Map - 1 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 1

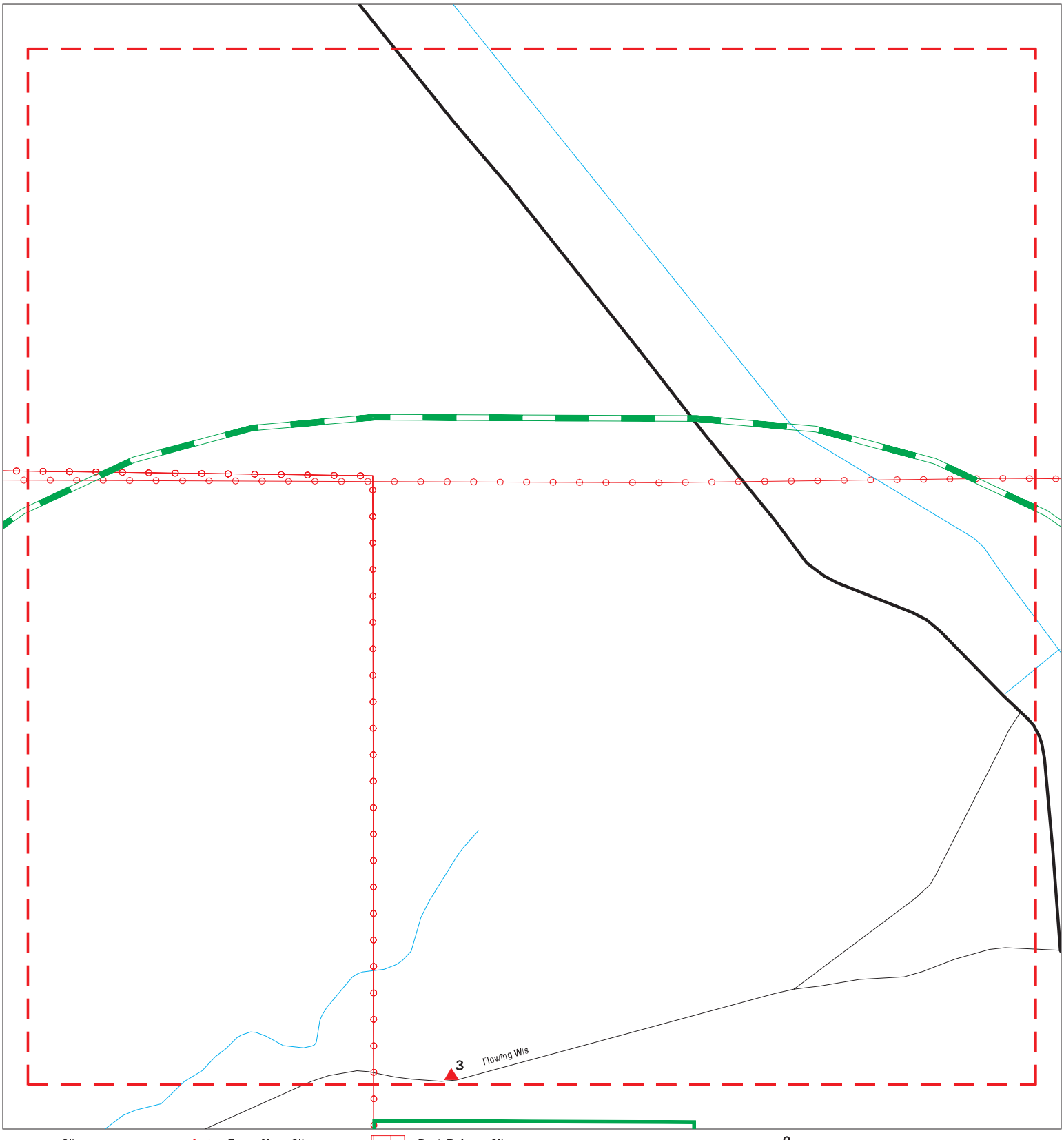
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 2 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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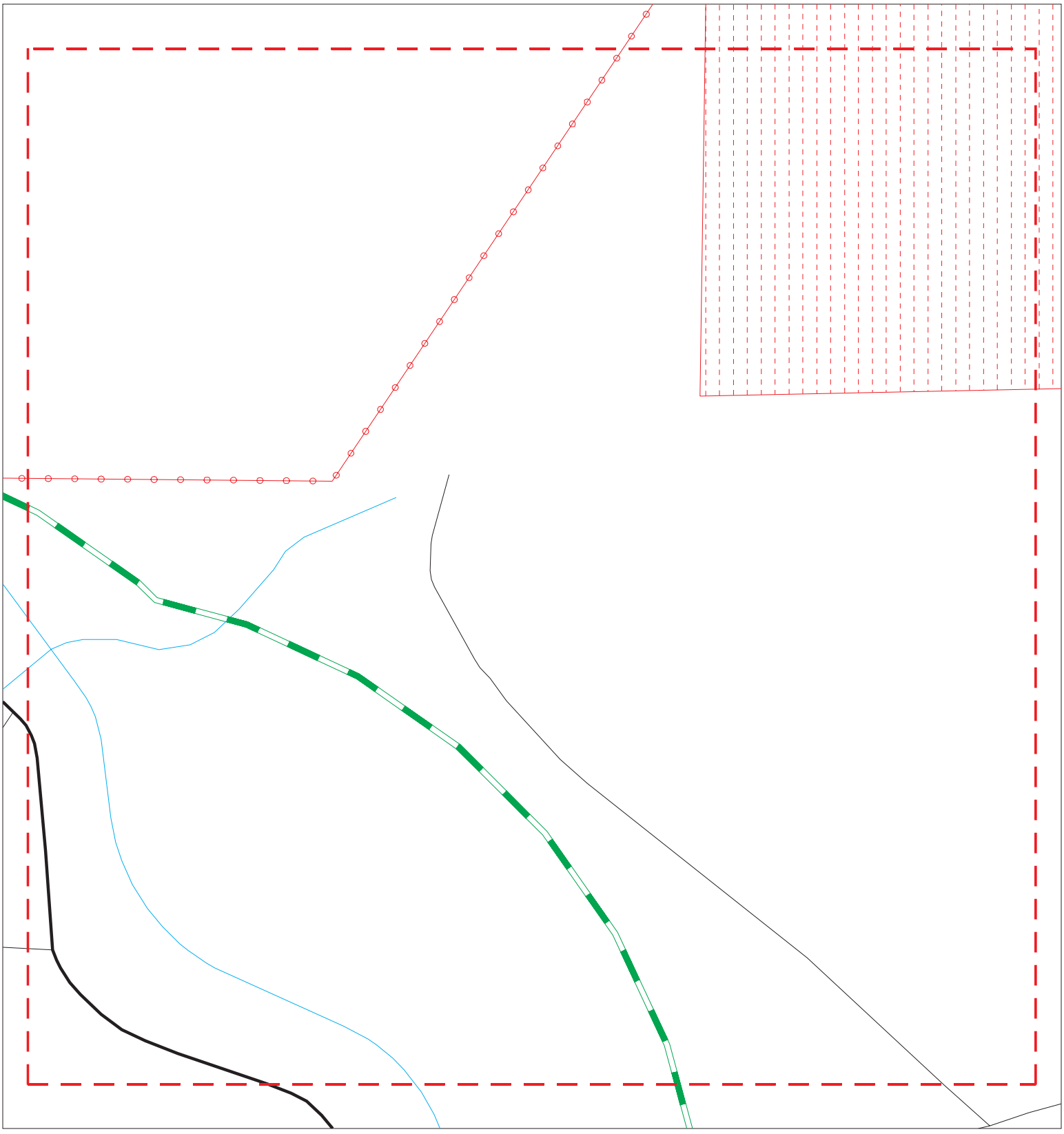
MAPPED SITES SUMMARY - FOCUS MAP 2

Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
3 / 2	FLOWING WELLS		MINES	388 0.073 North

PC ORIGINAL PKG

Focus Map - 3 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 3

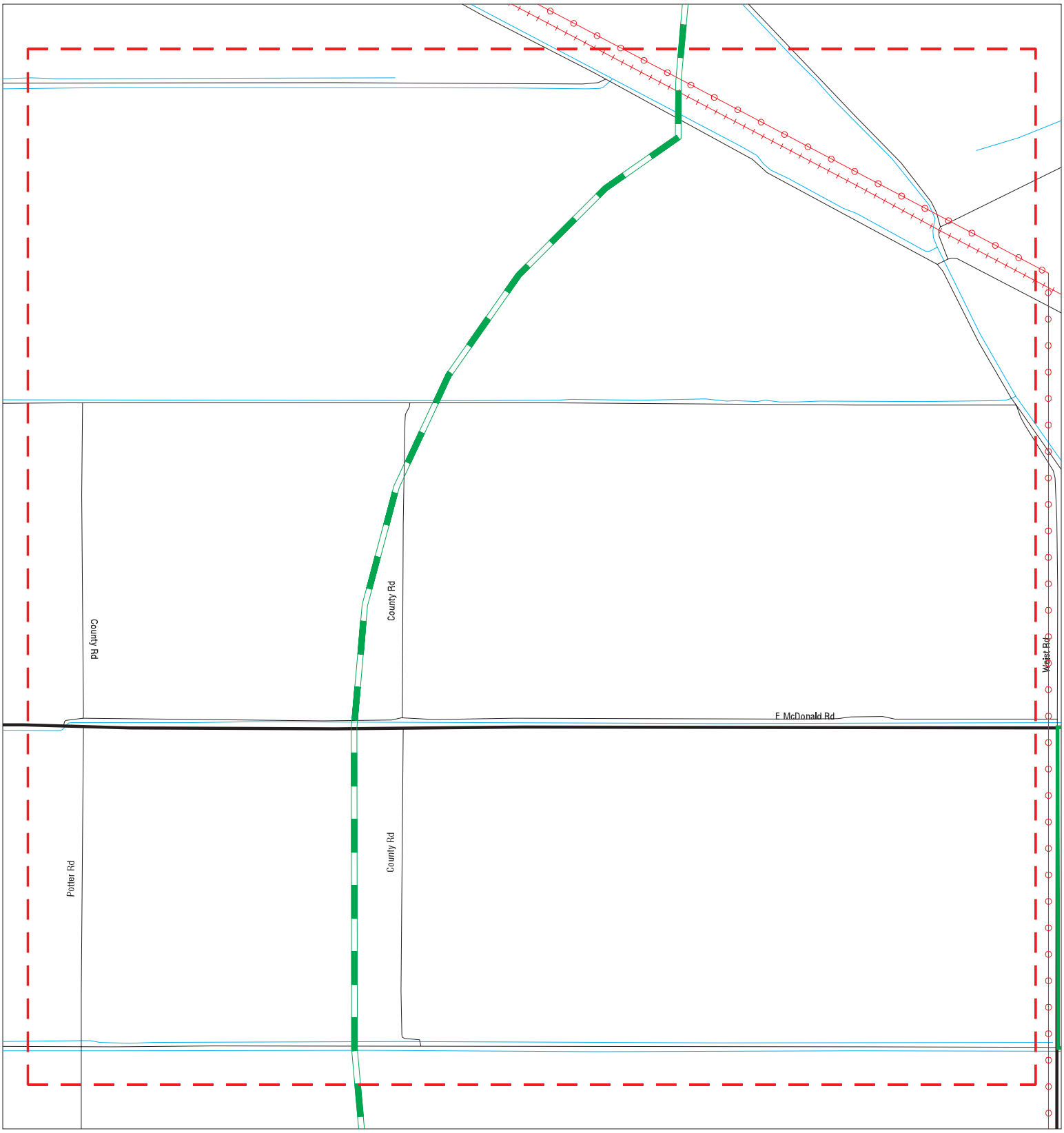
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 4 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 4

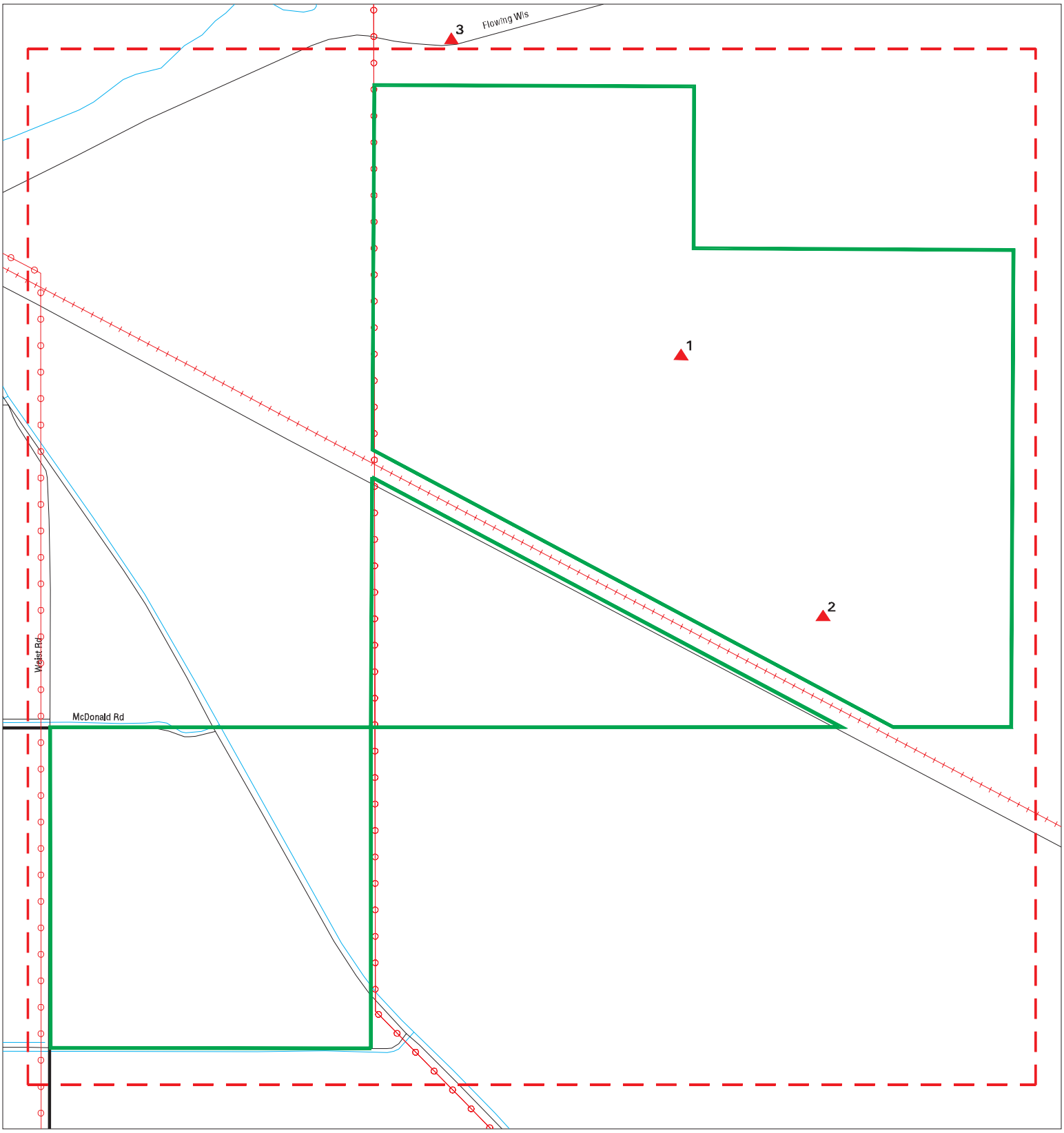
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 5 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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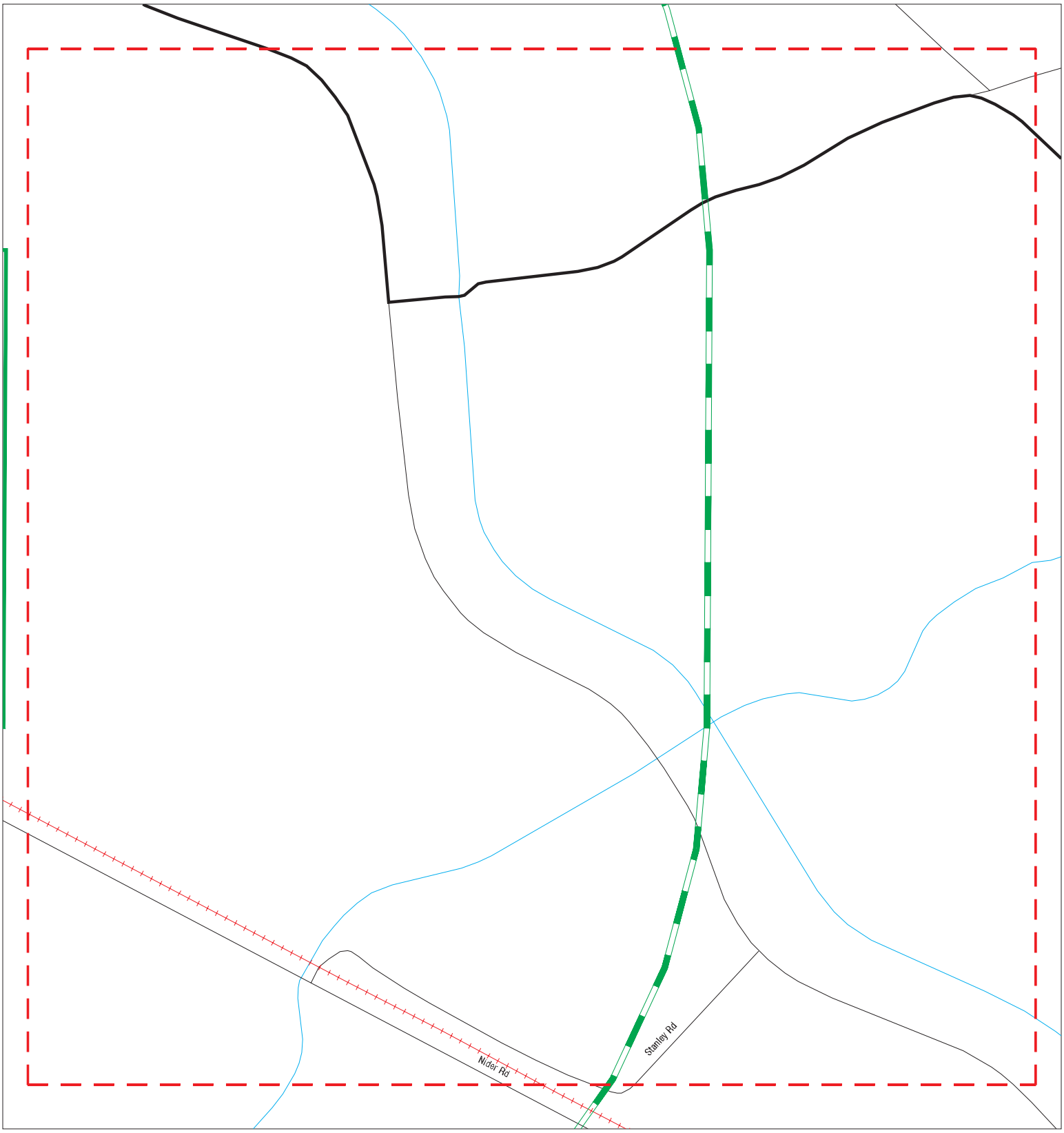
MAPPED SITES SUMMARY - FOCUS MAP 5

Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
1 / 5	FLOWING WELLS PIT		MINES MRDS	TP
2 / 5	FLOWING WELLS	2095 HIGHWAY 111	MINES	TP

PC ORIGINAL PKG

Focus Map - 6 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 6

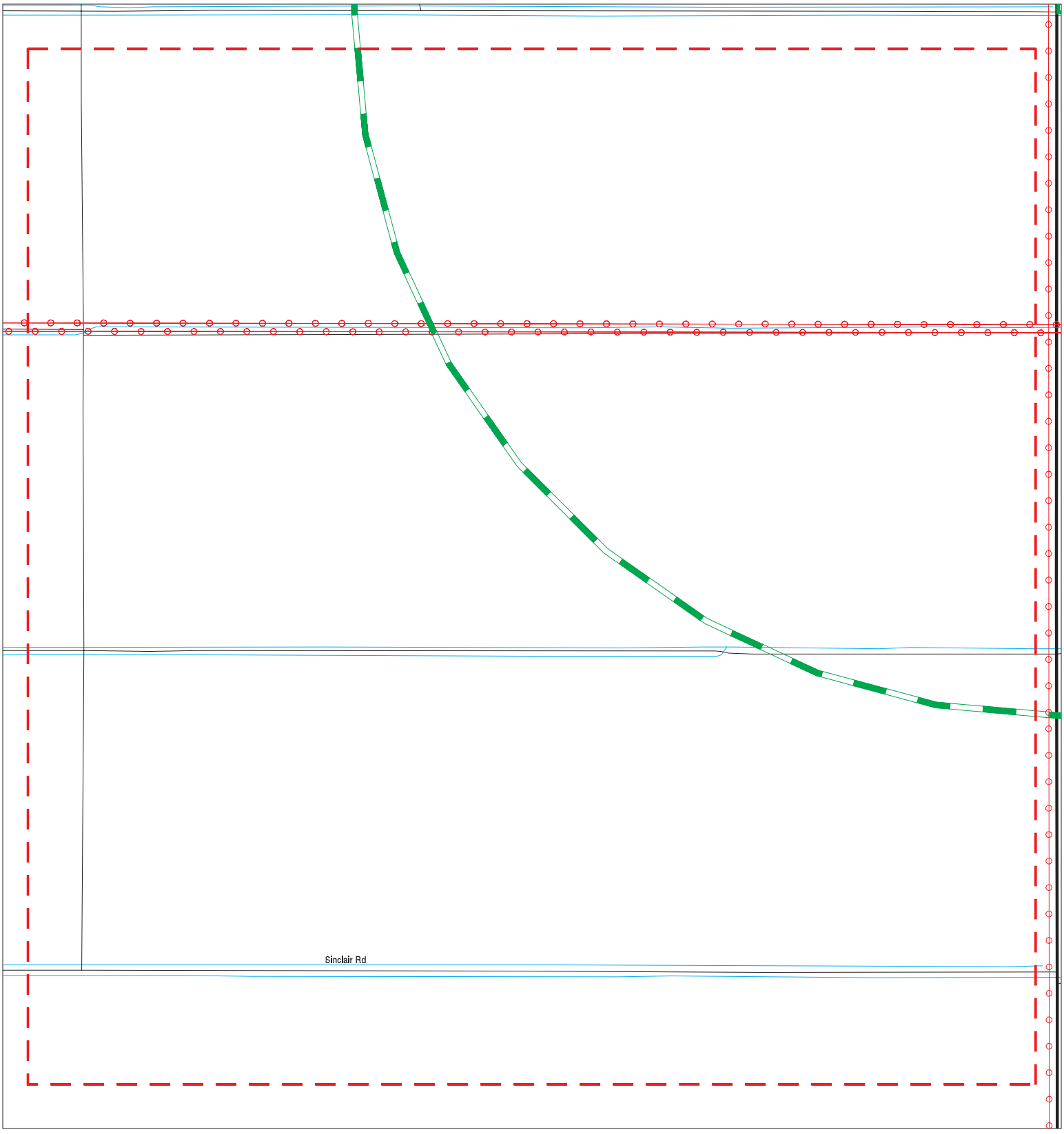
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 7 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 7

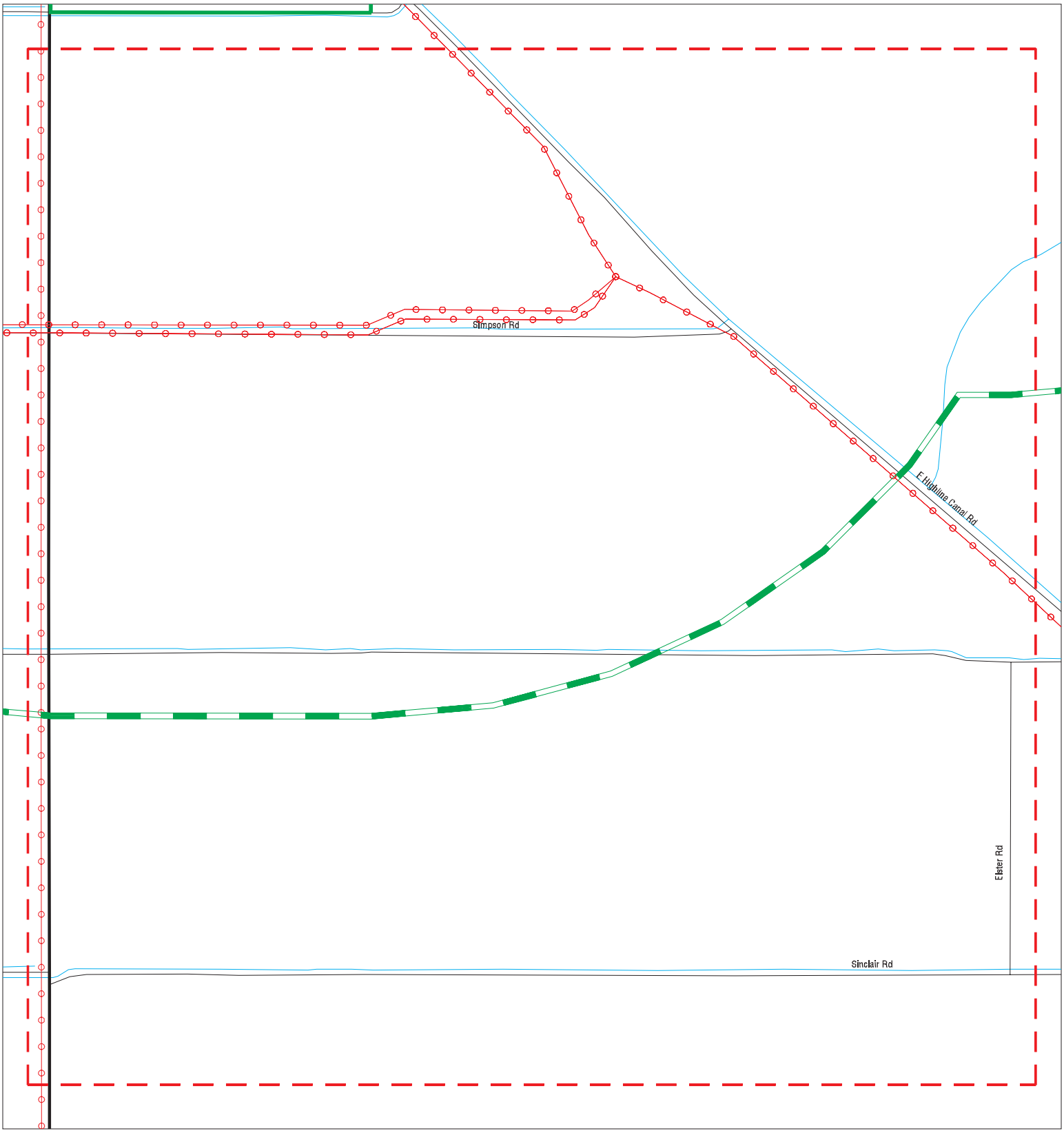
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 8 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 8

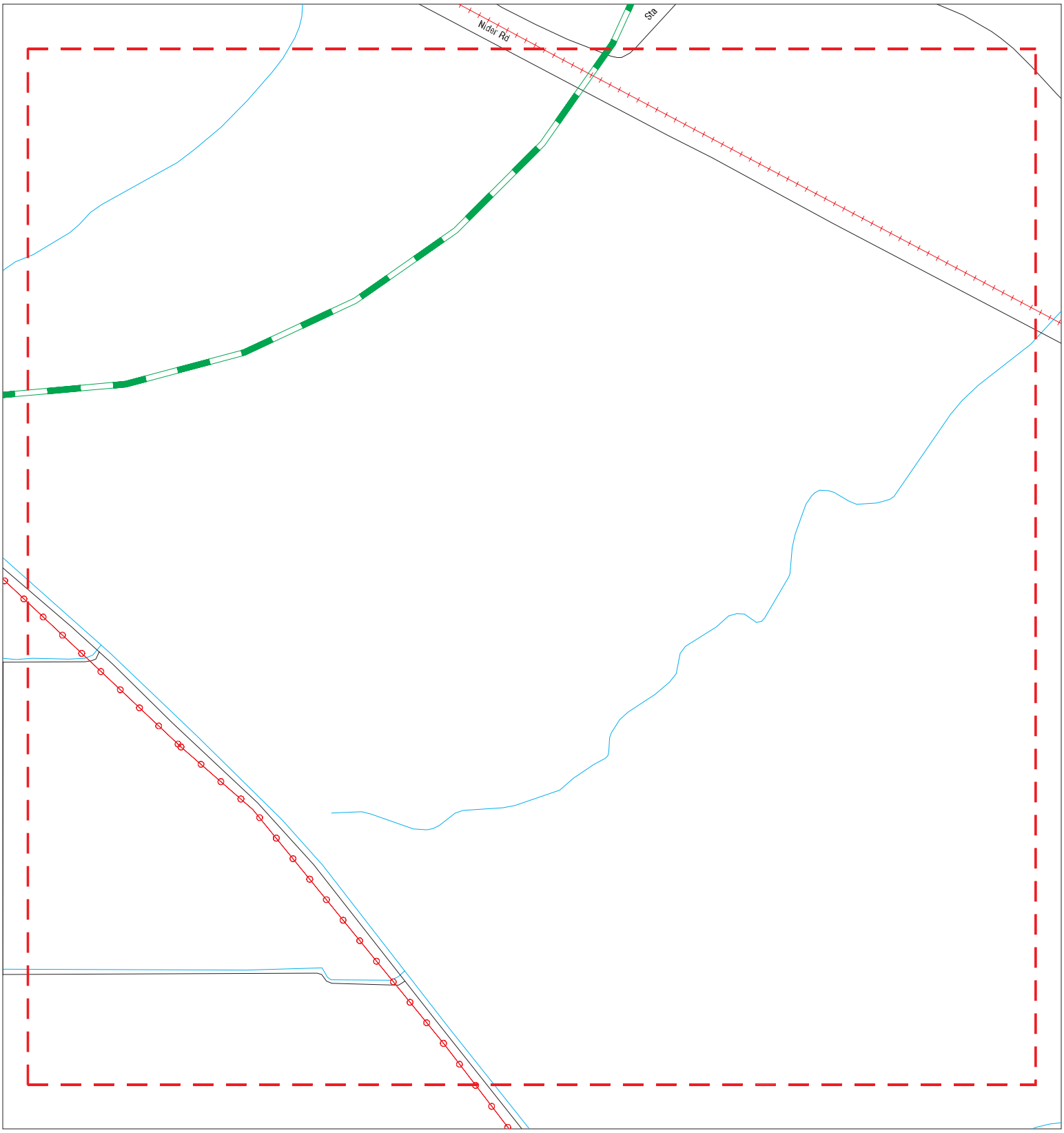
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 9 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 9

Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

1 **FLOWING WELLS PIT** **MINES MRDS** **1025689656**
Target **N/A**
Property **CALIPATRIA, CA 92233**

Actual:
71 ft.

Focus Map:
5

MINES MRDS:

Name:	FLOWING WELLS PIT
Address:	Not reported
Deposit identification Number:	10212004
City,State,Zip:	CALIPATRIA, CALIFORNIA 92233
URL:	https://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10212004
MRDS Identification Number:	Not reported
MAS/MILS Identification Number:	0060250489
Region:	NA
Country:	United States
Primary Commodities:	Sand and Gravel, Construction
Secondary Commodities:	Not reported
Tertiary Commodities:	Not reported
Operation Type:	Surface
Deposit Type:	Not reported
Production Size:	Not reported
Development Status:	Producer
Ore Minerals or Materials:	Not reported
Gangue Minerals or Materials:	Not reported
Other Minerals or Materials:	Not reported
Ore Body Form:	Not reported
Workings Type:	Not reported
Mineral Deposit Model:	Not reported
Alteration Processes:	Not reported
Concentration Processes:	Not reported
Previous Names:	Not reported
Ore Controls:	Not reported
Reporter:	Ridenour, James
Host Rock Unit Name:	Not reported
Host Rock Type:	Not reported
Associated Rock Unit Name:	Not reported
Associated Rock Type Code:	Not reported
Structural Characteristics:	Not reported
Tectonic Setting:	Not reported
References:	Not reported
First Production Year:	Not reported
Began Before/After FPY:	Not reported
Last Production Year:	Not reported
Ended Before/After LPY:	Not reported
Year Discovered:	Not reported
Found Before/After YD:	Not reported
Production History:	Not reported
Discovery Information:	Not reported
Latitude:	33.21396
Longitude:	-115.43271

PC ORIGINAL PKG

2 **FLOWING WELLS** **MINES** **S117661555**
Target **2095 HIGHWAY 111** **N/A**
Property **, CA**

Actual:
32 ft.

Focus Map:
5

MINES:

Name:	FLOWING WELLS
Address:	2095 HIGHWAY 111
City,State,Zip:	CA
Latitude:	33.208056
Longitude:	-115.428889
Lead Agency identification code:	13
Lead Agency name:	County of Imperial
Year of the operator supplied annual report:	2004
Type of report submitted by operator:	2
Number of acres disturbed by the mine:	0
Status of mining operation:	RECLAIMED
Status of mine reclamation:	RECLAMATION CERTIFIED COMPLETE BY LEAD AGENCY
Mine operator:	GRANITE CONSTRUCTION COMPANY
Operator Address:	2095 HIGHWAY 111
Operator City, State, Zip:	EL CENTRO, CA 92243
Operator County:	Not reported
Mine owner:	GRANITE CONSTRUCTION COMPANY
Owner Address:	38000 MONROE ST
Owner City, State, Zip:	INDIO, CA 92203
Owner County:	Not reported
Reclamation plan identification number:	Not reported
Primary product produced by the mine:	Sand and Gravel
Other products produced by the mine:	Not reported
Type of mining utilized by mine:	STREAMBED OR GRAVEL BAR SKIMMING AND PITTING
Conditional use permit identification number:	813-88
Number of acres permitted for mining disturbance:	33
Total amount of funds posted by the mine for reclamation:	Not reported
Financial Assurance Cost Estimate for reclamation:	Not reported

---

3 **FLOWING WELLS** **MINES** **S117661553**
North **N/A**
< 1/8 **, CA**
0.073 mi.
388 ft.

Actual:
75 ft.

Focus Map:
2

MINES:

Name:	FLOWING WELLS
Address:	Not reported
City,State,Zip:	CA
Latitude:	33.221111
Longitude:	-115.438889
Lead Agency identification code:	13
Lead Agency name:	County of Imperial
Year of the operator supplied annual report:	1995
Type of report submitted by operator:	2
Number of acres disturbed by the mine:	0
Status of mining operation:	RECLAIMED
Status of mine reclamation:	RECLAMATION CERTIFIED COMPLETE BY LEAD AGENCY
Mine operator:	IMPERIAL COUNTY, DEPARTMENT OF PUBLIC WORKS
Operator Address:	155 S. 11TH STREET
Operator City, State, Zip:	EL CENTRO, CA 92243
Operator County:	Not reported
Mine owner:	IMPERIAL COUNTY, DEPARTMENT OF PUBLIC WORKS
Owner Address:	155 S. 11TH STREET
Owner City, State, Zip:	EL CENTRO, CA 92243

PC ORIGINAL PKG

FLOWING WELLS (Continued) **S117661553**

Owner County:	Not reported
Reclamation plan identification number:	Not reported
Primary product produced by the mine:	Sand and Gravel
Other products produced by the mine:	Not reported
Type of mining utilized by mine:	OPEN PIT
Conditional use permit identification number:	CA 28594
Number of acres permitted for mining disturbance:	0
Total amount of funds posted by the mine for reclamation:	Not reported
Financial Assurance Cost Estimate for reclamation:	Not reported

PC ORIGINAL PKG

Count: 3 records

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CALIPATRIA	S121645096	HUDSON RANCH I GEOTHERMAL PRODUCTION WEL SITE	DAVIS RD & MCDONALD RD INTERSECTION	92233	CIWQS
IMPERIAL COUNTY	S121637080	ENGH FARMS GEOTHERMAL EXPLORATION	MCDONALD ROAD		CIWQS
NILAND	S126114465		MP: 671.3 SUB DIVISION: YUMA ... WEIST RD AND NOFFSINGER RD	92233	CHMIRS

PC ORIGINAL PKG

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

PC ORIGINAL PKG

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 07/02/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

PC ORIGINAL PKG

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 57

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

PC ORIGINAL PKG

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/15/2020
Date Data Arrived at EDR: 05/19/2020
Date Made Active in Reports: 06/18/2020
Number of Days to Update: 30

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 02/13/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 05/15/2020
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/24/2020
Next Scheduled EDR Contact: 09/07/2020
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 02/13/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 05/15/2020
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/24/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Varies

PC ORIGINAL PKG

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/22/2020
Date Data Arrived at EDR: 03/24/2020
Date Made Active in Reports: 06/18/2020
Number of Days to Update: 86

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/27/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/27/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/11/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 08/10/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

PC ORIGINAL PKG

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

PC ORIGINAL PKG

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)
Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/26/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 78

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

PC ORIGINAL PKG

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/15/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

PC ORIGINAL PKG

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

PC ORIGINAL PKG

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 02/01/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/06/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

PC ORIGINAL PKG

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/20/2020
Number of Days to Update: 72

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Semi-Annually

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 05/26/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/20/2020
Number of Days to Update: 72

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 06/10/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/26/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 78

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/03/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 07/23/2020
Next Scheduled EDR Contact: 11/01/2020
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 85

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/27/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Quarterly

PC ORIGINAL PKG

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 06/17/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/24/2020
Date Made Active in Reports: 06/05/2020
Number of Days to Update: 73

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/01/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

PC ORIGINAL PKG

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 05/28/2020
Date Data Arrived at EDR: 05/29/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 75

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Varies

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 07/31/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Varies

PC ORIGINAL PKG

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 03/18/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/19/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/27/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2019
Date Data Arrived at EDR: 05/28/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

PC ORIGINAL PKG

Date of Government Version: 04/20/2020
Date Data Arrived at EDR: 04/21/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 83

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 03/18/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/19/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 05/20/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/06/2020
Number of Days to Update: 78

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 08/17/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

PC ORIGINAL PKG

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing
Aboveground storage tank sites

Date of Government Version: 05/04/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 72

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 04/20/2020
Date Data Arrived at EDR: 04/21/2020
Date Made Active in Reports: 07/09/2020
Number of Days to Update: 79

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 05/28/2020
Date Data Arrived at EDR: 05/29/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 75

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

PC ORIGINAL PKG

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 06/01/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 08/14/2020
Number of Days to Update: 73

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 02/27/2020
Date Data Arrived at EDR: 03/24/2020
Date Made Active in Reports: 06/18/2020
Number of Days to Update: 86

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 06/23/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 03/31/2020
Date Data Arrived at EDR: 04/21/2020
Date Made Active in Reports: 07/09/2020
Number of Days to Update: 79

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

PC ORIGINAL PKG

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 05/13/2020
Date Data Arrived at EDR: 05/18/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 86

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 08/13/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/06/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

PC ORIGINAL PKG

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/05/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/24/2020
Date Made Active in Reports: 06/18/2020
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 07/31/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/06/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/17/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

PC ORIGINAL PKG

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 02/05/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 79

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/14/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 03/01/2020
Date Data Arrived at EDR: 04/21/2020
Date Made Active in Reports: 07/15/2020
Number of Days to Update: 85

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 01/31/2020
Date Data Arrived at EDR: 05/13/2020
Date Made Active in Reports: 08/03/2020
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/15/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PC ORIGINAL PKG

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 34

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 10/09/2019
Date Data Arrived at EDR: 10/11/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 70

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/13/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/25/2019
Date Data Arrived at EDR: 10/25/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 82

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 07/20/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Quarterly

PC ORIGINAL PKG

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 42
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 06/05/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/01/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/06/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 06/24/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

PC ORIGINAL PKG

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 07/27/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2020
Date Data Arrived at EDR: 07/15/2020
Date Made Active in Reports: 07/21/2020
Number of Days to Update: 6

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/06/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Varies

BRS: Biennial Reporting System
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/07/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program
DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites
Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

PC ORIGINAL PKG

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/21/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/01/2020
Date Data Arrived at EDR: 05/21/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 84

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Semi-Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

PC ORIGINAL PKG

Date of Government Version: 05/28/2020
Date Data Arrived at EDR: 05/28/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 77

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 08/26/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Quarterly

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/27/2020
Next Scheduled EDR Contact: 09/07/2020
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/21/2020
Next Scheduled EDR Contact: 09/07/2020
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 03/05/2020
Date Data Arrived at EDR: 03/06/2020
Date Made Active in Reports: 05/29/2020
Number of Days to Update: 84

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 06/19/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/03/2020
Date Data Arrived at EDR: 03/03/2020
Date Made Active in Reports: 05/28/2020
Number of Days to Update: 86

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 08/26/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/17/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 74

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Varies

PC ORIGINAL PKG

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 04/04/2020
Date Data Arrived at EDR: 04/07/2020
Date Made Active in Reports: 06/26/2020
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 07/02/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 08/19/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 05/18/2020
Date Data Arrived at EDR: 05/19/2020
Date Made Active in Reports: 08/03/2020
Number of Days to Update: 76

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/17/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/24/2020
Date Made Active in Reports: 06/05/2020
Number of Days to Update: 73

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing

list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 08/14/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: Varies

CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

PC ORIGINAL PKG

Date of Government Version: 05/04/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 72

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

KERN CO CUPA: Hazardous Material Business Plan

A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/05/2020
Date Made Active in Reports: 08/26/2020
Number of Days to Update: 113

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 06/04/2020
Date Data Arrived at EDR: 06/05/2020
Date Made Active in Reports: 08/17/2020
Number of Days to Update: 73

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 08/24/2020
Next Scheduled EDR Contact: 12/13/2020
Data Release Frequency: Annually

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 05/28/2020
Date Data Arrived at EDR: 05/29/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 75

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 03/25/2020
Date Data Arrived at EDR: 03/26/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 81

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 08/17/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Varies

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/24/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 59

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/16/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 04/03/2020
Date Data Arrived at EDR: 04/07/2020
Date Made Active in Reports: 04/15/2020
Number of Days to Update: 8

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

PC ORIGINAL PKG

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 04/09/2020
Date Data Arrived at EDR: 04/10/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/14/2020
Date Data Arrived at EDR: 05/15/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 73

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data
Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 04/15/2020
Date Made Active in Reports: 07/02/2020
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 07/06/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Annually

ICE: ICE
Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 05/18/2020
Date Data Arrived at EDR: 05/19/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 73

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 08/17/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 05/18/2020
Date Data Arrived at EDR: 05/18/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 74

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/17/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Quarterly

PC ORIGINAL PKG

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/08/2020
Date Made Active in Reports: 06/26/2020
Number of Days to Update: 79

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 07/07/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/28/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 08/14/2020
Number of Days to Update: 73

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 05/12/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/28/2020
Number of Days to Update: 77

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/10/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 06/01/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 08/14/2020
Number of Days to Update: 73

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

PC ORIGINAL PKG

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 03/12/2020
Date Data Arrived at EDR: 03/13/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 69

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 08/20/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 06/06/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/20/2020
Number of Days to Update: 72

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)

Underground control injection sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing

Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 11/19/2019
Date Data Arrived at EDR: 01/07/2020
Date Made Active in Reports: 03/09/2020
Number of Days to Update: 62

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Varies

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 06/17/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)

Military privatized sites

PC ORIGINAL PKG

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing
In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/20/2020
Number of Days to Update: 72

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System
The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 06/01/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 08/14/2020
Number of Days to Update: 73

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data
The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 04/20/2020
Date Data Arrived at EDR: 04/21/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 83

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)
Non-Case Information sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

PC ORIGINAL PKG

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)
Other Oil & Gas Projects sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)
Produced water ponds sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

PCS: Permit Compliance System
PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 06/08/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Semi-Annually

PCS INACTIVE: Listing of Inactive PCS Permits
An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Semi-Annually

PCS ENF: Enforcement data
No description is available for this data

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Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 07/01/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 05/21/2020
Next Scheduled EDR Contact: 09/07/2020
Data Release Frequency: Varies

HWTS: Hazardous Waste Tracking System
DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 04/09/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 83

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 08/02/2020
Next Scheduled EDR Contact: 10/18/2020
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

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EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 06/30/2020
Date Data Arrived at EDR: 07/01/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 16

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

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CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 05/18/2020
Date Data Arrived at EDR: 05/19/2020
Date Made Active in Reports: 06/01/2020
Number of Days to Update: 13

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 03/27/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 76

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 06/17/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 04/01/2020
Date Data Arrived at EDR: 04/20/2020
Date Made Active in Reports: 07/06/2020
Number of Days to Update: 77

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 04/16/2020
Date Data Arrived at EDR: 04/20/2020
Date Made Active in Reports: 07/08/2020
Number of Days to Update: 79

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 08/13/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/07/2020
Date Data Arrived at EDR: 05/07/2020
Date Made Active in Reports: 07/23/2020
Number of Days to Update: 77

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 08/13/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 01/10/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 76

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/19/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 26

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

PC ORIGINAL PKG

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/09/2020
Date Data Arrived at EDR: 04/10/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 82

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

KERN COUNTY:

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/05/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 73

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/11/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 08/21/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/20/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/14/2020
Number of Days to Update: 77

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 07/08/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Varies

LASSEN COUNTY:

PC ORIGINAL PKG

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/30/2020
Date Data Arrived at EDR: 01/31/2020
Date Made Active in Reports: 04/09/2020
Number of Days to Update: 69

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 06/10/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 03/26/2020
Date Data Arrived at EDR: 03/26/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 81

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/13/2020
Date Data Arrived at EDR: 04/14/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 78

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 07/13/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 01/15/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 51

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 07/08/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/25/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills

This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/30/2012
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 42

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory

A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/25/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory

A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/25/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/25/2020
Date Data Arrived at EDR: 04/14/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 78

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 07/17/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 07/08/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

PC ORIGINAL PKG

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 06/27/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 64

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 02/24/2020
Date Data Arrived at EDR: 02/25/2020
Date Made Active in Reports: 05/07/2020
Number of Days to Update: 72

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 06/24/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/28/2020
Date Data Arrived at EDR: 07/30/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 1

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 05/15/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 08/14/2020
Number of Days to Update: 73

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 08/19/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Varies

MONTEREY COUNTY:

PC ORIGINAL PKG

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 07/13/2020
Date Data Arrived at EDR: 07/15/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 16

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 07/08/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/19/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/19/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/07/2020
Date Made Active in Reports: 07/24/2020
Number of Days to Update: 78

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 05/01/2020
Date Data Arrived at EDR: 05/08/2020
Date Made Active in Reports: 07/24/2020
Number of Days to Update: 77

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 07/31/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/01/2020
Date Data Arrived at EDR: 05/08/2020
Date Made Active in Reports: 07/24/2020
Number of Days to Update: 77

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 07/31/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

PC ORIGINAL PKG

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 05/01/2020
Date Data Arrived at EDR: 05/05/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 73

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/10/2020
Date Made Active in Reports: 08/24/2020
Number of Days to Update: 75

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 03/10/2020
Date Data Arrived at EDR: 03/11/2020
Date Made Active in Reports: 05/20/2020
Number of Days to Update: 70

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/10/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 03/10/2020
Date Data Arrived at EDR: 03/11/2020
Date Made Active in Reports: 05/20/2020
Number of Days to Update: 70

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/10/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/18/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 76

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/02/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/24/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/17/2020
Number of Days to Update: 78

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/02/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List

Cupa facility list

Date of Government Version: 04/24/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 76

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 02/25/2020
Date Data Arrived at EDR: 02/26/2020
Date Made Active in Reports: 05/07/2020
Number of Days to Update: 71

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 06/01/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 08/14/2020
Number of Days to Update: 73

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Quarterly

PC ORIGINAL PKG

LF SAN DIEGO: Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 04/09/2020
Date Data Arrived at EDR: 04/10/2020
Date Made Active in Reports: 06/26/2020
Number of Days to Update: 77

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

LUST SAN FRANCISCO: Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 05/04/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 72

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 06/10/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

PC ORIGINAL PKG

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 05/08/2020
Date Data Arrived at EDR: 05/08/2020
Date Made Active in Reports: 08/03/2020
Number of Days to Update: 87

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/12/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/03/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 05/08/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

PC ORIGINAL PKG

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 08/19/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 04/22/2020
Date Data Arrived at EDR: 04/24/2020
Date Made Active in Reports: 05/07/2020
Number of Days to Update: 13

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/02/2020
Date Data Arrived at EDR: 03/04/2020
Date Made Active in Reports: 05/14/2020
Number of Days to Update: 71

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Quarterly

SONOMA COUNTY:

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CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 02/25/2020
Date Data Arrived at EDR: 02/26/2020
Date Made Active in Reports: 03/11/2020
Number of Days to Update: 14

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/03/2020
Date Data Arrived at EDR: 04/08/2020
Date Made Active in Reports: 06/26/2020
Number of Days to Update: 79

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 06/17/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 02/04/2020
Date Data Arrived at EDR: 02/05/2020
Date Made Active in Reports: 04/15/2020
Number of Days to Update: 70

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 07/06/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 05/26/2020
Date Data Arrived at EDR: 05/28/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 77

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 05/18/2020
Date Data Arrived at EDR: 05/19/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 73

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

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Date of Government Version: 04/09/2020
Date Data Arrived at EDR: 04/10/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 05/14/2020
Date Data Arrived at EDR: 05/15/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 73

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 08/06/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 03/26/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/09/2020
Number of Days to Update: 77

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 07/20/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/24/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: No Update Planned

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MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 03/26/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/09/2020
Number of Days to Update: 77
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 07/20/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 05/26/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/20/2020
Number of Days to Update: 72
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 04/01/2020
Date Made Active in Reports: 06/17/2020
Number of Days to Update: 77
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 06/24/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 79
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 05/12/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76
Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/10/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: No Update Planned

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NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 07/31/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 10/02/2019
Date Made Active in Reports: 12/10/2019
Number of Days to Update: 69

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/04/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

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AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

STREET AND ADDRESS INFORMATION

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APPENDIX F

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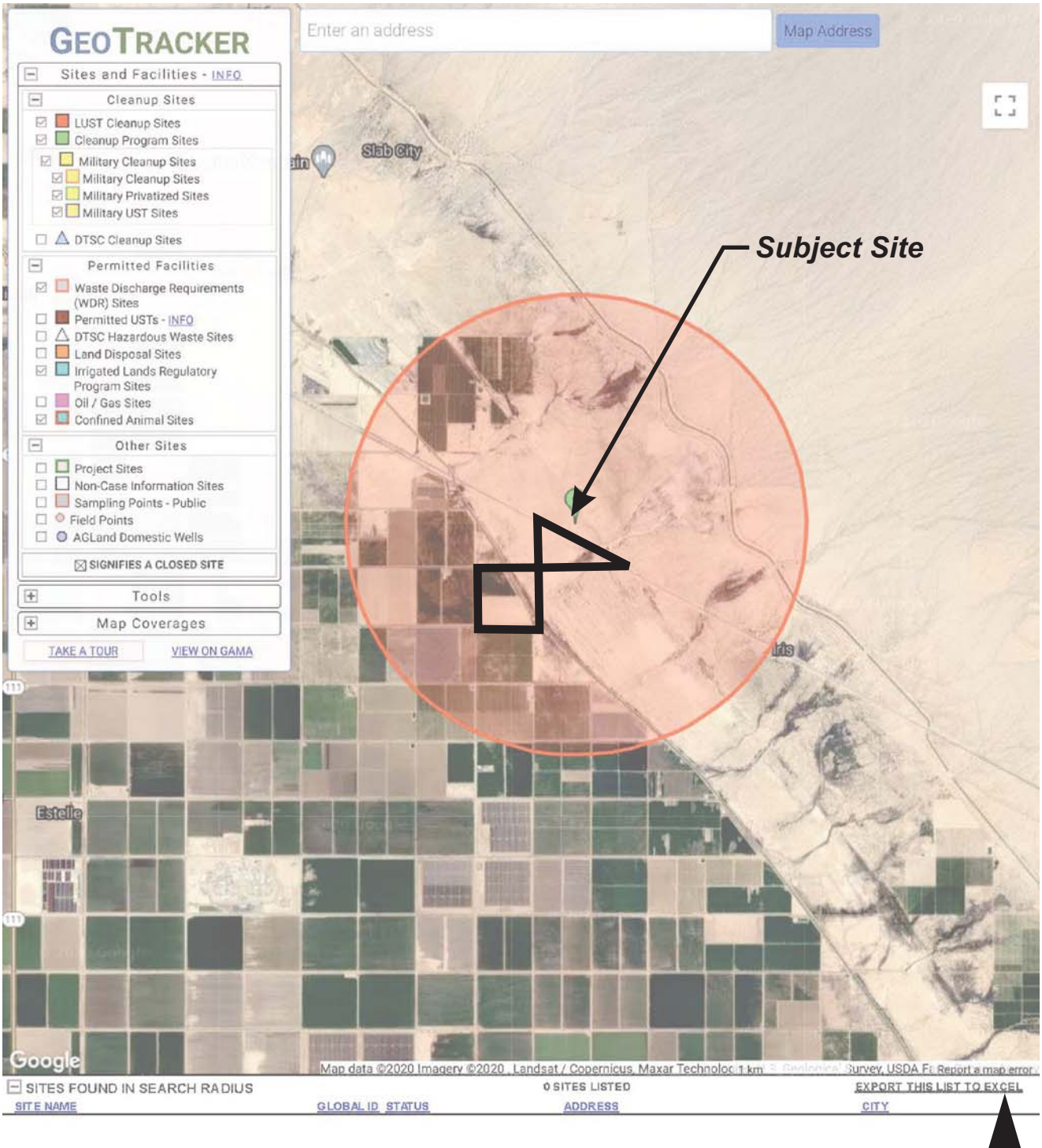

GS Lyon Project No.: GS2016	Geotracker Map	Plate 16

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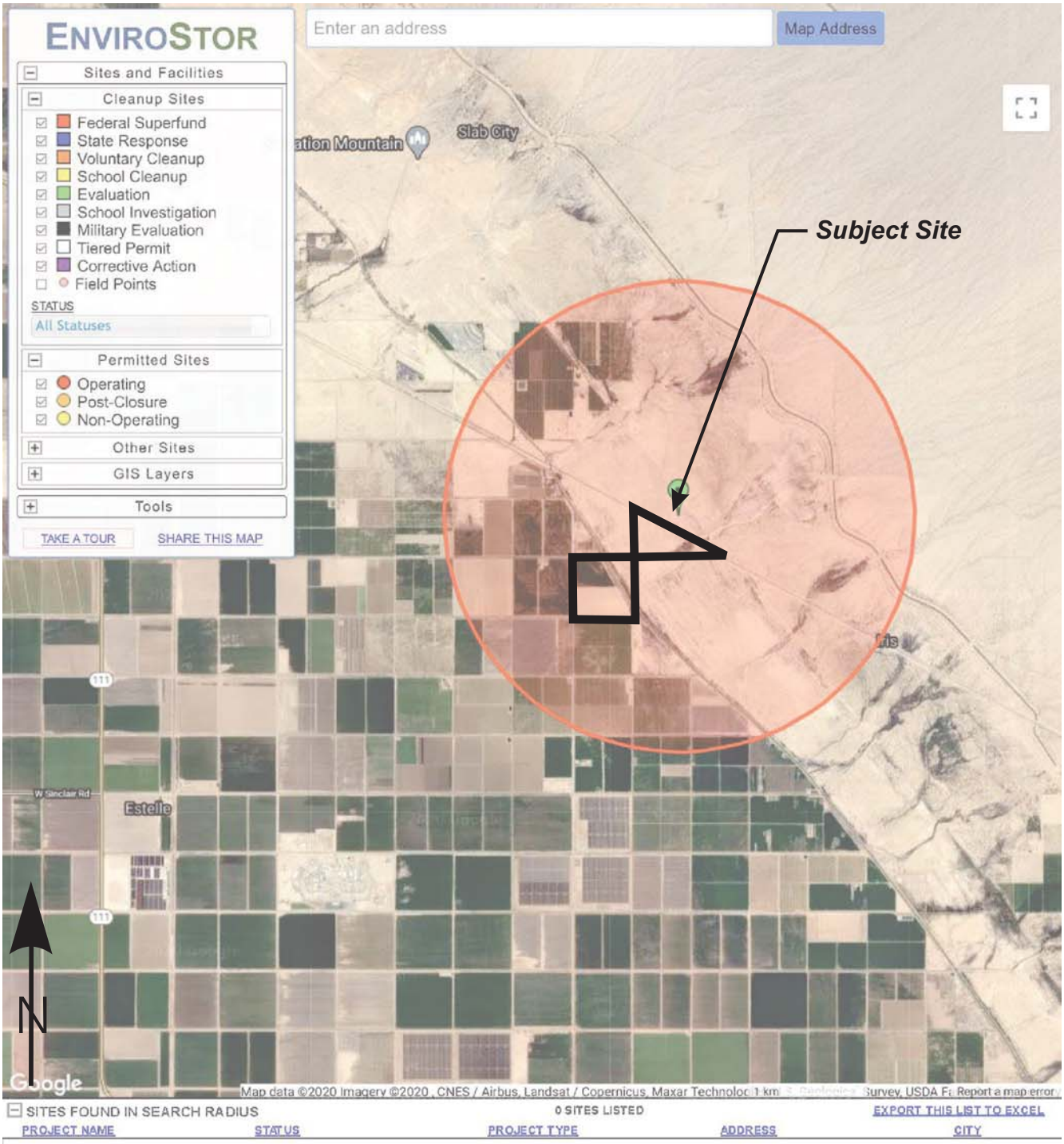

GS Lyon Project No.: GS2016	Envirostor Map	Plate 17

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APPENDIX G

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FIDELITY NATIONAL TITLE GROUP
FNTG Western Region Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Issuing Policies of Fidelity National Title Insurance Company

Title Officer: Mitch LaRiva
Escrow Officer: Major Accounts OAC

Order No.: 997-**30052457**-ML6

TO:

ZGlobal
604 Sutter Street, Suite 250
Folsom, CA 95630

ATTN: **Jamie Nichole Nagel**
YOUR REFERENCE: **025-260-022**

PROPERTY ADDRESS: No situs APN 025-260-022, Unincorporated County of Imperial, CA

PRELIMINARY REPORT

In response to the application for a policy of title insurance referenced herein, ***Fidelity National Title Company*** *hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a policy or policies of title insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.*

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Attachment One. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Attachment One. Copies of the policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

The policy(s) of title insurance to be issued hereunder will be policy(s) of Fidelity National Title Insurance Company, a Florida Corporation.

Please read the exceptions shown or referred to herein and the exceptions and exclusions set forth in Attachment One of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land.

Countersigned by:

Authorized Signature

PC ORIGINAL PKG

FIDELITY NATIONAL TITLE GROUP
FNTG Western Region Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

PRELIMINARY REPORT

EFFECTIVE DATE: **July 31, 2020 at 7:30 a.m.**

ORDER NO.: 997-30052457-ML6

The form of policy or policies of title insurance contemplated by this report is:

ALTA Standard Owners Policy (6-17-06)

1. THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

   A FEE

2. TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

   DANA TE, an unmarried woman

3. THE LAND REFERRED TO IN THIS REPORT IS DESCRIBED AS FOLLOWS:

   See Exhibit A attached hereto and made a part hereof.

PC ORIGINAL PKG

EXHIBIT A

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA OF UNINCORPORATED COUNTY OF IMPERIAL IN THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

THE NORTHEAST QUARTER OF SECTION 19, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF;

EXCEPTING 1;/2 OF ALL OIL, GAS, HYDROCARBON AND OTHER SUBSTANCES MINERALS AND STEAM IN OR UNDER SAID LAND, RESERVED BY JOHN CHAFFIN, ET AL., BY DEED RECORDED DECEMBER 15, 1975 IN BOOK 1382, PAGE 258 OF OFFICIAL RECORDS.

ALSO EXCEPTING 15% OF ALL OIL, GAS, HYDROCARBON AND OTHER SUBSTANCES MINERALS AND STEAM IN OR UNDER SAID LAND, AS RESERVED BY DAVID F. SCHONEMAN AND DONNA SCHONEMAN, HUSBAND AND WIFE, IN DEED RECORDED JANUARY 30, 1981 AS INSTRUMENT NO. 18, BOOK 1464, PAGE 673 OF OFFICIAL RECORDS.

APN: 025-260-022-000

PC ORIGINAL PKG

EXCEPTIONS

AT THE DATE HEREOF, ITEMS TO BE CONSIDERED AND EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN SAID POLICY FORM WOULD BE AS FOLLOWS:

A. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes to be levied for the fiscal year 2020-2021.

B. Taxes and assessments levied by the Imperial Irrigation District.

C. The lien of supplemental or escaped assessments of property taxes, if any, made pursuant to the provisions of Chapter 3.5 (commencing with Section 75) or Part 2, Chapter 3, Articles 3 and 4, respectively, of the Revenue and Taxation Code of the State of California as a result of the transfer of title to the vestee named in Schedule A or as a result of changes in ownership or new construction occurring prior to Date of Policy.

1. Water rights, claims or title to water, whether or not disclosed by the public records.

2. Easement(s) in favor of the public over any existing roads lying within said Land.

3. Lack of legal right of access to and from a public street or highway.

4. Rights or claims of easements for canals, drains, laterals, irrigation pipelines and gates not recorded in the public records.

5. The right, title or interest which the County of Imperial may have or claim in and to those portions of the herein described lands lying within the boundaries of McDonald Road and Road 8041.

6. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	County of Imperial
Purpose:	Road
Recording Date:	May 12, 1914
Recording No:	Book 59, Page 376 of Deeds
Affects:	Strip of land 60 feet in width affecting portion of said land.
and Recording Date:	February 21, 1919
and Recording No:	Book 96, Page 214 of Deeds

7. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Southern Sierra Power Company
Purpose:	Pole lines and rights incidental thereto
Recording Date:	January 22, 1930
Recording No:	Book 263, Page 103 of Official Records
Affects:	A portion of said land as more particularly described in said document.

PC ORIGINAL PKG

EXCEPTIONS
(Continued)

8. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Imperial Irrigation District
Purpose:	canals, telephone and/or electric power lines
Recording Date:	September 19, 1956
Recording No:	Book 952, Page 290 of Official Records
Affects:	A portion of said land as more particularly described in said document.

9. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Imperial Irrigation District
Purpose:	"O" lateral canal, "N" Lateral canal and East Highline Canal
Recording Date:	September 19, 1956
Recording No:	Book 952, Page 290 of Official Records
Affects:	A portion of said land as more particularly described in said document.

10. Rights incidental to the ownership and development of the mineral interest excepted or reserved in the document recorded December 15, 1975 in Book 1382, Page 258 of Official Records.

11. Rights incidental to the ownership and development of the mineral interest excepted or reserved in the document recorded January 30, 1981 in Book 1464, Page 673 of Official Records.

12. An unrecorded lease with certain terms, covenants, conditions and provisions set forth therein as disclosed by the document

Entitled:	Memorandum of Option and Solar System Site Lease Agreement
Lessor:	Alexander Tang and Dana Te, individuals
Lessee:	91MC 8ME, LLC, a California limited liability company
Recording Date:	January 14, 2011
Recording No:	2011-001092 of Official Records

The present ownership of the leasehold created by said lease and other matters affecting the interest of the lessee are not shown herein.

13. Please be advised that our search did not disclose any open Deeds of Trust of record. If you should have knowledge of any outstanding obligation, please contact the Title Department immediately for further review prior to closing.

14. Any rights of the parties in possession of a portion of, or all of, said Land, which rights are not disclosed by the public records.

The Company will require, for review, a full and complete copy of any unrecorded agreement, contract, license and/or lease, together with all supplements, assignments and amendments thereto, before issuing any policy of title insurance without excepting this item from coverage.

The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

PC ORIGINAL PKG

EXCEPTIONS
(Continued)

15. Any facts an accurate survey would disclose as to the location the exterior boundaries of said land or as to the location of canals, laterals, waste and drain ditches thereon in use by Imperial Irrigation District as part of its irrigation system.

16. Any easements not disclosed by the public records as to matters affecting title to real property, whether or not said easements are visible and apparent.

17. Matters which may be disclosed by an inspection and/or by a correct ALTA/NSPS Land Title Survey of said Land that is satisfactory to the Company, and/or by inquiry of the parties in possession thereof.

PLEASE REFER TO THE "INFORMATIONAL NOTES" AND "REQUIREMENTS" SECTIONS WHICH FOLLOW FOR INFORMATION NECESSARY TO COMPLETE THIS TRANSACTION.

END OF EXCEPTIONS

PC ORIGINAL PKG

REQUIREMENTS SECTION

1. Prior to the close of escrow, the Company requires a Statement of Information to be completed by the following party(s),

   Party(s): All Parties

   The Company reserves the right to add additional items or make further requirements after review of the requested Statement of Information.

2. Unrecorded matters which may be disclosed by an Owner's Affidavit or Declaration. A form of the Owner's Affidavit/Declaration is attached to this Preliminary Report/Commitment. This Affidavit/Declaration is to be completed by the record owner of the land and submitted for review prior to the closing of this transaction. Your prompt attention to this requirement will help avoid delays in the closing of this transaction. Thank you.

   The Company reserves the right to add additional items or make further requirements after review of the requested Affidavit/Declaration.

END OF REQUIREMENTS

PC ORIGINAL PKG

INFORMATIONAL NOTES SECTION

1. Note: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	025-260-022-000
Fiscal Year:	2019-2020
1st Installment:	$2,340.93
2nd Installment:	$2,340.93
Exemption:	$0.00
Code Area:	058-003

2. Note: The policy of title insurance will include an arbitration provision. The Company or the insured may demand arbitration. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. Please ask your escrow or title officer for a sample copy of the policy to be issued if you wish to review the arbitration provisions and any other provisions pertaining to your Title Insurance coverage.

3. Notice: Please be aware that due to the conflict between federal and state laws concerning the cultivation, distribution, manufacture or sale of marijuana, the Company is not able to close or insure any transaction involving Land that is associated with these activities.

4. Pursuant to Government Code Section 27388.1, as amended and effective as of 1-1-2018, a Documentary Transfer Tax (DTT) Affidavit may be required to be completed and submitted with each document when DTT is being paid or when an exemption is being claimed from paying the tax. If a governmental agency is a party to the document, the form will not be required. DTT Affidavits may be available at a Tax Assessor-County Clerk-Recorder.

5. Note: There are NO conveyances affecting said Land recorded within 24 months of the date of this report.

END OF INFORMATIONAL NOTES

Mitch LaRiva/jh

PC ORIGINAL PKG

Wire Fraud Alert

This Notice is not intended to provide legal or professional advice. If you have any questions, please consult with a lawyer.

All parties to a real estate transaction are targets for wire fraud and many have lost hundreds of thousands of dollars because they simply relied on the wire instructions received via email, without further verification. **If funds are to be wired in conjunction with this real estate transaction, we strongly recommend verbal verification of wire instructions through a known, trusted phone number prior to sending funds.**

In addition, the following non-exclusive self-protection strategies are recommended to minimize exposure to possible wire fraud.

- **NEVER RELY** on emails purporting to change wire instructions. Parties to a transaction rarely change wire instructions in the course of a transaction.
- **ALWAYS VERIFY** wire instructions, specifically the ABA routing number and account number, by calling the party who sent the instructions to you. DO NOT use the phone number provided in the email containing the instructions, use phone numbers you have called before or can otherwise verify. **Obtain the phone number of relevant parties to the transaction as soon as an escrow account is opened**. DO NOT send an email to verify as the email address may be incorrect or the email may be intercepted by the fraudster.
- **USE COMPLEX EMAIL PASSWORDS** that employ a combination of mixed case, numbers, and symbols. Make your passwords greater than eight (8) characters. Also, change your password often and do NOT reuse the same password for other online accounts.
- **USE MULTI-FACTOR AUTHENTICATION** for email accounts. Your email provider or IT staff may have specific instructions on how to implement this feature.

For more information on wire-fraud scams or to report an incident, please refer to the following links:

Federal Bureau of Investigation:
http://www.fbi.gov

Internet Crime Complaint Center:
http://www.ic3.gov

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FIDELITY NATIONAL TITLE GROUP
FNTG Western Region
Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Notice of Available Discounts

Pursuant to Section 2355.3 in Title 10 of the California Code of Regulations Fidelity National Financial, Inc. and its subsidiaries ("FNF") must deliver a notice of each discount available under our current rate filing along with the delivery of escrow instructions, a preliminary report or commitment. Please be aware that the provision of this notice does not constitute a waiver of the consumer's right to be charged the filed rate. As such, your transaction may not qualify for the below discounts.

You are encouraged to discuss the applicability of one or more of the below discounts with a Company representative. These discounts are generally described below; consult the rate manual for a full description of the terms, conditions and requirements for such discount. These discounts only apply to transactions involving services rendered by the FNF Family of Companies. This notice only applies to transactions involving property improved with a one-to-four family residential dwelling.

Not all discounts are offered by every FNF Company. The discount will only be applicable to the FNF Company as indicated by the named discount.

FNF Underwritten Title Company	**Underwritten by FNF Underwriters**
CTC – Chicago Title company	CTIC – Chicago Title Insurance Company
CLTC – Commonwealth Land Title Company	CLTIC - Commonwealth Land Title Insurance Company
FNTC – Fidelity National Title Company of California	FNTIC – Fidelity National Title Insurance Company
FNTCCA - Fidelity National Title Company of California	FNTIC - Fidelity National Title Insurance Company
TICOR – Ticor Title Company of California	CTIC – Chicago Title Insurance Company
LTC – Lawyer's Title Company	CLTIC – Commonwealth Land Title Insurance Company
SLTC – ServiceLink Title Company	CTIC – Chicago Title Insurance Company

Available Discounts

DISASTER LOANS (CTIC, CLTIC, FNTIC)
The charge for a Lender's Policy (Standard or Extended coverage) covering the financing or refinancing by an owner of record, within twenty-four (24) months of the date of a declaration of a disaster area by the government of the United States or the State of California on any land located in said area, which was partially or totally destroyed in the disaster, will be fifty percent (50%) of the appropriate title insurance rate.

CHURCHES OR CHARITABLE NON-PROFIT ORGANIZATIONS (CTIC, FNTIC)
On properties used as a church or for charitable purposes within the scope of the normal activities of such entities, provided said charge is normally the church's obligation the charge for an owner's policy shall be fifty percent (50%) to seventy percent (70%) of the appropriate title insurance rate, depending on the type of coverage selected. The charge for a lender's policy shall be forty (40%) to fifty percent (50%) of the appropriate title insurance rate, depending on the type of coverage selected.

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FIDELITY NATIONAL FINANCIAL, INC.
PRIVACY NOTICE

Effective April 9, 2020

Fidelity National Financial, Inc. and its majority-owned subsidiary companies (collectively, "FNF," "our," or "we") respect and are committed to protecting your privacy. This Privacy Notice explains how we collect, use, and protect personal information, when and to whom we disclose such information, and the choices you have about the use and disclosure of that information.

A limited number of FNF subsidiaries have their own privacy notices. If a subsidiary has its own privacy notice, the privacy notice will be available on the subsidiary's website and this Privacy Notice does not apply.

Collection of Personal Information

FNF may collect the following categories of Personal Information:

- contact information (*e.g.*, name, address, phone number, email address);
- demographic information (*e.g.*, date of birth, gender, marital status);
- identity information (*e.g.* Social Security Number, driver's license, passport, or other government ID number);
- financial account information (*e.g.* loan or bank account information); and
- other personal information necessary to provide products or services to you.

We may collect Personal Information about you from:

- information we receive from you or your agent;
- information about your transactions with FNF, our affiliates, or others; and
- information we receive from consumer reporting agencies and/or governmental entities, either directly from these entities or through others.

Collection of Browsing Information

FNF automatically collects the following types of Browsing Information when you access an FNF website, online service, or application (each an "FNF Website") from your Internet browser, computer, and/or device:

- Internet Protocol (IP) address and operating system;
- browser version, language, and type;
- domain name system requests; and
- browsing history on the FNF Website, such as date and time of your visit to the FNF Website and visits to the pages within the FNF Website.

Like most websites, our servers automatically log each visitor to the FNF Website and may collect the Browsing Information described above. We use Browsing Information for system administration, troubleshooting, fraud investigation, and to improve our websites. Browsing Information generally does not reveal anything personal about you, though if you have created a user account for an FNF Website and are logged into that account, the FNF Website may be able to link certain browsing activity to your user account.

Other Online Specifics

Cookies. When you visit an FNF Website, a "cookie" may be sent to your computer. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. Information gathered using cookies helps us improve your user experience. For example, a cookie can help the website load properly or can customize the display page based on your browser type and user preferences. You can choose whether or not to accept cookies by changing your Internet browser settings. Be aware that doing so may impair or limit some functionality of the FNF Website.

Web Beacons. We use web beacons to determine when and how many times a page has been viewed. This information is used to improve our websites.

Do Not Track. Currently our FNF Websites do not respond to "Do Not Track" features enabled through your browser.

Links to Other Sites. FNF Websites may contain links to unaffiliated third-party websites. FNF is not responsible for the privacy practices or content of those websites. We recommend that you read the privacy policy of every website you visit.

Use of Personal Information

FNF uses Personal Information for three main purposes:

- To provide products and services to you or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you about our, our affiliates', and others' products and services, jointly or independently.

When Information Is Disclosed

We may disclose your Personal Information and Browsing Information in the following circumstances:

- to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to nonaffiliated service providers who provide or perform services or functions on our behalf and who agree to use the information only to provide such services or functions;

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- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to jointly market financial products or services to you;
- to law enforcement or authorities in connection with an investigation, or in response to a subpoena or court order; or
- in the good-faith belief that such disclosure is necessary to comply with legal process or applicable laws, or to protect the rights, property, or safety of FNF, its customers, or the public.

The law does not require your prior authorization and does not allow you to restrict the disclosures described above. Additionally, we may disclose your information to third parties for whom you have given us authorization or consent to make such disclosure. We do not otherwise share your Personal Information or Browsing Information with nonaffiliated third parties, except as required or permitted by law. We may share your Personal Information with affiliates (other companies owned by FNF) to directly market to you. Please see "Choices with Your Information" to learn how to restrict that sharing.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of bankruptcy, reorganization, insolvency, receivership, or an assignment for the benefit of creditors. By submitting Personal Information and/or Browsing Information to FNF, you expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings.

Security of Your Information
We maintain physical, electronic, and procedural safeguards to protect your Personal Information.

Choices With Your Information
If you do not want FNF to share your information among our affiliates to directly market to you, you may send an "opt out" request by email, phone, or physical mail as directed at the end of this Privacy Notice. We do not share your Personal Information with nonaffiliates for their use to direct market to you without your consent.

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you.

For California Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties, except as permitted by California law. For additional information about your California privacy rights, please visit the "California Privacy" link on our website (https://fnf.com/pages/californiaprivacy.aspx) or call (888) 413-1748.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 934-3354 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.
For Oregon Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not disclose information about your creditworthiness to our affiliates and will not disclose your personal information, financial information, credit report, or health information to nonaffiliated third parties to market to you, other than as permitted by Vermont law, unless you authorize us to make those disclosures.

Information From Children
The FNF Websites are not intended or designed to attract persons under the age of eighteen (18).We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian.

International Users
FNF's headquarters is located within the United States. If you reside outside the United States and choose to provide Personal Information or Browsing Information to us, please note that we may transfer that information outside of your country of residence. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection, transfer, and use of such information in accordance with this Privacy Notice.

FNF Website Services for Mortgage Loans
Certain FNF companies provide services to mortgage loan servicers, including hosting websites that collect customer information on behalf of mortgage loan servicers (the "Service Websites"). The Service Websites may contain links to both this Privacy Notice and the mortgage loan servicer or lender's privacy notice. The sections of this Privacy Notice titled When Information is Disclosed, Choices with Your Information, and Accessing and Correcting Information do not apply to the Service Websites. The mortgage loan servicer or lender's privacy notice governs use, disclosure, and access to your Personal Information. FNF does not share Personal Information collected through the Service Websites, except as required or authorized by contract with the mortgage loan servicer or lender, or as required by law or in the good-faith belief that such disclosure is necessary: to comply with a legal process or applicable law, to enforce this Privacy Notice, or to protect the rights, property, or safety of FNF or the public.

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Your Consent To This Privacy Notice; Notice Changes; Use of Comments or Feedback

By submitting Personal Information and/or Browsing Information to FNF, you consent to the collection and use of the information in accordance with this Privacy Notice. We may change this Privacy Notice at any time. The Privacy Notice's effective date will show the last date changes were made. If you provide information to us following any change of the Privacy Notice, that signifies your assent to and acceptance of the changes to the Privacy Notice. We may use comments or feedback that you submit to us in any manner without notice or compensation to you.

Accessing and Correcting Information; Contact Us

If you have questions, would like to correct your Personal Information, or want to opt-out of information sharing for affiliate marketing, send your requests to privacy@fnf.com, by phone to (888) 934-3354, or by mail to:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer

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ATTACHMENT ONE (Revised 05-06-16)

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE POLICY – 1990

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division; and
   f. environmental protection.
   This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;

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c. that result in no loss to You; or
d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.
   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.
8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

- For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 10,000.00
Covered Risk 18:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 19:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 21:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 5,000.00

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13 or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

{Except as provided in Schedule B - Part II,{ t{or T}his policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

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{PART I

{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.}

PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:}

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:
{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown in the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records. }
7. {Variable exceptions such as taxes, easements, CC&R's, etc. shown here.}

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ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY – ASSESSMENTS PRIORITY (04-02-15)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

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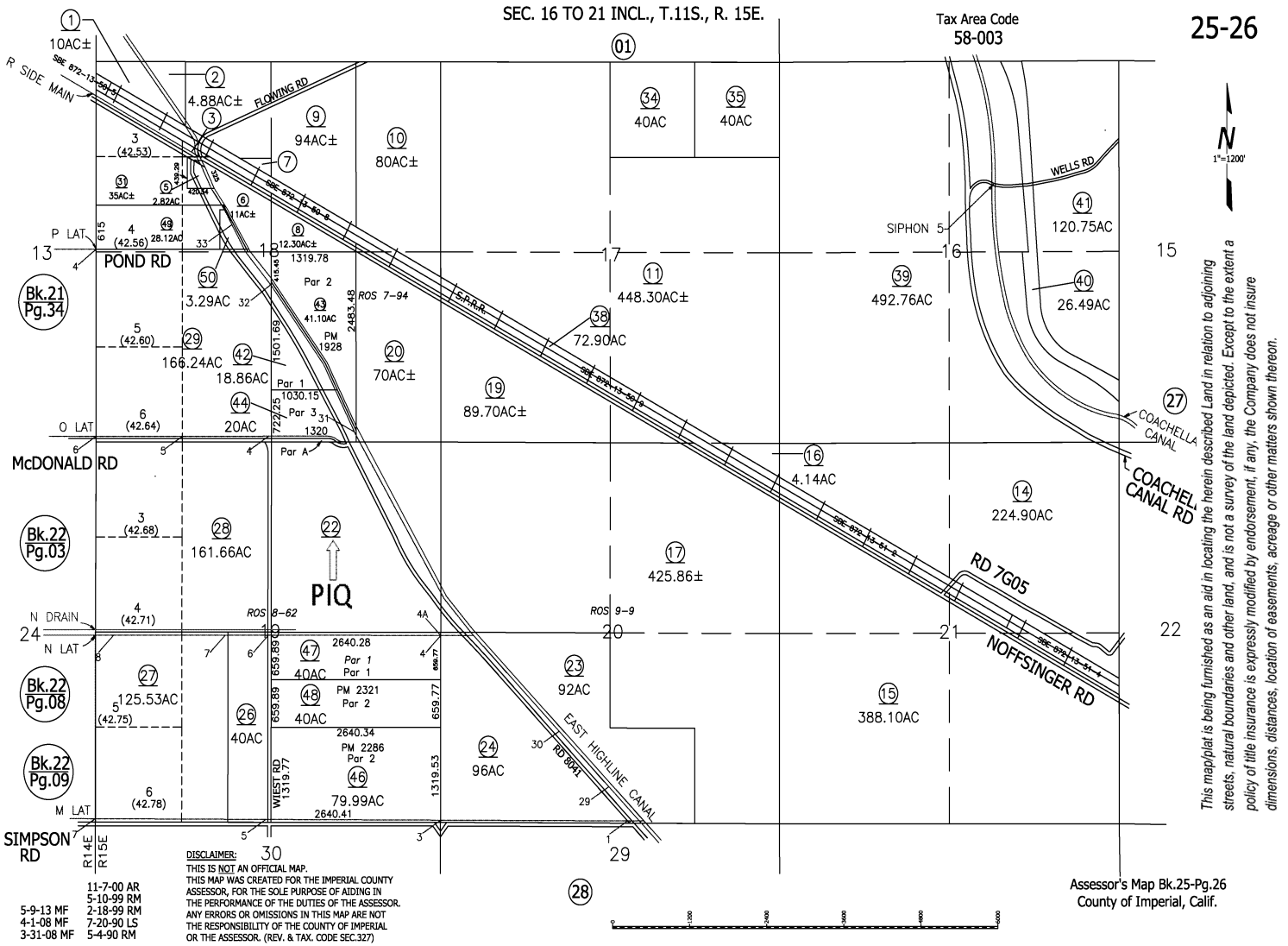

This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.

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OWNER'S DECLARATION

Escrow No.: 30052457-997-MAT-ML6
Property Address: No situs APN 025-260-022
Unincorporated County of Imperial, CA

The undersigned hereby declares as follows:

1. (Fill in the applicable paragraph and strike the other)

   a. Declarant ("Owner") is the owner or lessee, as the case may be, of certain premises located at No situs APN 025-260-022, Unincorporated County of Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

   b. Declarant is the _____ of _____ ("Owner"), which is the owner or lessee, as the case may be, of certain premises located at No situs APN 025-260-022, Unincorporated County of Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

2. (Fill in the applicable paragraph and strike the other)

   a. During the period of six months immediately preceding the date of this declaration no work has been done, no surveys or architectural or engineering plans have been prepared, and no materials have been furnished in connection with the erection, equipment, repair, protection or removal of any building or other structure on the Land or in connection with the improvement of the Land in any manner whatsoever.

   b. During the period of six months immediately preceding the date of this declaration certain work has been done and materials furnished in connection with _____ upon the Land in the approximate total sum of $_____, but no work whatever remains to be done and no materials remain to be furnished to complete the construction in full compliance with the plans and specifications, nor are there any unpaid bills incurred for labor and materials used in making such improvements or repairs upon the Land, or for the services of architects, surveyors or engineers, except as follows: _____. Owner, by the undersigned Declarant, agrees to and does hereby indemnify and hold harmless Fidelity National Title Company against any and all claims arising therefrom.

3. Owner has not previously conveyed the Land; is not a debtor in bankruptcy (and if a partnership, the general partner thereof is not a debtor in bankruptcy); and has not received notice of any pending court action affecting the title to the Land.

4. Except as shown in the above-referenced Preliminary Report/Commitment, there are no unpaid or unsatisfied mortgages, deeds of trust, Uniform Commercial Code financing statements, regular assessments, special assessments, periodic assessments or any assessment from any source, claims of lien, special assessments, or taxes that constitute a lien against the Land or that affect the Land but have not been recorded in the public records. There are no violations of the covenants, conditions and restrictions as shown in the above-referenced Preliminary Report/Commitment.

5. The Land is currently in use as _____; _____ occupy/occupies the Land; and the following are all of the leases or other occupancy rights affecting the Land:

   _____

6. There are no other persons or entities that assert an ownership interest in the Land, nor are there unrecorded easements, claims of easement, or boundary disputes that affect the Land.

7. There are no outstanding options to purchase or rights of first refusal affecting the Land.

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8. Between the most recent Effective Date of the above-referenced Preliminary Report/Commitment and the date of recording of the Insured Instrument(s), Owner has not taken or allowed, and will not take or allow, any action or inaction to encumber or otherwise affect title to the Land.

This declaration is made with the intention that Fidelity National Title Company (the "Company") and its policy issuing agents will rely upon it in issuing their title insurance policies and endorsements. Owner, by the undersigned Declarant, agrees to indemnify the Company against loss or damage (including attorneys fees, expenses, and costs) incurred by the Company as a result of any untrue statement made herein.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on _____ at _____.

Signature: _____

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FIDELITY NATIONAL TITLE GROUP
FNTG Western Region Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Issuing Policies of Fidelity National Title Insurance Company

Title Officer: Mitch LaRiva
Escrow Officer: Major Accounts OAC

Order No.: 997-**30052456**-ML6

TO:

ZGlobal
604 Sutter Street, Suite 250
Folsom, CA 95630

ATTN: **Jamie Nichole Nagel**
YOUR REFERENCE: **025-260-011 & 019**

PROPERTY ADDRESS: **No situs APN 025-260-011 & 025-260-019, Unincorporated County of Imperial, CA**

PRELIMINARY REPORT

*In response to the application for a policy of title insurance referenced herein, **Fidelity National Title Company** hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a policy or policies of title insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.*

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Attachment One. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Attachment One. Copies of the policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

The policy(s) of title insurance to be issued hereunder will be policy(s) of Fidelity National Title Insurance Company, a Florida Corporation.

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Please read the exceptions shown or referred to herein and the exceptions and exclusions set forth in Attachment One of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land.

Countersigned by:

Authorized Signature

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FIDELITY NATIONAL TITLE GROUP
FNTG Western Region Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

PRELIMINARY REPORT

EFFECTIVE DATE: **July 31, 2020 at 7:30 a.m.**

ORDER NO.: 997-30052456-ML6

The form of policy or policies of title insurance contemplated by this report is:

ALTA Standard Owners Policy (6-17-06)

1. THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

   A FEE

2. TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

   MARJORIE A. GARDNER as Trustee of The Marjorie A. Hoffmeister Gardner Trust dated May 26, 1998, as to an undivided 10% interest;

   LESLEY ANN ASH, Successor Trustee of Exemption Trust under the Bay Family Trust dated April 9, 2003, as to an undivided 9.45% interest and LESLEY ANN ASH, Successor Trustee of Survivor's Trust under the Bay Family Trust dated April 9, 2003, as to an undivided 35.55% interest, subject to Item No. 8 of Schedule "B" and Item No's. 1 and 2 of Requirements; and

   JOSEPH G. CLARK, Trustee of The Joseph G. Clark Revocable Trust of 2017, as to an undivided 45% interest

3. THE LAND REFERRED TO IN THIS REPORT IS DESCRIBED AS FOLLOWS:

   See Exhibit A attached hereto and made a part hereof.

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EXHIBIT A

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA OF UNINCORPORATED COUNTY OF IMPERIAL IN THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

SECTION 17, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPTING A STRIP OF LAND 200 FEET WIDE CONTAINING 22 ACRES LYING EQUALLY ON EACH SIDE OF THE CENTERLINE OF THE SOUTHERN PACIFIC RAILROAD COMPANY RIGHT OF WAY AS NOW CONSTRUCTED, RESERVED BY SOUTHERN PACIFIC LAND COMPANY BY DEED RECORDED OCTOBER 16, 1951 IN BOOK 823, PAGE 299 OF OFFICIAL RECORDS.

ALSO EXCEPTING THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 17.

APN 025-260-011-000 AND APN 025-260-019-000

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EXCEPTIONS

AT THE DATE HEREOF, ITEMS TO BE CONSIDERED AND EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN SAID POLICY FORM WOULD BE AS FOLLOWS:

A. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes to be levied for the fiscal year 2020-2021.

B. Taxes and assessments levied by the Imperial Irrigation District.

C. The lien of supplemental or escaped assessments of property taxes, if any, made pursuant to the provisions of Chapter 3.5 (commencing with Section 75) or Part 2, Chapter 3, Articles 3 and 4, respectively, of the Revenue and Taxation Code of the State of California as a result of the transfer of title to the vestee named in Schedule A or as a result of changes in ownership or new construction occurring prior to Date of Policy.

1. Water rights, claims or title to water, whether or not disclosed by the public records.

2. Easement(s) in favor of the public over any existing roads lying within said Land.

3. Lack of legal right of access to and from a public street or highway.

4. The right, title or interest which the County of Imperial may have or claim in and to those portions of the herein described lands lying within the bounds of Noffsinger Road.

5. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Southern Sierras Power Company, a corporation, it's successors and/or assigns
Purpose:	Power transmission line
Recording Date:	July 19, 1930
Recording No:	Book 283, Page 9 of Official Records
Affects:	A portion of said land as more particularly described in said document.

6. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	R. S. Harrington, et ux.
Purpose:	Drain canal
Recording Date:	July 11, 1952
Recording No:	Book 841, Page 484 of Official Records
Affects:	A portion of said land as more particularly described in said document.

7. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Imperial Irrigation District, it's successors and/or assigns
Purpose:	Power line or lines, underground and/or overhead and necessary appurtenances together with the right of ingress and egress
Recording Date:	December 22, 1987
Recording No:	book 1594, Page 1685 of Official Records
Affects:	The West 100 feet of said land, except Southern Pacific Railroad right of way.

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EXCEPTIONS
(Continued)

8. The effect of a Grant Deed dated May 16, 2013, executed by Leslie Ann Ash, Trustee of the Bay Family Trust dated April 9, 2003, grantor to Victoria Gabbard, a married woman, as her sole and separate property, Grantee, recorded June 16, 2013 as Instrument No. 2013010916 of Official Records.

   Recital on said document states "This deed is intended to sever any joint Tenancy Deed".

9. A document entitled "Easement Deed by Court Order in Settlement of Landowner Action", issued out of the United States District Court for the Northern District of California San Francisco Division, Case No. 3:11-cv-02599-TEH, recorded January 30, 2014 as Instrument No. 2014001714 of Official Records.

   Said document provides for a Telecommunications Cable System Easement together with right of reasonable ingress and egress.

   Subject to the terms, conditions and provisions contained therein.

10. Any invalidity or defect in the title of the vestees in the event that the trust referred to herein is invalid or fails to grant sufficient powers to the trustee(s) or in the event there is a lack of compliance with the terms and provisions of the trust instrument.

    If title is to be insured in the trustee(s) of a trust, (or if their act is to be insured), this Company will require a Trust Certification pursuant to California Probate Code Section 18100.5.

    The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

11. Please be advised that our search did not disclose any open Deeds of Trust of record. If you should have knowledge of any outstanding obligation, please contact the Title Department immediately for further review prior to closing.

12. Any rights of the parties in possession of a portion of, or all of, said Land, which rights are not disclosed by the public records.

    The Company will require, for review, a full and complete copy of any unrecorded agreement, contract, license and/or lease, together with all supplements, assignments and amendments thereto, before issuing any policy of title insurance without excepting this item from coverage.

    The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

13. Any facts an accurate survey would disclose as to the location the exterior boundaries of said land or as to the location of canals, laterals, waste and drain ditches thereon in use by Imperial Irrigation District as part of its irrigation system.

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EXCEPTIONS
(Continued)

14. Any easements not disclosed by the public records as to matters affecting title to real property, whether or not said easements are visible and apparent.

15. Matters which may be disclosed by an inspection and/or by a correct ALTA/NSPS Land Title Survey of said Land that is satisfactory to the Company, and/or by inquiry of the parties in possession thereof.

PLEASE REFER TO THE "INFORMATIONAL NOTES" AND "REQUIREMENTS" SECTIONS WHICH FOLLOW FOR INFORMATION NECESSARY TO COMPLETE THIS TRANSACTION.

END OF EXCEPTIONS

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REQUIREMENTS SECTION

1. The Company will require either (a) a complete copy of the trust agreement and any amendments thereto certified by the trustee(s) to be a true and complete copy with respect to the hereinafter named trust, or (b) a Certification, pursuant to California Probate Code Section 18100.5, executed by all of the current trustee(s) of the hereinafter named trust, a form of which is attached.

   Name of Trust: Exemption Trust Under the Bay Family Trust Dated April 9, 2003

2. The Company will require either (a) a complete copy of the trust agreement and any amendments thereto certified by the trustee(s) to be a true and complete copy with respect to the hereinafter named trust, or (b) a Certification, pursuant to California Probate Code Section 18100.5, executed by all of the current trustee(s) of the hereinafter named trust, a form of which is attached.

   Name of Trust: Survivor's Trust Under the Bay Family Trust Dated April 9, 2003

3. Prior to the close of escrow, the Company requires a Statement of Information to be completed by the following party(s),

   Party(s): All Parties

   The Company reserves the right to add additional items or make further requirements after review of the requested Statement of Information.

4. Unrecorded matters which may be disclosed by an Owner's Affidavit or Declaration. A form of the Owner's Affidavit/Declaration is attached to this Preliminary Report/Commitment. This Affidavit/Declaration is to be completed by the record owner of the land and submitted for review prior to the closing of this transaction. Your prompt attention to this requirement will help avoid delays in the closing of this transaction. Thank you.

   The Company reserves the right to add additional items or make further requirements after review of the requested Affidavit/Declaration.

END OF REQUIREMENTS

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INFORMATIONAL NOTES SECTION

1. Note: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	025-260-011-000
Fiscal Year:	2019-2020
1st Installment:	$148.44
2nd Installment:	$148.44
Exemption:	$0.00
Code Area:	058-003

   Affects: A portion of the Land described herein.

2. Note: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	025-260-019-000
Fiscal Year:	2019-2020
1st Installment:	$48.86
2nd Installment:	$48.86
Exemption:	$0.00
Code Area:	058-003

   Affects: A portion of the Land described herein.

3. Note: The policy of title insurance will include an arbitration provision. The Company or the insured may demand arbitration. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. Please ask your escrow or title officer for a sample copy of the policy to be issued if you wish to review the arbitration provisions and any other provisions pertaining to your Title Insurance coverage.

4. Notice: Please be aware that due to the conflict between federal and state laws concerning the cultivation, distribution, manufacture or sale of marijuana, the Company is not able to close or insure any transaction involving Land that is associated with these activities.

5. Pursuant to Government Code Section 27388.1, as amended and effective as of 1-1-2018, a Documentary Transfer Tax (DTT) Affidavit may be required to be completed and submitted with each document when DTT is being paid or when an exemption is being claimed from paying the tax. If a governmental agency is a party to the document, the form will not be required. DTT Affidavits may be available at a Tax Assessor-County Clerk-Recorder.

6. Note: There are NO conveyances affecting said Land recorded within 24 months of the date of this report.

END OF INFORMATIONAL NOTES

Mitch LaRiva/jh

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WIRE SAFE™ | Inquire before you wire!

Wire Fraud Alert

This Notice is not intended to provide legal or professional advice. If you have any questions, please consult with a lawyer.

All parties to a real estate transaction are targets for wire fraud and many have lost hundreds of thousands of dollars because they simply relied on the wire instructions received via email, without further verification. **If funds are to be wired in conjunction with this real estate transaction, we strongly recommend verbal verification of wire instructions through a known, trusted phone number prior to sending funds.**

In addition, the following non-exclusive self-protection strategies are recommended to minimize exposure to possible wire fraud.

- **NEVER RELY** on emails purporting to change wire instructions. Parties to a transaction rarely change wire instructions in the course of a transaction.
- **ALWAYS VERIFY** wire instructions, specifically the ABA routing number and account number, by calling the party who sent the instructions to you. DO NOT use the phone number provided in the email containing the instructions, use phone numbers you have called before or can otherwise verify. **Obtain the phone number of relevant parties to the transaction as soon as an escrow account is opened**. DO NOT send an email to verify as the email address may be incorrect or the email may be intercepted by the fraudster.
- **USE COMPLEX EMAIL PASSWORDS** that employ a combination of mixed case, numbers, and symbols. Make your passwords greater than eight (8) characters. Also, change your password often and do NOT reuse the same password for other online accounts.
- **USE MULTI-FACTOR AUTHENTICATION** for email accounts. Your email provider or IT staff may have specific instructions on how to implement this feature.

For more information on wire-fraud scams or to report an incident, please refer to the following links:

Federal Bureau of Investigation:
http://www.fbi.gov

Internet Crime Complaint Center:
http://www.ic3.gov

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Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Notice of Available Discounts

Pursuant to Section 2355.3 in Title 10 of the California Code of Regulations Fidelity National Financial, Inc. and its subsidiaries ("FNF") must deliver a notice of each discount available under our current rate filing along with the delivery of escrow instructions, a preliminary report or commitment. Please be aware that the provision of this notice does not constitute a waiver of the consumer's right to be charged the filed rate. As such, your transaction may not qualify for the below discounts.

You are encouraged to discuss the applicability of one or more of the below discounts with a Company representative. These discounts are generally described below; consult the rate manual for a full description of the terms, conditions and requirements for such discount. These discounts only apply to transactions involving services rendered by the FNF Family of Companies. This notice only applies to transactions involving property improved with a one-to-four family residential dwelling.

Not all discounts are offered by every FNF Company. The discount will only be applicable to the FNF Company as indicated by the named discount.

FNF Underwritten Title Company	**Underwritten by FNF Underwriters**
CTC – Chicago Title company	CTIC – Chicago Title Insurance Company
CLTC – Commonwealth Land Title Company	CLTIC - Commonwealth Land Title Insurance Company
FNTC – Fidelity National Title Company of California	FNTIC – Fidelity National Title Insurance Company
FNTCCA - Fidelity National Title Company of California	FNTIC - Fidelity National Title Insurance Company
TICOR – Ticor Title Company of California	CTIC – Chicago Title Insurance Company
LTC – Lawyer's Title Company	CLTIC – Commonwealth Land Title Insurance Company
SLTC – ServiceLink Title Company	CTIC – Chicago Title Insurance Company

Available Discounts

DISASTER LOANS (CTIC, CLTIC, FNTIC)
The charge for a Lender's Policy (Standard or Extended coverage) covering the financing or refinancing by an owner of record, within twenty-four (24) months of the date of a declaration of a disaster area by the government of the United States or the State of California on any land located in said area, which was partially or totally destroyed in the disaster, will be fifty percent (50%) of the appropriate title insurance rate.

CHURCHES OR CHARITABLE NON-PROFIT ORGANIZATIONS (CTIC, FNTIC)
On properties used as a church or for charitable purposes within the scope of the normal activities of such entities, provided said charge is normally the church's obligation the charge for an owner's policy shall be fifty percent (50%) to seventy percent (70%) of the appropriate title insurance rate, depending on the type of coverage selected. The charge for a lender's policy shall be forty (40%) to fifty percent (50%) of the appropriate title insurance rate, depending on the type of coverage selected.

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FIDELITY NATIONAL FINANCIAL, INC.
PRIVACY NOTICE

Effective April 9, 2020

Fidelity National Financial, Inc. and its majority-owned subsidiary companies (collectively, "FNF," "our," or "we") respect and are committed to protecting your privacy. This Privacy Notice explains how we collect, use, and protect personal information, when and to whom we disclose such information, and the choices you have about the use and disclosure of that information.

A limited number of FNF subsidiaries have their own privacy notices. If a subsidiary has its own privacy notice, the privacy notice will be available on the subsidiary's website and this Privacy Notice does not apply.

Collection of Personal Information

FNF may collect the following categories of Personal Information:

- contact information (*e.g.*, name, address, phone number, email address);
- demographic information (*e.g.*, date of birth, gender, marital status);
- identity information (*e.g.* Social Security Number, driver's license, passport, or other government ID number);
- financial account information (*e.g.* loan or bank account information); and
- other personal information necessary to provide products or services to you.

We may collect Personal Information about you from:

- information we receive from you or your agent;
- information about your transactions with FNF, our affiliates, or others; and
- information we receive from consumer reporting agencies and/or governmental entities, either directly from these entities or through others.

Collection of Browsing Information

FNF automatically collects the following types of Browsing Information when you access an FNF website, online service, or application (each an "FNF Website") from your Internet browser, computer, and/or device:

- Internet Protocol (IP) address and operating system;
- browser version, language, and type;
- domain name system requests; and
- browsing history on the FNF Website, such as date and time of your visit to the FNF Website and visits to the pages within the FNF Website.

Like most websites, our servers automatically log each visitor to the FNF Website and may collect the Browsing Information described above. We use Browsing Information for system administration, troubleshooting, fraud investigation, and to improve our websites. Browsing Information generally does not reveal anything personal about you, though if you have created a user account for an FNF Website and are logged into that account, the FNF Website may be able to link certain browsing activity to your user account.

Other Online Specifics

Cookies. When you visit an FNF Website, a "cookie" may be sent to your computer. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. Information gathered using cookies helps us improve your user experience. For example, a cookie can help the website load properly or can customize the display page based on your browser type and user preferences. You can choose whether or not to accept cookies by changing your Internet browser settings. Be aware that doing so may impair or limit some functionality of the FNF Website.

Web Beacons. We use web beacons to determine when and how many times a page has been viewed. This information is used to improve our websites.

Do Not Track. Currently our FNF Websites do not respond to "Do Not Track" features enabled through your browser.

Links to Other Sites. FNF Websites may contain links to unaffiliated third-party websites. FNF is not responsible for the privacy practices or content of those websites. We recommend that you read the privacy policy of every website you visit.

Use of Personal Information

FNF uses Personal Information for three main purposes:

- To provide products and services to you or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you about our, our affiliates', and others' products and services, jointly or independently.

When Information Is Disclosed

We may disclose your Personal Information and Browsing Information in the following circumstances:

- to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to nonaffiliated service providers who provide or perform services or functions on our behalf and who agree to use the information only to provide such services or functions;

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- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to jointly market financial products or services to you;
- to law enforcement or authorities in connection with an investigation, or in response to a subpoena or court order; or
- in the good-faith belief that such disclosure is necessary to comply with legal process or applicable laws, or to protect the rights, property, or safety of FNF, its customers, or the public.

The law does not require your prior authorization and does not allow you to restrict the disclosures described above. Additionally, we may disclose your information to third parties for whom you have given us authorization or consent to make such disclosure. We do not otherwise share your Personal Information or Browsing Information with nonaffiliated third parties, except as required or permitted by law. We may share your Personal Information with affiliates (other companies owned by FNF) to directly market to you. Please see "Choices with Your Information" to learn how to restrict that sharing.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of bankruptcy, reorganization, insolvency, receivership, or an assignment for the benefit of creditors. By submitting Personal Information and/or Browsing Information to FNF, you expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings.

Security of Your Information
We maintain physical, electronic, and procedural safeguards to protect your Personal Information.

Choices With Your Information
If you do not want FNF to share your information among our affiliates to directly market to you, you may send an "opt out" request by email, phone, or physical mail as directed at the end of this Privacy Notice. We do not share your Personal Information with nonaffiliates for their use to direct market to you without your consent.

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you.

For California Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties, except as permitted by California law. For additional information about your California privacy rights, please visit the "California Privacy" link on our website (https://fnf.com/pages/californiaprivacy.aspx) or call (888) 413-1748.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 934-3354 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.
For Oregon Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not disclose information about your creditworthiness to our affiliates and will not disclose your personal information, financial information, credit report, or health information to nonaffiliated third parties to market to you, other than as permitted by Vermont law, unless you authorize us to make those disclosures.

Information From Children
The FNF Websites are not intended or designed to attract persons under the age of eighteen (18).We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian.

International Users
FNF's headquarters is located within the United States. If you reside outside the United States and choose to provide Personal Information or Browsing Information to us, please note that we may transfer that information outside of your country of residence. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection, transfer, and use of such information in accordance with this Privacy Notice.

FNF Website Services for Mortgage Loans
Certain FNF companies provide services to mortgage loan servicers, including hosting websites that collect customer information on behalf of mortgage loan servicers (the "Service Websites"). The Service Websites may contain links to both this Privacy Notice and the mortgage loan servicer or lender's privacy notice. The sections of this Privacy Notice titled When Information is Disclosed, Choices with Your Information, and Accessing and Correcting Information do not apply to the Service Websites. The mortgage loan servicer or lender's privacy notice governs use, disclosure, and access to your Personal Information. FNF does not share Personal Information collected through the Service Websites, except as required or authorized by contract with the mortgage loan servicer or lender, or as required by law or in the good-faith belief that such disclosure is necessary: to comply with a legal process or applicable law, to enforce this Privacy Notice, or to protect the rights, property, or safety of FNF or the public.

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Your Consent To This Privacy Notice; Notice Changes; Use of Comments or Feedback

By submitting Personal Information and/or Browsing Information to FNF, you consent to the collection and use of the information in accordance with this Privacy Notice. We may change this Privacy Notice at any time. The Privacy Notice's effective date will show the last date changes were made. If you provide information to us following any change of the Privacy Notice, that signifies your assent to and acceptance of the changes to the Privacy Notice. We may use comments or feedback that you submit to us in any manner without notice or compensation to you.

Accessing and Correcting Information; Contact Us

If you have questions, would like to correct your Personal Information, or want to opt-out of information sharing for affiliate marketing, send your requests to privacy@fnf.com, by phone to (888) 934-3354, or by mail to:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer

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ATTACHMENT ONE (Revised 05-06-16)

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE POLICY – 1990

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division; and
   f. environmental protection.
   This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;

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c. that result in no loss to You; or
d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.
   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.
8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

- For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 10,000.00
Covered Risk 18:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 19:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 21:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 5,000.00

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13 or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

{Except as provided in Schedule B - Part II,{ t{or T}his policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

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{PART I

{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.}

PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:}

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:
{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown in the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records. }
7. {Variable exceptions such as taxes, easements, CC&R's, etc. shown here.}

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ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY – ASSESSMENTS PRIORITY (04-02-15)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

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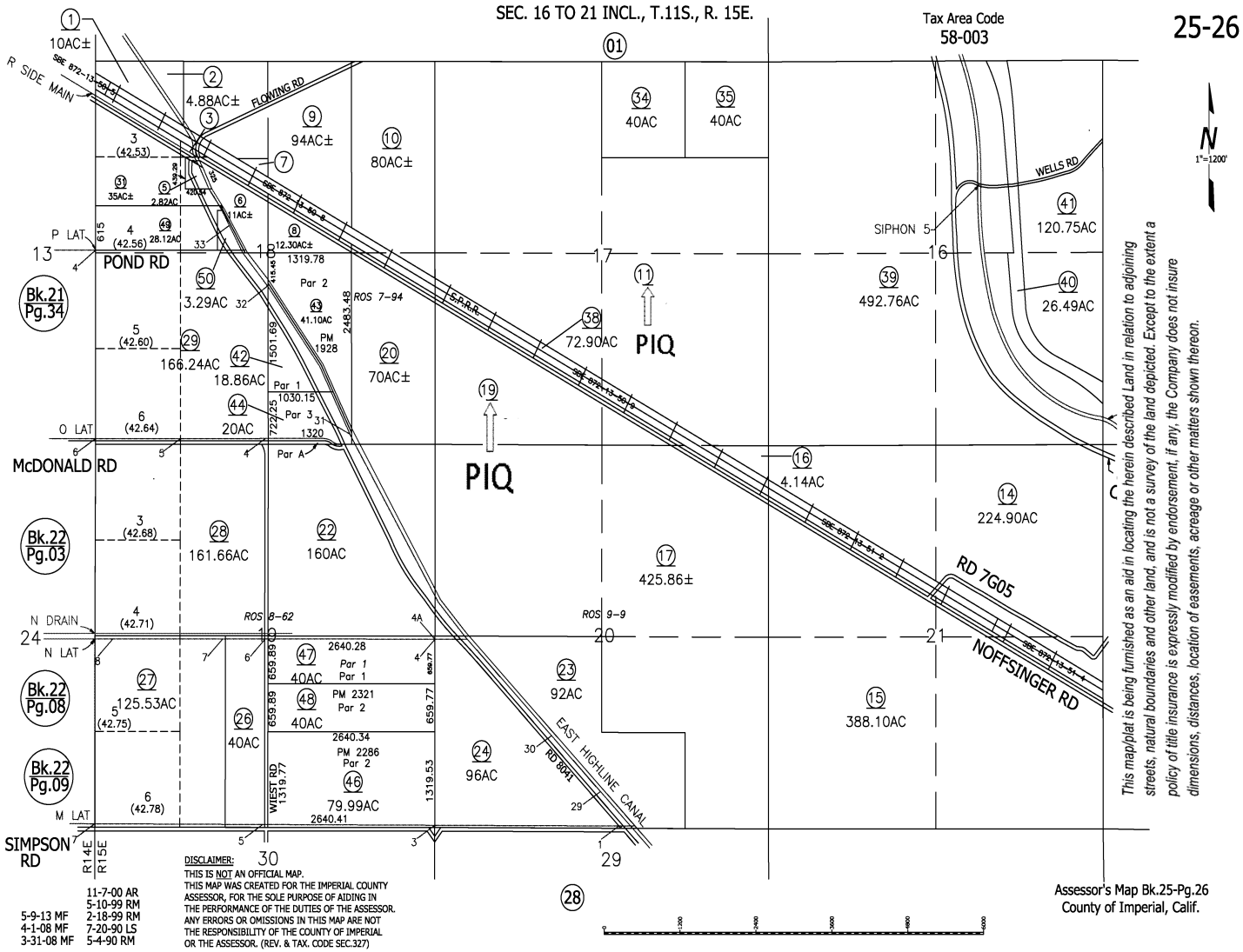

This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.

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RECORDING REQUESTED BY
Fidelity National Title Company
WHEN RECORDED MAIL TO:
=addressee=

ORDER NO.: **30052456-997-ML6**

SPACE ABOVE THIS LINE FOR RECORDER'S USE

CERTIFICATION OF TRUST
California Probate Code Section 18100.5

The undersigned declare(s) under penalty of perjury under the laws of the State of California that the following is true and correct:

1. The Trust known as _____, executed on _____, is a valid and existing trust.

2. The name(s) of the settlor(s) of the Trust is (are): _____
_____

3. The name(s) of the currently acting trustee(s) is (are): _____
_____

4. The trustee(s) of the Trust have the following powers (initial applicable line(s)):
_____Power to acquire additional property.
_____Power to sell and execute deeds.
_____Power to encumber, and execute deeds of trust.
_____Other: _____

5. The Trust is (check one): _____ Revocable _____ Irrevocable

The name of the person who may revoke the Trust is: _____

6. The number of trustees who must sign documents in order to exercise the powers of the Trust is (are): _____, whose name(s) is (are): _____

7. Title to Trust assets is to be taken as follows: _____

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8. The Trust has not been revoked, modified or amended in any manner which would cause the representations contained herein to be incorrect.

9. I (we) am (are) all of the currently acting trustees.

10. I (we) understand that I (we) may be required to provide copies of excerpts from the original Trust documents which designate the trustees and confer the power to act in the pending transaction.

Dated: _____

(Acknowledgement must be attached)

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CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

PC ORIGINAL PKG

RECORDING REQUESTED BY
Fidelity National Title Company
WHEN RECORDED MAIL TO:
=addressee=

ORDER NO.: **30052456-997-ML6**

SPACE ABOVE THIS LINE FOR RECORDER'S USE

CERTIFICATION OF TRUST
California Probate Code Section 18100.5

The undersigned declare(s) under penalty of perjury under the laws of the State of California that the following is true and correct:

1. The Trust known as _____, executed on _____, is a valid and existing trust.

2. The name(s) of the settlor(s) of the Trust is (are): _____
_____

3. The name(s) of the currently acting trustee(s) is (are): _____
_____

4. The trustee(s) of the Trust have the following powers (initial applicable line(s)):
_____Power to acquire additional property.
_____Power to sell and execute deeds.
_____Power to encumber, and execute deeds of trust.
_____Other: _____

5. The Trust is (check one): _____ Revocable _____ Irrevocable

The name of the person who may revoke the Trust is: _____

6. The number of trustees who must sign documents in order to exercise the powers of the Trust is (are): _____, whose name(s) is (are): _____

7. Title to Trust assets is to be taken as follows: _____

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8. The Trust has not been revoked, modified or amended in any manner which would cause the representations contained herein to be incorrect.

9. I (we) am (are) all of the currently acting trustees.

10. I (we) understand that I (we) may be required to provide copies of excerpts from the original Trust documents which designate the trustees and confer the power to act in the pending transaction.

Dated: _____

(Acknowledgement must be attached)

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CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

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OWNER'S DECLARATION

Escrow No.: 30052456-997-MAT-ML6
Property Address: No situs APN 025-260-011 & 025-260-019
Unincorporated County of Imperial, CA

The undersigned hereby declares as follows:

1. (Fill in the applicable paragraph and strike the other)

   a. Declarant ("Owner") is the owner or lessee, as the case may be, of certain premises located at No situs APN 025-260-011 & 025-260-019, Unincorporated County of Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

   b. Declarant is the _____ of _____ ("Owner"), which is the owner or lessee, as the case may be, of certain premises located at No situs APN 025-260-011 & 025-260-019, Unincorporated County of Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

2. (Fill in the applicable paragraph and strike the other)

   a. During the period of six months immediately preceding the date of this declaration no work has been done, no surveys or architectural or engineering plans have been prepared, and no materials have been furnished in connection with the erection, equipment, repair, protection or removal of any building or other structure on the Land or in connection with the improvement of the Land in any manner whatsoever.

   b. During the period of six months immediately preceding the date of this declaration certain work has been done and materials furnished in connection with _____ upon the Land in the approximate total sum of $_____, but no work whatever remains to be done and no materials remain to be furnished to complete the construction in full compliance with the plans and specifications, nor are there any unpaid bills incurred for labor and materials used in making such improvements or repairs upon the Land, or for the services of architects, surveyors or engineers, except as follows: _____. Owner, by the undersigned Declarant, agrees to and does hereby indemnify and hold harmless Fidelity National Title Company against any and all claims arising therefrom.

3. Owner has not previously conveyed the Land; is not a debtor in bankruptcy (and if a partnership, the general partner thereof is not a debtor in bankruptcy); and has not received notice of any pending court action affecting the title to the Land.

4. Except as shown in the above-referenced Preliminary Report/Commitment, there are no unpaid or unsatisfied mortgages, deeds of trust, Uniform Commercial Code financing statements, regular assessments, special assessments, periodic assessments or any assessment from any source, claims of lien, special assessments, or taxes that constitute a lien against the Land or that affect the Land but have not been recorded in the public records. There are no violations of the covenants, conditions and restrictions as shown in the above-referenced Preliminary Report/Commitment.

5. The Land is currently in use as _____; _____ occupy/occupies the Land; and the following are all of the leases or other occupancy rights affecting the Land:

   _____

6. There are no other persons or entities that assert an ownership interest in the Land, nor are there unrecorded easements, claims of easement, or boundary disputes that affect the Land.

7. There are no outstanding options to purchase or rights of first refusal affecting the Land.

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8. Between the most recent Effective Date of the above-referenced Preliminary Report/Commitment and the date of recording of the Insured Instrument(s), Owner has not taken or allowed, and will not take or allow, any action or inaction to encumber or otherwise affect title to the Land.

This declaration is made with the intention that Fidelity National Title Company (the "Company") and its policy issuing agents will rely upon it in issuing their title insurance policies and endorsements. Owner, by the undersigned Declarant, agrees to indemnify the Company against loss or damage (including attorneys fees, expenses, and costs) incurred by the Company as a result of any untrue statement made herein.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on _____ at _____.

Signature: _____

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APPENDIX H

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780 N. 4th Street
El Centro, CA 92243
(760) 337-1100

Phase I Environmental Site Assessment (ESA)
User Questionnaire

1) Environmental liens that are filed or recorded against the *property*.

Did a search of *recorded land title records* (or judicial records where appropriate) identify any environmental liens filed or recorded against the *property* under federal, tribal, state, or local law?

Not to our knowledge.

2) Activity and use limitations that are in place on the *property* or that have been filed or recorded against the *property*.

Did a search of *recorded land title records* (or judicial records where appropriate) identify any AULs, such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the property and/or have been filed or recorded against the *property* under federal, tribal, state or local law?

Not to our knowledge.

3) Specialized knowledge or experience of the person seeking to qualify for the LLP.

Do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the *property* or an *adjoining property* so that you would have specialized knowledge of the chemicals and processes used by this type of business?

No.

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4) Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.

Does the purchase price being paid for this *property* reasonable reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

Yes.

5) Commonly known or *reasonably ascertainable* information about the *property*.

Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases? For example,

a. Do you know the past uses of the *property*?

   Vacant Land

b. Do you know of specific chemicals or oils that are present or once were present at the *property*?

   None that we know of or suspect.

c. Do you know of spills or other chemical releases that have taken place at the *property*?

   None that we know of or suspect.

d. Do you know of any environmental cleanups that have taken place at the *property*?

   None that we know of or suspect.

6) The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.

Based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of releases at the *property*?

None that we know of or suspect.

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Additional Information

1) Reason why Phase I ESA is required:

Conditional Use Permit for proposed development project.

2) Type of Property:

Commercial	☐
Industrial	☐
Residential	☐
Vacant/Undeveloped	☒
Other _____	

Type of Transaction:

Purchase	☐
Financing	☐
Sale	☐
Lease	☐
Other _____	

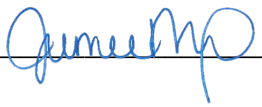
3) Complete and correct address for the property:

No situs. APN's 025-260-019 and 025-260-022.

4) Are there any existing environmental report, documents, correspondence, etc. available for review?
None.

User Name/Company: Jamie Nagel/Apex Energy Solutions, LLC

Address: 604 Sutter Street, Suite 250
Folsom, CA 95630

User Signature: 

Date: 12/10/2020

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APPENDIX I

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Jeffrey O. Lyon, PE
Principal Engineer

Education

B.S. Civil Engineering (Magna Cum Laude)
California Polytechnic University, Pomona Campus 1978

Registration

Registered Civil Engineer No. 31921, California
Registered Civil Engineer No. 16994, Arizona

Professional Experience

1987 - Present	Principal Engineer Southland Geotechnical, Inc.
1982 - 1987	Principal Engineer Lyon Engineers, Inc.
1978 - 1981	Partner/Senior Engineer Tesco Engineering
1974 - 1977	Survey Party Chief Tesco Engineering
1972 - 1973	Survey Party Chief Lyon & Associates

Summary of Experience

As Principal Engineer, Mr. Lyon is responsible for financial and technical management of all employees in Southland Geotechnical's four branch offices. Mr. Lyon has performed site investigations for residential subdivisions, geogrid-reinforced slopes, shopping centers, military airfields, roadways, administration and office buildings, elementary and high schools, goldmine mill processing facilities, hydro-electric plants, power transmission lines, electrical substations, co-generation power plants and geothermal power plants. He has provided design for drilled piers, driven piles, stone columns and floating (rigid) mats, and has performed seismic risk evaluations, ground shaking analyses, liquefaction studies and liquefaction induced settlements studies. Mr. Lyon has conducted Phase I and Phase II ESA's throughout the Imperial and Coachella Valleys for over 7 years. Mr. Lyon's experience also includes forensic investigations for foundation/structural distress to residential, commercial and educational facilities, and has performed pressure grout stabilization and lifting for distress remediation.

Selected Project Experience

- **Aten Road Improvements, Imperial, CA**

Performed Phase I environmental site assessment for improvements to Aten Road in accordance to CalTrans requirements.

- **Gateway to the Americas, Calexico, CA**

Conducted Phase I ESA, geologic hazards study and geotechnical investigation including liquefaction evaluation for 1,700 acre development associated with new Port of Entry east of Calexico

- **El Centro Magistrate Court, El Centro, CA**

Conducted geotechnical investigation and Phase I ESA for new Federal Magistrate Court building at site with soft soil conditions requiring foundation settlement analysis

- **El Centro Regional Medical Center, El Centro, CA**

Conducted Phase I ESA and geotechnical investigation for 50,000 sf, 2-story addition to the medical center's emergency room, operating rooms, and recovery rooms.

- **Brawley Union High School, Brawley, CA**

Conducted Phase II investigation for PCB and lead contamination of surficial soil and hydrocarbon contamination of subsurface soil of a property proposed for purchase.

- **EW Corporation Site, Westmorland, CA**

Conducted Phase II investigation for hydrocarbon contamination of subsurface soil of a service station site with leaking underground storage tanks prior to property purchase

- **Various Apartment Complexes, Imperial County, CA**

Conducted Phase I environmental investigation at numerous proposed apartment complex site within the Imperial Valley

- **Hwy 98 Improvements, Imperial, CA**

Performed Phase I environmental site assessment for improvements to Hwy 98 for a new intersection in accordance to CalTrans requirements.

Professional Affiliations

American Society of Civil Engineers, Member
American Society of Testing Materials, Member
American Concrete Institute, Certified Examiner
Association of Professional Firms Practicing in the Geosciences, Member

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GS Lyon

Steven K. Williams, CEG
Senior Engineering Geologist

Education
M.S. Geology
University of Utah, 1993
B.S. Geology
University of Utah, 1989

Registration
Registered Geologist
Arizona 3759
California 6975
Certified Engineering Geologist
California 2261

Professional Experience

2000 – Present	Project Geologist GS Lyon Consultants, Inc.
1994 - 2000	Staff Geologist GS Lyon Consultants, Inc.
1994	Field Geologist Bureau of Land Management
1991 - 1992	Exploration Geologist Kennecott Corporation

Summary of Experience
Mr. Williams has performed geotechnical investigations in southern California and southwestern Arizona. His field experience includes logging of soil borings and exploratory trenches, collection and documentation of soil samples, collection of field geotechnical data, and monitoring pile driving operations. Mr. Williams is also responsible for preparing computer generated data and figures, drafting and subsequent writing of geotechnical reports for a variety of projects including road improvements, fault studies, liquefaction potential evaluation, foundation preparation, seepage studies, structural distress, and soil investigations. He has performed geotechnical, geologic, and environmental studies for a wide variety of projects including correctional facilities, water and wastewater facilities, schools, residential subdivisions, commercial developments, and landfills throughout southern California and southwestern Arizona.

Mr. Williams also performs Phase I Environmental Site Assessments throughout the Imperial and Coachella Valleys. The scope of work for these projects typically include a site reconnaissance, review of government records pertaining to previous site uses, and preparation of a report identifying potential environmental risks.

He also conducts investigations for the potential of asbestos-containing materials and lead-based paint in old building projects and potential for soil contamination by hydrocarbons, pesticides, and other hazardous materials.

Professional Affiliations
Geological Society of America, Member

Selected Project Experience
- **El Centro Seniors Apartments, El Centro, CA**

Performed Phase I and Phase II environmental site assessments for apartment complex at old school district office site with underground storage tanks.
- **Central Main Canal Seepage Study, Imperial, CA**

Conducted 6-month groundwater seepage study for Imperial Irrigation District to evaluate high groundwater levels in Sandalwood Glen Subdivision
- **Gateway to the Americas, Calexico, CA**

Conducted Phase I ESA, geologic hazards study and geotechnical investigation including liquefaction evaluation for 1,700 acre development associated with new Port of Entry east of Calexico
- **El Centro Magistrate Court, El Centro, CA**

Conducted geotechnical investigation and Phase I ESA for new Federal Magistrate Court building at site with soft soil conditions requiring foundation settlement analysis
- **El Centro Regional Medical Center, El Centro, CA**

Conducted Phase I ESA and geotechnical investigation for 50,000 sf, 2-story addition to the medical center's emergency room, operating rooms, and recovery rooms.
- **Brawley Union High School, Brawley, CA**

Conducted Phase II investigation for PCB and lead contamination of surficial soil and hydrocarbon contamination of subsurface soil of a property proposed for purchase.
- **EW Corporation Site, Westmorland, CA**

Conducted Phase II investigation for hydrocarbon contamination of subsurface soil of a service station site with leaking underground storage tanks prior to property purchase
- **Various Apartment Complexes, Imperial County, CA**

Conducted Phase I environmental investigation at numerous proposed apartment complex site within the Imperial Valley
- **Oasis Elementary School, Mecca, CA**

Conducted PEA environmental investigation for the new Oasis Elementary School prior to construction of school

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Peter LaBrucherie, PE
Staff Engineer

Education

B.S. Civil Engineering
California Polytechnic University, San Luis Obispo, 2011

M.S. Civil Engineering
California Polytechnic University, San Luis Obispo, 2012

Registration
Professional Engineer C84812, California

Professional Experience

2013 - Present	Staff Engineer GS Lyon, Inc.
2012 - 2013	Project Engineer BNBuilders.

Summary of Experience
As an Environmental Technician, Mr. LaBrucherie performs Phase I Environmental Site Assessments in Imperial County. The scope of work for these assessments typically includes site reconnaissance, review of government records pertaining to previous site uses, and preparation of a report identifying potential environmental risks.

Selected Project Experience

Seville Solar Farm, Westmorland, CA
Conducted Phase I environmental site assessment for solar project located about 9 miles northwest of Westmorland, Ca.

Clean Harbors Facility, Westmorland, CA
Conducted annual reports which included flood diversion, photo documentation and post closure for waste facility located about 5 miles west of Westmorland, Ca.

Ching Properties, Brawley, CA
Conducted Phase I environmental site assessment for vacant property located in Brawley, Ca.

Chelsea - 470 W. Wall Road, Imperial, CA
Conducted Phase I environmental site assessment for vacant property located in Imperial, Ca. Property is being proposed for apartment complex.

1409 E. Alamo Road, Holtville, CA
Conducted Phase I environmental site assessment for property (mostly vacant with some unused shop buildings and abandoned residential home) located west of Holtville, Ca.

BUSD School Site, Brawley, CA
Conducted Phase I environmental site assessment for school site proposal on a vacant property located in south Brawley, Ca.

CR&R Direct Transfer, El Centro, CA
Conducted Phase I environmental site assessment for commercial property (large warehouse and office with large laydown area) located in El Centro, Ca.

Villa Primavera Apartments, Calexico, CA
Conducted Phase I environmental site assessment for vacant property located in Calexico, Ca.

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Noise Impact Assessment

Vega SES Complex Solar Energy Storage Project

County of Imperial, California

Prepared For:

Vega SES 2, LLC
Vega SES 3, LLC
Apex Energy Solutions, Inc.
604 Sutter Street,
Folsom, CA 95630

December 2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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LIST OF ACRONYMS AND ABBREVIATIONS

A-3-RE	Heavy Agriculture with a Renewable Energy Overlay
A-2-RE	General Agriculture with a Renewable Energy Overlay
CEQA	California Environmental Quality Act

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CNEL	Community Noise Equivalent Level
dB	Decibel
dBA	Decibel is A-weighted
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
IID	Imperial Irrigation District
L_{eq}	Measure of ambient noise
HSAT	Horizontal single-axis tracker
MW	Megawatts
OPR	Office of Planning and Research
OSHA	Federal Occupational Safety and Health Administration
OSHPD	Office of State Health Planning and Development
PPV	Peak particle velocity
Project	Vega SES Complex Solar Energy Storage Facilities
RMS	Root mean square
S-2-RE	Open Space Preservation Zone with a Renewable Energy Overlay
SR	State Route
WEAL	Western Electro-Acoustic Laboratory, Inc.

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1.0 INTRODUCTION

This report documents the results of a Noise Impact Assessment completed for the Vega Complex Solar Energy Storage Project (Project), which includes the construction of up to a nominal 240-megawatt (MW) alternating current solar photovoltaic (PV) energy generation system with an integrated 240 MW battery storage system (known as Vega 2), a nominal 60 MW alternating current PV energy generation system with an integrated 60 MW battery storage system (known as Vega 3), and a nominal 50 MW alternating current solar PV energy generation system with an integrated 50 MW battery storage system (known as Vega 5), all spanning approximately 1,963 acres of land in the County of Imperial, California. This report was prepared as a comparison of predicted Project noise levels to noise standards promulgated by the County of Imperial General Plan Noise Element. The purpose of this report is to estimate Project-generated noise and to determine the level of impact the Project would have on the environment.

1.1 Project Overview

The Project proposes to construct a cluster of alternating current solar PV energy generation systems totaling 350 Megawatts (MWs) with accompanying battery storage. The Project consists of three individual site locations which make up the Vega SES Complex. Vega 2 is located on three non-contiguous parcels totaling 1,323 acres, Vega 3 is located on a 640-acre parcel but only compromising 230 acres, and Vague 5 is located on three parcels totaling 410 acres. It is proposed that Vega 2 & 3 will be constructed together beginning in early 2023 with Vega 5 being constructed in 2024.

All systems would be utilizing either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The individual PV systems would be arranged in large arrays by placing them in columns spaced approximately ten feet apart to maximize operational performance and to allow access for panel cleaning and maintenance.

1.2 Project Location and Description

The total combined Project Site area spans approximately 1,963 acres and is located 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City (see Figure 1. Project Vicinity). The Site is transected by the Coachella and East Highline Canals and the Union Pacific Railway in northcentral Imperial County, California.

1.3 Applicable Land Use Regulations

All Project parcels for Vega 2 & 3 are designated as "Recreation/Open Space" in the Imperial County General Plan and are zoned S-2-RE (Open Space/Preservation with a Renewable Energy overlay). Pursuant to Section 91703.02 (CONDITIONAL USE PERMITS), Renewable Energy Projects must be located within the Renewable Energy Overlay Zone and may be permitted only through the issuance of a Conditional Use Permit (CUP) as approved by the Approving Authority unless otherwise allowed by applicable law. All Project parcels in Vega 5 are designated as "Recreation/Open Space" in the Imperial County General Plan. Two of the Vega 5 properties are zoned S-2-RE (areas with intent to preserve the cultural, biological, and open spaces that are rich and natural as well as cultural resources). The third Vega 5 property is zoned A-

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2-RE (areas that are suitable and intended primarily for agricultural uses [limited] and agricultural related compatible uses), A-3-RE (areas that are suitable for agricultural land uses; to prevent the encroachment of incompatible uses onto and within agricultural lands; and to prohibit the premature conversion of such lands to non-agricultural uses) and S-2-RE (see above). At present, all portions of the proposed Project (Vega 2 & 3, and 5) are located within the Renewable Energy Zone.

1.4 Project Site Access

The Project Area would be accessible from McDonald Road, a paved road off State Route 111. The Vega 5 Project Site is located at the eastern end of McDonald Road. Access to the Vega 2 and 3 Project Site would require an additional 1.65 miles of travel on Wiest Road and Flowing Wells Road. Both of which are unpaved.

1.5 Project Construction

Construction activities would involve demolition and grubbing, grading of the Project Site to establish access roads and pads for electrical equipment (inverters and step–up transformers), trenching for underground electrical collection lines, and the installation of solar equipment and security fencing. The construction of each Project component (Vega 2 & 3 and Vega 5) is estimated to take 12-18 months each and would begin in early 2023. A temporary, portable construction supply container would be located at the Project Site at the beginning of construction and removed at the end of construction. The number of on–site construction workers for Vega 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the Vega 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on–site construction workers for the Vega 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the Vega 5 battery storage facility and substation is not expected to exceed 50 workers at any one time. Onsite parking would be provided for all construction workers.

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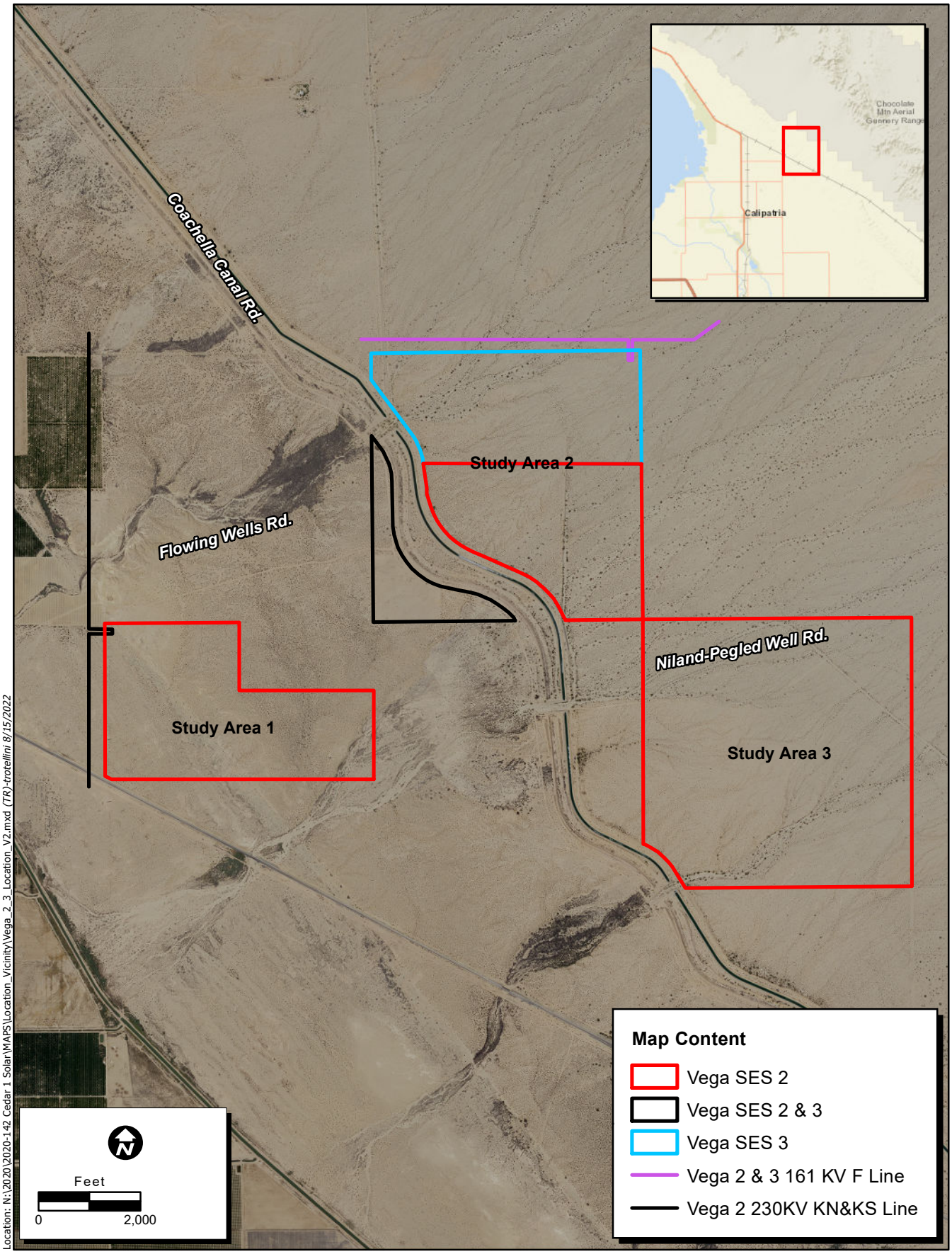

Map Date: 8/15/2022

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Figure 1. Project Location

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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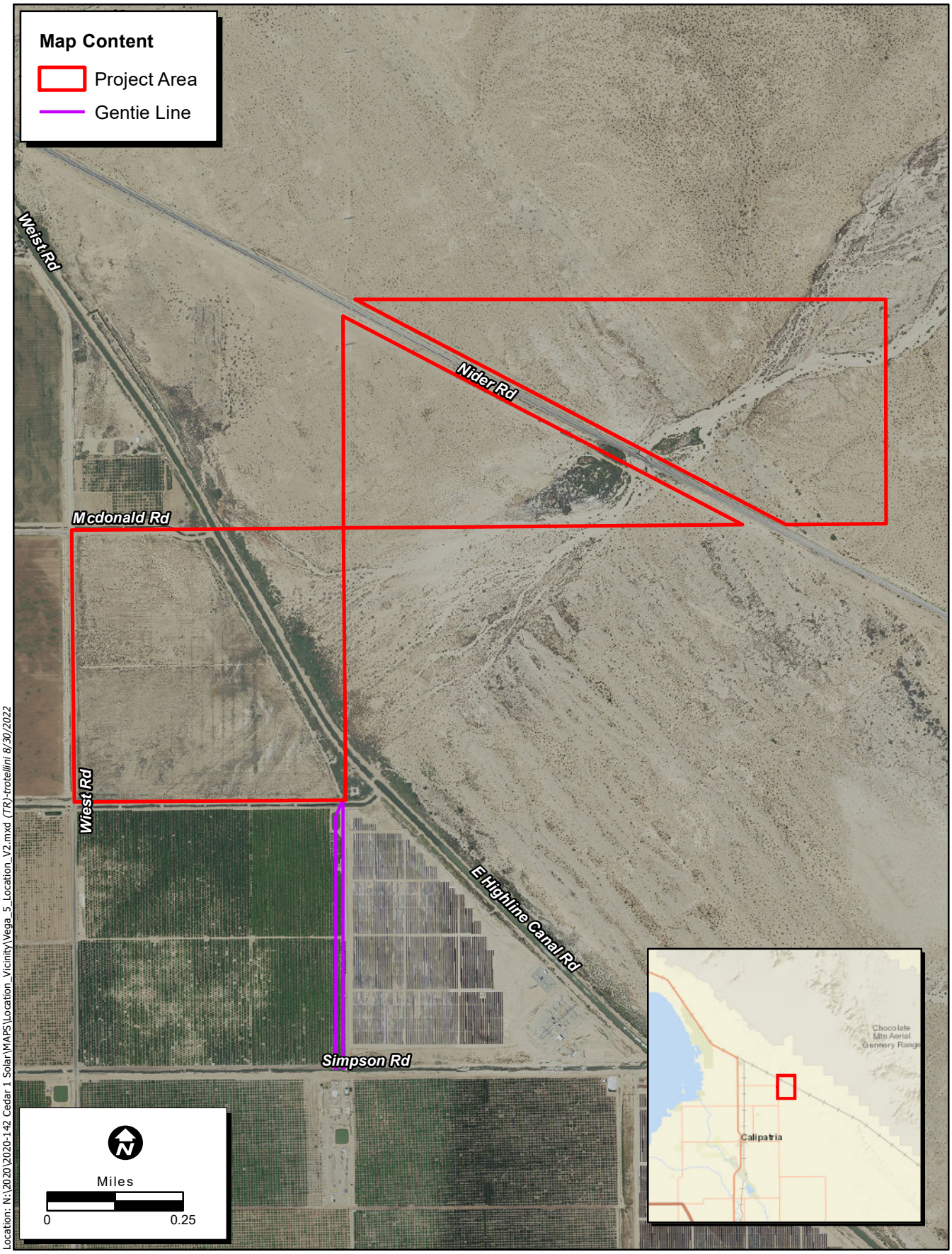

Location: N:\2020\2020-142 Cedar 1 Solar\MAPS\Location_Vicinity\Vega_5_Location_V2.mxd (TR)-trotellini 8/30/2022

Map Date: 8/30/2022

*Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community*Photo Source: NAIP

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Figure 1. Project Location

2020-144 Vega SES 5

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2.0 ENVIRONMENTAL NOISE AND GROUNDBORNE VIBRATION ANALYSIS

2.1 Fundamentals of Noise and Environmental Sound

2.1.1 Addition of Decibels

The decibel (dB) scale is logarithmic, not linear, and therefore sound levels cannot be added or subtracted through ordinary arithmetic. Two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted (dBA), an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound and twice as loud as a 60-dBA sound. When two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be three dB higher than one source under the same conditions (Federal Transit Administration [FTA] 2018). For example, a 65-dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by three dB). Under the decibel scale, three sources of equal loudness together would produce an increase of five dB.

Typical noise levels associated with common noise sources are depicted in Figure 2. *Common Noise Levels*.

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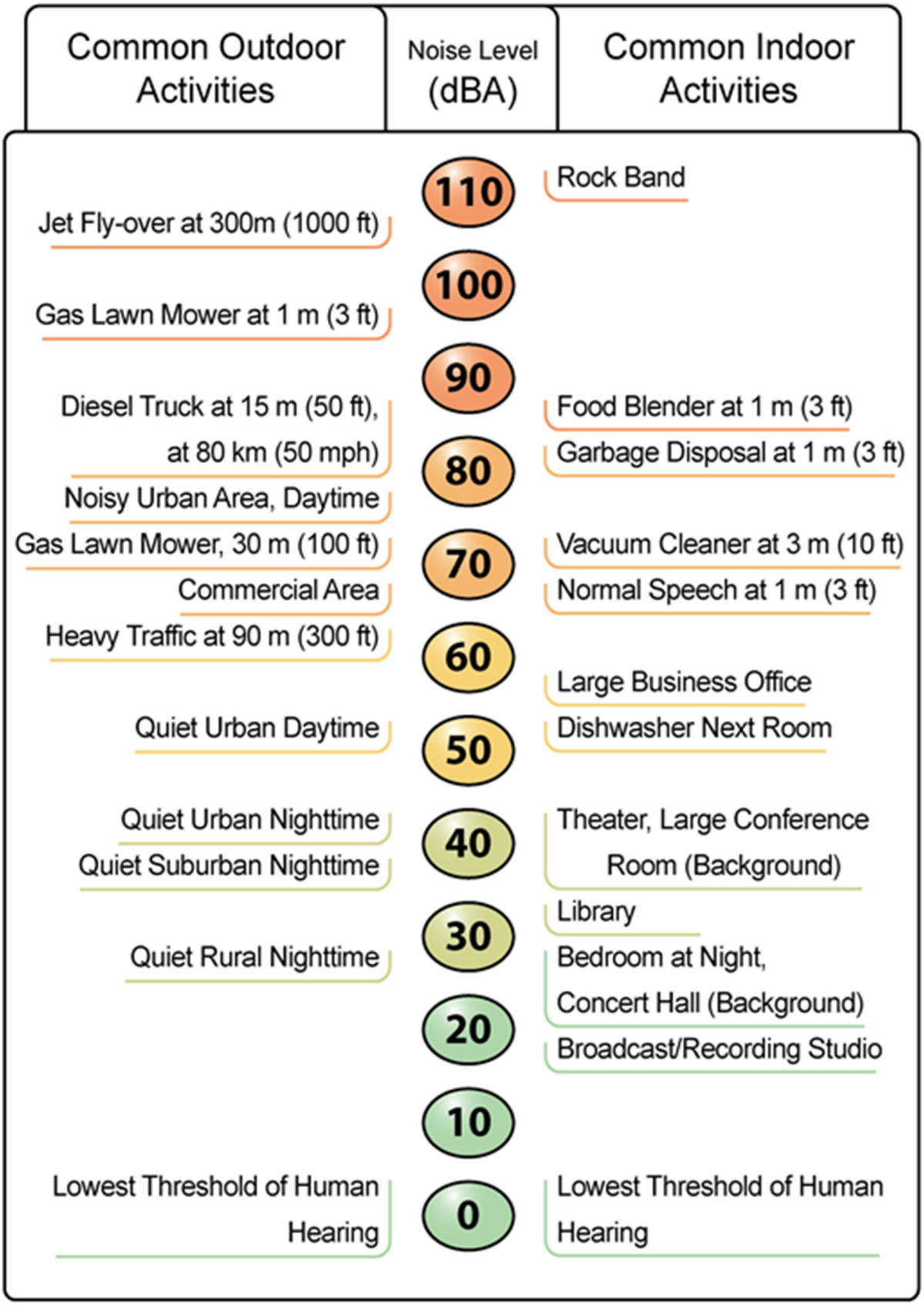

Source: California Department of Transportation (Caltrans) 2020a

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2.1.2 Sound Propagation and Attenuation

Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately six dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately three dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (Federal Highway Administration [FHWA] 2011). No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. For line sources, an overall attenuation rate of three dB per doubling of distance is assumed (FHWA 2011).

Noise levels may also be reduced by intervening structures; generally, a single row of detached buildings between the receptor and the noise source reduces the noise level by about five dBA (FHWA 2006), while a solid wall or berm generally reduces noise levels by 10 to 20 dBA (FHWA 2011). However, noise barriers or enclosures specifically designed to reduce site-specific construction noise can provide a sound reduction 35 dBA or greater (Western Electro-Acoustic Laboratory, Inc. [WEAL] 2000). To achieve the most potent noise-reducing effect, a noise enclosure/barrier must physically fit in the available space, must completely break the “line of sight” between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces. Noise barriers must be sizable enough to cover the entire noise source and extend lengthwise and vertically as far as feasibly possible to be most effective. The limiting factor for a noise barrier is not the component of noise transmitted through the material, but rather the amount of noise flanking around and over the barrier. In general, barriers contribute to decreasing noise levels only when the structure breaks the "line of sight" between the source and the receiver.

The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows (Caltrans 2002). The exterior-to-interior reduction of newer residential units is generally 30 dBA or more (Harris Miller, Miller & Hanson Inc. [HMMH] 2006). Generally, in exterior noise environments ranging from 60 dBA Community Noise Equivalent Level (CNEL) to 65 dBA CNEL, interior noise levels can typically be maintained below 45 dBA, a typically residential interior noise standard, with the incorporation of an adequate forced air mechanical ventilation system in each residential building, and standard thermal-pane residential windows/doors with a minimum rating of Sound Transmission Class (STC) 28. (STC is an integer rating of how well a building partition attenuates airborne sound. In the U.S., it is widely used to rate interior partitions, ceilings, floors, doors, windows, and exterior wall configurations.) In exterior noise environments of 65 dBA CNEL or greater, a combination of forced-air mechanical ventilation and sound-rated construction methods is often required to meet the interior noise level limit. Attaining the necessary noise reduction from exterior to interior spaces is readily achievable in noise environments less than 75 dBA CNEL with proper wall construction techniques following California Building Code methods, the selections of proper windows and doors, and the incorporation of forced-air mechanical ventilation systems.

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2.1.3 Noise Descriptors

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL (Community Noise Equivalent Level) are measures of community noise. Each is applicable to this analysis and defined in Table 2-1.

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Table 2-1. Common Acoustical Descriptors

Descriptor	Definition
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micropascals (or 20 micronewtons per square meter), where 1 pascal is the pressure resulting from a force of 1 newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micropascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hertz (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average acoustic energy content of noise for a stated period of time. Thus, the Leq of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn} or DNL	A 24-hour average Leq with a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour Leq would result in a measurement of 66.4 dBA Ldn.
Community Noise Equivalent Level, CNEL	A 24-hour average Leq with a 5 dBA "weighting" during the hours of 7:00 p.m. to 10:00 p.m. and a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour Leq would result in a measurement of 66.7 dBA CNEL.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.

The A weighted decibel sound level scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a

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method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about ±1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends on the distance between the receptor and the noise source. Close to the noise source, the models are accurate to within about ±1 to 2 dBA.

2.1.4 Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in A-weighted noise levels (dBA), the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived by humans.
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference.
- A change in level of at least 5 dBA is required before any noticeable change in community response would be expected. An increase of 5 dBA is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

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2.1.5 Effects of Noise on People

Hearing Loss

While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise.

The Occupational Safety and Health Administration (OSHA) has a noise exposure standard that is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over eight hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn} as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. For ground vehicles, a noise level of about 55 dBA L_{dn} is the threshold at which a substantial percentage of people begin to report annoyance.

2.2 Fundamentals of Environmental Groundborne Vibration

2.2.1 Vibration Sources and Characteristics

Sources of earthborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or manmade causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions).

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the peak particle velocity (PPV); another is the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

PPV is generally accepted as the most appropriate descriptor for evaluating the potential for building damage. For human response, however, an average vibration amplitude is more appropriate because it takes time for the human body to respond to the excitation (the human body responds to an average vibration amplitude, not a peak amplitude). Because the average particle velocity over time is zero, the RMS amplitude is typically used to assess human response. The RMS value is the average of the amplitude squared over time, typically a 1- sec. period (FTA 2018).

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Table 2-2 displays the reactions of people and the effects on buildings produced by continuous vibration levels. The annoyance levels shown in the table should be interpreted with care since vibration may be found to be annoying at much lower levels than those listed, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high-noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Ground vibration can be a concern in instances where buildings shake, and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. For instance, heavy-duty trucks generally generate groundborne vibration velocity levels of 0.006 PPV at 50 feet under typical circumstances, which as identified in Table 2-2 is considered very unlikely to cause damage to buildings of any type. Common sources for groundborne vibration are planes, trains, and construction activities such as earth-moving which requires the use of heavy-duty earth moving equipment.

Table 2-2. Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibration Levels

Peak Particle Velocity (inches/second)	Approximate Vibration Velocity Level (VdB)	Human Reaction	Effect on Buildings
0.006–0.019	64–74	Range of threshold of perception	Vibrations unlikely to cause damage of any type
0.08	87	Vibrations readily perceptible	Recommended upper level to which ruins and ancient monuments should be subjected
0.1	92	Level at which continuous vibrations may begin to annoy people, particularly those involved in vibration sensitive activities	Virtually no risk of architectural damage to normal buildings
0.2	94	Vibrations may begin to annoy people in buildings	Threshold at which there is a risk of architectural damage to normal dwellings
0.4–0.6	98–104	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Architectural damage and possibly minor structural damage

Source: Caltrans 2020b

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3.0 EXISTING ENVIRONMENTAL NOISE SETTING

3.1 Noise-Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as hospitals, historic sites, cemeteries, and certain recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The nearest existing noise-sensitive land use to the Project Site is a single-family residence located 523 feet from the southwestern corner of the Vega 5 Project component boundary.

3.2 Existing Ambient Noise Environment

The Project site is bound mostly by vacant undisturbed land, with the exception of agricultural lands and county roadways adjacent to the Vega 5 property. Noffsinger Road and Union Pacific Railway traverse the Vega 5 parcels, and the Coachella Canal crosses and runs adjacent to the Vega 2 properties. In order to quantify existing ambient noise levels in the Project area, ECORP Consulting, Inc. conducted four short-term noise measurements on January 12th, 2021. The noise measurement sites were representative of typical existing noise exposure within and adjacent to the Project Site during the daytime (see Attachment A for a visual depiction of the Noise Measurement Locations). The 15-minute measurements were taken between 11:35 a.m. and 12:54 p.m. Short-term (L_{eq}) measurements are considered representative of the noise levels throughout the day. As shown in Table 3-1, the existing noise levels (Baseline) in the Project-vicinity ranges from 45.5 to 48.1 dBA L_{eq}.

Table 3-1. Existing (Baseline) Noise Measurements

Location Number	Location	L_{eq} dBA	L_{min} dBA	L_{max} dBA	Time
1	W Schrimpf Road and Wiest Road	**45.5**	43.1	52.0	11:35 a.m. - 11:50 p.m.
2	Wiest Road and McDonald Road	**47.5**	37.2	61.9	11:57 a.m. - 11:12 p.m.
3	McDonald Road, ~700ft W of Wiest Road	**45.8**	31.6	70.7	12:16 p.m. - 12:31 p.m.
4	Wiest Rd ~1,000ft South of Wiest Road/Noffsinger Road Intersection	**48.1**	32.2	69.1	12:39 p.m. – 12:54 p.m.

Source: Measurements were taken by ECORP with a Larson Davis LxT SE precision sound level meter, which satisfies the American National Standards Institute for general environmental noise measurement instrumentation. See Attachment A for noise measurement outputs.

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The most common noise in the Project vicinity is produced by automotive vehicles (e.g., cars, trucks, buses, motorcycles) traversing county roads adjacent to the Project Site. Traffic moving along streets produces a sound level that remains relatively constant and is part of the minimum ambient noise level in the Project vicinity. Vehicular noise varies with the volume, speed and type of traffic. Slower traffic produces less noise than fast-moving traffic. Trucks typically generate more noise than cars. Infrequent or intermittent noise is also associated with vehicles, including sirens, vehicle alarms, slamming of doors, trains, garbage and construction vehicle activity and honking of horns. These noises add to urban noise and are regulated by a variety of agencies.

4.0 REGULATORY FRAMEWORK

4.1 Federal

4.1.1 Occupational Safety and Health Act of 1970

OSHA regulates onsite noise levels and protects workers from occupational noise exposure. To protect hearing, worker noise exposure is limited to 90 decibels with A-weighting (dBA) over an eight-hour work shift (29 Code of Regulations 1910.95). Employers are required to develop a hearing conservation program when employees are exposed to noise levels exceeding 85 dBA. These programs include provision of hearing protection devices and testing employees for hearing loss on a periodic basis.

4.2 State

4.2.1 State of California General Plan Guidelines

The State of California regulates vehicular and freeway noise affecting classrooms, sets standards for sound transmission and occupational noise control, and identifies noise insulation standards and airport noise/land-use compatibility criteria. The State of California General Plan Guidelines (State of California 2003), published by the Governor's Office of Planning and Research (OPR), also provides guidance for the acceptability of projects within specific CNEL/L_{dn} contours. The guidelines also present adjustment factors that may be used in order to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

4.2.2 State Office of Planning and Research Noise Element Guidelines

The State OPR *Noise Element Guidelines* include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The Noise Element Guidelines contain a Land Use Compatibility table that describes the compatibility of various land uses with a range of environmental noise levels in terms of the CNEL.

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4.3 Local

4.3.1 Imperial County General Plan Noise Element

The County of Imperial General Plan Noise Element establishes maximum allowable average-hourly noise limits for various land use designations (refer to Table 4-1). These noise standards are to be applied at the property line of the noise-generating land use. In instances where the adjoining land use designations differ from that of the noise-generating land use, the more restrictive noise standard shall apply. Where the ambient noise level is equal to or exceeds the property line noise standard, the increase of the existing or proposed noise shall not exceed 3 dBA L_{eq}, which is just-perceivable increase in noise. $L_{eq\ is}$ defined as the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure.

Table 4-1 County of Imperial Property Line Noise Standards

Land Use Zone	Time Period	Average-Hourly Noise Level (dBA L_{eq})
Residential	7 a.m. - 10 p.m. 10 p.m. - 7 a.m.	50 45
Multi-residential	7 a.m. - 10 p.m. 10 p.m. - 7 a.m.	55 50
Commercial	7 a.m. -10 p.m. 10 p.m. - 7 a.m.	60 55
Light Industrial/Industrial Park	Any time	70
General Industrial	Any time	75

Source: Imperial County 2015.

Notes: When the noise-generating property and the receiving property have different uses, the more restrictive standard shall apply. When the ambient noise level is equal to or exceeds the Property Line noise standard, the increase of the existing or proposed noise shall not exceed 3 dBA L_{eq}.

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Construction Noise Standards

Construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB L_{eq}, when averaged over an eight (8) hour period, and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB L_{eq} when averaged over a one (1) hour period.

Construction equipment operations are required to be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 5:00 p.m. Saturday. No commercial construction operations are permitted on Sunday or holidays. In cases of a person constructing or modifying a residence for himself/herself, and if the work is not being performed as a business, construction equipment operations may be performed on Sundays and holidays between the hours of 9:00 a.m. and 5:00 p.m. Such non-commercial construction activities may be further restricted where disturbing, excessive, or offensive noise causes discomfort or annoyance to reasonable persons of normal sensitivity residing in an area.

Significant Increase of Ambient Noise Levels

The increase of noise levels generally results in an adverse impact to the noise environment. The Noise/Land Use Compatibility Guidelines are not intended to allow the increase of ambient noise levels up to the maximum without consideration of feasible noise reduction measures. The following guidelines are established by the County of Imperial for the evaluation of significant noise impact.

- If the future noise level after a project is completed will be within the "normally acceptable" noise levels shown in the Noise/Land Use Compatibility Guidelines, but will result in an increase of 5 dB CNEL or greater, the project will have a potentially significant noise impact and mitigation measures must be considered.
- If the future noise level after a project is completed will be greater than the "normally acceptable" noise levels shown in the Noise/Land Use Compatibility Guidelines, a noise increase of 3 dB CNEL or greater shall be considered a potentially significant noise impact and mitigation measures must be considered.

Noise/Land Use Compatibility

The Imperial County General Plan Noise Element Noise/Land Use Compatibility Standards defines the acceptability of a land use in a specified noise environment. Table 4-2 provides the County of Imperial Noise/Land Use Compatibility Guidelines. When an acoustical analysis is performed, conformance of a proposed project with the Noise/Land Use Compatibility Guidelines is used to evaluate potential noise impacts and to provide criteria for environmental impact findings and conditions for project approval.

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Table 4-2. County of Imperial Noise/Land Use Compatibility Guidelines		
Land Use Category	**Community Noise Exposure L_{dn} or CNEL, dB**	**Acceptability**
Residential	< 60	Normally Acceptable
	60 - 70	Conditionally Acceptable
	70 - 75	Normally Unacceptable
	> 75	Clearly Unacceptable
Transient Lodging-Motels, Hotels	< 60	Normally Acceptable
	60 - 75	Conditionally Acceptable
	75 - 80	Normally Unacceptable
	> 80	Clearly Unacceptable
Schools, Libraries, Churches, Hospitals, Nursing Homes	< 60	Normally Acceptable
	60 - 70	Conditionally Acceptable
	70 - 80	Normally Unacceptable
	> 80	Clearly Unacceptable
Auditoriums, Concert Halls, Amphitheaters	< 70	Conditionally Acceptable
	> 70	Clearly Unacceptable
Sports Arenas, Outdoor Spectator Sports	< 70	Conditionally Acceptable
	70 - 75	Normally Unacceptable
	> 75	Clearly Unacceptable
Playgrounds, Neighborhood Parks	< 70	Normally Acceptable
	70 - 75	Normally Unacceptable
	> 75	Clearly Unacceptable
Golf Courses, Riding Stables, Water Recreation, Cemeteries	< 70	Normally Acceptable
	70 - 80	Normally Unacceptable
	> 80	Clearly Unacceptable
Office Buildings, Business Commercial and Professional	< 65	Normally Acceptable
	65 - 75	Conditionally Acceptable
	75 - 80	Normally Unacceptable
	> 80	Clearly Unacceptable
Industrial, Manufacturing Utilities, Agriculture	< 70	Normally Acceptable
	70 - 75	Conditionally Acceptable
	75 - 80	Normally Unacceptable
	> 80	Clearly Unacceptable

Source: Imperial County 2015.

Notes: Interpretation (For Land Use Planning Purposes):

Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design

Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development clearly should not be undertaken.

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5.0 IMPACT ASSESSMENT

5.1 Thresholds of Significance

The impact analysis provided below is based on the following California Environmental Quality Act Guidelines Appendix G thresholds of significance. The project would result in a significant noise-related impact if it would produce:

1) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

2) Generation of excessive groundborne vibration or groundborne noise levels.

3) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

For purposes of this analysis, Project construction noise is compared to the County's construction noise standard of 75 dBA, when averaged over an eight (8) hour period and measured at the nearest sensitive receptor. Noise generated onsite is compared against the County's property line standards identified in Table 4-1.

5.2 Methodology

This analysis of the existing and future noise environments is based on empirical observations. Predicted construction noise levels were calculated utilizing the FHWA's Roadway Construction Model (see Attachment B). Groundborne vibration levels associated with construction-related activities for the Project have been evaluated utilizing typical groundborne vibration levels associated with construction equipment. Potential groundborne vibration impacts related to structural damage and human annoyance were evaluated, taking into account the distance from construction activities to nearby structures and typically applied criteria for structural damage and human annoyance.

In order to estimate the worst-case operational noise levels that may occur at the nearest noise-sensitive receptor, onsite operational noise levels have been calculated with the SoundPLAN 3D noise model (which predicts noise propagation from a noise source based on the location, noise level, and frequency spectra of the noise sources as well as the geometry and reflective properties of the local terrain, buildings, and barriers), coupled with reference noise measurements that were taken by ECORP Consulting, Inc. (ECORP) at an existing solar energy generation facility (see Attachment C).

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5.3 Impact Analysis

5.3.1 Project Construction Noise

Would the Project Result in Short-Term Construction-Generated Noise in Excess of Standards?

Onsite Construction Noise

Construction noise associated with the proposed Project would be temporary and would vary depending on the nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing, grading, excavation, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). During construction, exterior noise levels could negatively affect sensitive land uses in the vicinity of the construction site. The nearest existing noise-sensitive land use to the Project Site is a single-family residence located 523 feet from the southwestern corner of the Vega 5 Project component boundary. However, Vega 2 and 3 are located on a different set of parcels than Vega 5. Therefore, the closest residence to Vega 2 and 3 is approximately 3,154 feet west of the Vega 2 boundary.

As previously described, the County's General Plan Noise Element states construction equipment operation shall be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 5:00 p.m. on Saturdays. No commercial construction operations are permitted on Sundays or holidays. Construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB L_{eq}, when averaged over an eight (8) hour period, and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB L_{eq} when averaged over a one (1) hour period. The anticipated short-term construction noise levels generated for the necessary construction equipment for Vega 2 and 3 are presented in Table 5-1. The anticipated short-term construction noise levels generated for the necessary construction equipment for Vega 5 are presented in Table 5-2.

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Table 5-1. Vega 2 and 3 Construction Average (dBA) Noise Levels at Nearest Receptors			
Combined Equipment	**Estimated Exterior Construction Noise Level at Existing Residences (dBA L_{eq})**	**Construction Noise Standards (dBA L_{eq})**	**Exceeds Standards?**
Demolition and Grubbing	50.4	*75*	**No**
Grading	52.2	*75*	**No**
Construction and Paving	54.6	*75*	**No**

Source: Construction noise levels were calculated by ECORP Consulting using the FHWA Roadway Noise Construction Model (FHWA 2006). Refer to Attachment B for Model Data Outputs.

Notes: The nearest residence is located approximately 3,154 feet from the Project's Vega 2 and 3 western boundaries.

L_{eq} = The equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

As shown in Table 5-1, the individual or cumulative pieces of construction equipment during the construction of Vega 2 and 3 would not exceed the 75 dBA County construction noise standard at the nearby noise-sensitive receptors.

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Table 5-2. Vega 5 Construction Average (dBA) Noise Levels at Nearest Receptors			
Combined Equipment	**Estimated Exterior Construction Noise Level at Existing Residences (dBA L_{eq})**	**Construction Noise Standards (dBA L_{eq})**	**Exceeds Standards?**
Demolition and Grubbing	66.0	*75*	**No**
Grading	67.8	*75*	**No**
Construction and Paving	70.2	*75*	**No**

Source: Construction noise levels were calculated by ECORP Consulting using the FHWA Roadway Noise Construction Model (FHWA 2006). Refer to Attachment B for Model Data Outputs.

Notes: The nearest residence is located approximately 523 feet from the Project's Vega 5 southwestern boundary.

L_{eq} = The equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

As shown in Table 5-2, no individual or cumulative pieces of construction equipment during the construction of Vega 5 would exceed the 75 dBA County construction noise standard at the nearby noise-sensitive receptors.

Offsite Construction Worker Traffic Noise

Project construction would result in additional traffic on adjacent roadways over the time period that construction occurs. As previously stated, the number of on–site construction workers for the solar project facilities are not expected to exceed 150 workers at any one time. The number of on-site construction workers for the battery storage facility and the substation is not expected to exceed 100 workers at any one time. Onsite parking would be provided for all construction workers. According to KOA Corporation (2021), a maximum of 510 daily automobile trips would be generated during Project construction, accounting for construction worker commutes and equipment deliveries. The majority of these trips are expected to be accommodated on State Route (SR) 78, SR 111, and SR 115. Construction workers would access the Vega 5 Project Site from SR 111 onto east on McDonald Road. The Vega 2 and 3 Project Site require an additional 1.65 miles of travel on Wiest Road and Flowing Wells Road.

According to the California Department of Transportation (Caltrans) *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (2013), doubling of traffic on a roadway is required to result in an increase of 3 dB (outside of the laboratory, a 3-dBA change is considered a just-perceivable difference). According to the Caltrans Traffic Census Program (2018), the roadway segment of SR 111 closest to the Project Site currently accommodates 3,500 average daily traffic trips (ADT). The County General Plan Circulation and Scenic Highways Element (2008) designates the roadway segments of McDonald Road and Weist Road as Minor (Local) Collector, which on average can accommodate 1,900 to 16,200 ADT. Flowing Wells Road

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does not have a designation within the General Plan, but there are no sensitive receptors along Flowing Wells Road that would experience any sound changes along this roadway. Additionally, construction is temporary and once Project construction is completed, all construction-related traffic noise would cease.

Thus, the estimated 510 daily trips during Project construction would typically not result in a doubling of traffic on these facilities, and its contribution to existing traffic noise would not be perceptible.

5.3.2 Project Operational Noise

Would the Project Result in a Substantial Permanent Increase in Ambient Noise Levels in Excess of County or City Standards During Operations?

As previously described, noise-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise-sensitive and may warrant unique measures for protection from intruding noise. The nearest existing noise-sensitive land use to the Project Site is a single-family residence located 523 feet from the southwestern corner of the Vega 5 Project component boundary.

Operational Offsite Traffic Noise

Project operations would result in minimal additional traffic on adjacent roadways. The only visitors to the site would be that of repair or maintenance workers, whose presence at the site would be only be necessary infrequently and inconsistently. According to the California Department of Transportation (Caltrans) *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (2013), doubling of traffic on a roadway is required to result in an increase of 3 dB (outside of the laboratory, a 3-dBA change is considered a just-perceivable difference). The proposed Project would not result in a doubling of traffic, and therefore its contribution to existing traffic noise would not be perceptible.

Project Land Use Compatibility

The County land use compatibility standards presented in the General Plan Noise Element provides the County with a tool to gauge the compatibility of new land uses relative to existing noise levels. This table, presented as Table 4-2, identifies acceptable noise levels for various land uses. In the case that the noise levels identified at the proposed Project Site fall within the "acceptable" levels presented in the General Plan, the Project is considered compatible with the existing noise environment.

As previously stated, the Project Site is proposing to develop an up to nominal 240, 60 and 50 MW alternating current PV solar energy generation and storage facilities. The proposed Project site is zoned A-3-RE (Heavy Agriculture with a Renewable Energy Overlay), A-2-RE (General Agriculture with a Renewable Energy Overlay) and S-2-RE (Open Space Preservation Zone with a Renewable Energy Overlay). As shown in Table 4-2, a normally acceptable noise standard for agricultural land uses is 69 dBA CNEL or under. In order to quantify existing ambient noise levels in the Project area, ECORP conducted four short-term noise measurements on January 12th, 2021. The noise measurement sites were representative of typical existing noise exposure in the Project vicinity and are considered representative of the noise levels throughout the day. As shown in Table 3-1, the ambient noise level recorded in the vicinity of the Project

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site ranges from 45.5 dBA to 66.1 dBA. However, it is noted that these short-term measurements were each conducted over 1,000 feet from the Vega 5 parcel center and adjacent to Wiest Rd and McDonald Rd, both substantial noise sources. Thus, the ambient noise levels experienced on the actual Project Site would most likely be less. As these noise levels fall below the County General Plan Noise Element (2015) standards for agricultural land uses as found in Table 4-2 above, the Project Site is considered an appropriate noise environment to locate the proposed land use.

Project Operations-Onsite Noise Sources

As previously stated, noise sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise-sensitive and may warrant unique measures for protection from intruding noise. The nearest existing noise-sensitive land use to the Project Site is a single-family residence located 523 feet from the southwestern corner of the Vega 5 Project component boundary.

The main stationary operational noise associated with the Project would be from the proposed transformers, inverters, substation, and transmission lines. Onsite Project operations have been calculated using the SoundPLAN 3D noise model. As previously stated, a noise level of 47.1 dBA was employed as the reference noise level in the SoundPLAN 3D noise model to determine noise-level propagation associated with the Project operations. The results of this model can be found in Appendix C. Table 5-2 shows the predicted Project noise levels at the nearest noise-sensitive land use in the Project vicinity, as predicted by SoundPLAN.

Table 5-3. Modeled Operational Noise Levels at Nearest Sensitive Receptor

Location	Modeled Operational Noise Attributed to Project (L_{eq} dBA)	County Daytime Standard (L_{eq}, dB)	County Nighttime Standard (L_{eq} dB)	Exceed Standard?
Property line of the nearest residence	**36.7**	50.0	45.0	**No**

Source: Stationary source noise levels were modeled by ECORP using SoundPLAN 3D noise model. Refer to Appendix C for noise modeling assumptions and results.

Note: Reference noise measurement used to calculate Project onsite noise propagation identified at 47.1 dBA, per 30-minute measurements taken at a Vega SES Complex solar generation facility in Imperial County.

As shown in Table 5-3, Project operational noise would not exceed County daytime or nighttime standards.

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5.3.3 Project Construction Groundborne Vibration

Would the Project Expose Structures to Substantial Groundborne Vibration During Construction?

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the Project would be primarily associated with short-term construction-related activities. Construction on the Project Site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. It is noted that pile drivers would not be necessary during Project construction. Vibration decreases rapidly with distance and it is acknowledged that construction activities would occur throughout the Project Site and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with typical construction equipment at 25 feet distance are summarized in Table 5-4.

Table 5-4. Representative Vibration Source Levels for Construction Equipment

Equipment Type	Peak Particle Velocity at 25 Feet (inches per second)
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks	0.076
Hoe Ram	0.089
Jackhammer	0.035
Small Bulldozer/Tractor	0.003
Vibratory Roller	0.210

Source: FTA 2018; Caltrans 2020b

The County of Imperial does not regulate vibrations associated with construction. However, a discussion of construction vibration is included for full disclosure purposes. For comparison purposes, the Caltrans (2020b) recommended standard of 0.3 inch per second PPV with respect to the prevention of structural damage for older residential buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings. Consistent with FTA recommendations for calculating construction vibration, construction vibration was measured from the center of the Project Site (FTA 2018). The nearest structure of concern to the construction site, with regard to groundborne vibrations, is the Coachella

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Canal located within the proposed Project Site boundary and approximately 30 feet across the Coachella Canal Access Road.

Based on the representative vibration levels presented for various construction equipment types in Table 5-3 and the construction vibration assessment methodology published by the FTA (2018), it is possible to estimate the potential project construction vibration levels. The FTA provides the following equation:

$$[PPVequip = PPVref \times (25/D)^{1.5}]$$

Table 5-5 presents the expected Project related vibration levels at a distance of 30 feet.

Table 5-5. Construction Vibration Levels at 30 Feet

Receiver PPV Levels (in/sec)[1]					Peak Vibration	Threshold	Exceed Threshold
Large Bulldozer, Caisson Drilling & Hoe Ram	Loaded Trucks	Jackhammer	Small Bulldozer	Vibratory Roller			
0.068	0.058	0.027	0.002	0.160	**0.160**	*0.3*	**No**

Notes: [1]Based on the Vibration Source Levels of Construction Equipment included on Table 5-4 (FTA 2018). Distance to the nearest structure of concern is approximately 30 feet measured from Project Site boundary.

As shown in Table 5-5, vibration as a result of construction activities would not exceed 0.3 PPV at the nearest structure. Thus, project construction would not exceed the recommended threshold.

5.3.4 Project Operational Groundborne Vibration

Would the Project Expose Structures to Substantial Groundborne Vibration During Operations?

Project operations would not include the use of any large-scale stationary equipment that would result in excessive vibration levels. Therefore, the project would not result groundborne vibration impacts during operations.

5.3.5 Excess Airport Noise

Would the Project Expose People Residing or Working in the Project area to Excessive Airport Noise?

The Project Site center is located approximately 8.39 miles northeast of the Calipatria Municipal Airport . The Imperial County Airport Land Use Commission has established a set of land use compatibility criteria for lands surrounding the airports in Imperial County in the Imperial County Airport Land Use Compatibility Plan (1996). Figure 3-C of the Imperial County Airport Land Use Compatibility Maps shows

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that the proposed Project Site lays outside of the noise contours of the Calipatria Municipal Airport. Thus, the Project would not expose residents to excessive airport noise.

5.3.6 Cumulative Noise

Would the Project Contribute to Cumulatively Considerable Noise During Construction?

Construction activities associated with the proposed Project and other construction projects in the area may overlap, resulting in construction noise in the area. However, construction noise impacts primarily affect the areas adjacent to the construction site. Construction noise for the proposed Project was determined to be less than significant following compliance with County noise standards. Cumulative development in the vicinity of the Project Site could result in elevated construction noise levels at sensitive receptors in the Project area. However, each project would be required to comply with the applicable noise limitations on construction. Therefore, the Project would not contribute to cumulative impacts during construction.

Would the Project Contribute to Cumulatively Considerable Noise from Offsite Traffic?

As described previously, Project operations would result in extremely minimal additional traffic on adjacent roadways. The only visitors to the site would be that of repair or maintenance work that would be done very infrequently. Thus, any cumulative noise impacts from Project-related traffic would be minimal.

Would the Project Contribute to Cumulatively Considerable Noise from Stationary Sources?

Cumulative noise impacts would primarily be associated with the transformers, inverters, substation, and transmission lines from the solar facility. Long-term noise sources associated with development at the Project, combined with other cumulative projects, could cause local noise-level increases. Noise levels associated with the proposed Project and related cumulative projects together could result in higher noise levels than considered separately. However, noise increase as a result of the Project would not be perceivable and thus would not exceed County standards.

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6.0 REFERENCES

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LIST OF ATTACHMENTS

Attachment A - Baseline (Existing) Noise Measurements – Project Vicinity

Attachment B - Federal Highway Administration Highway Roadway Construction Noise Outputs – Project Construction Noise

Attachment C - SoundPLAN 3-D Noise Model Outputs – Project Onsite Noise

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ATTACHMENT A

Baseline (Existing) Noise Measurements – Project Site and Vicinity

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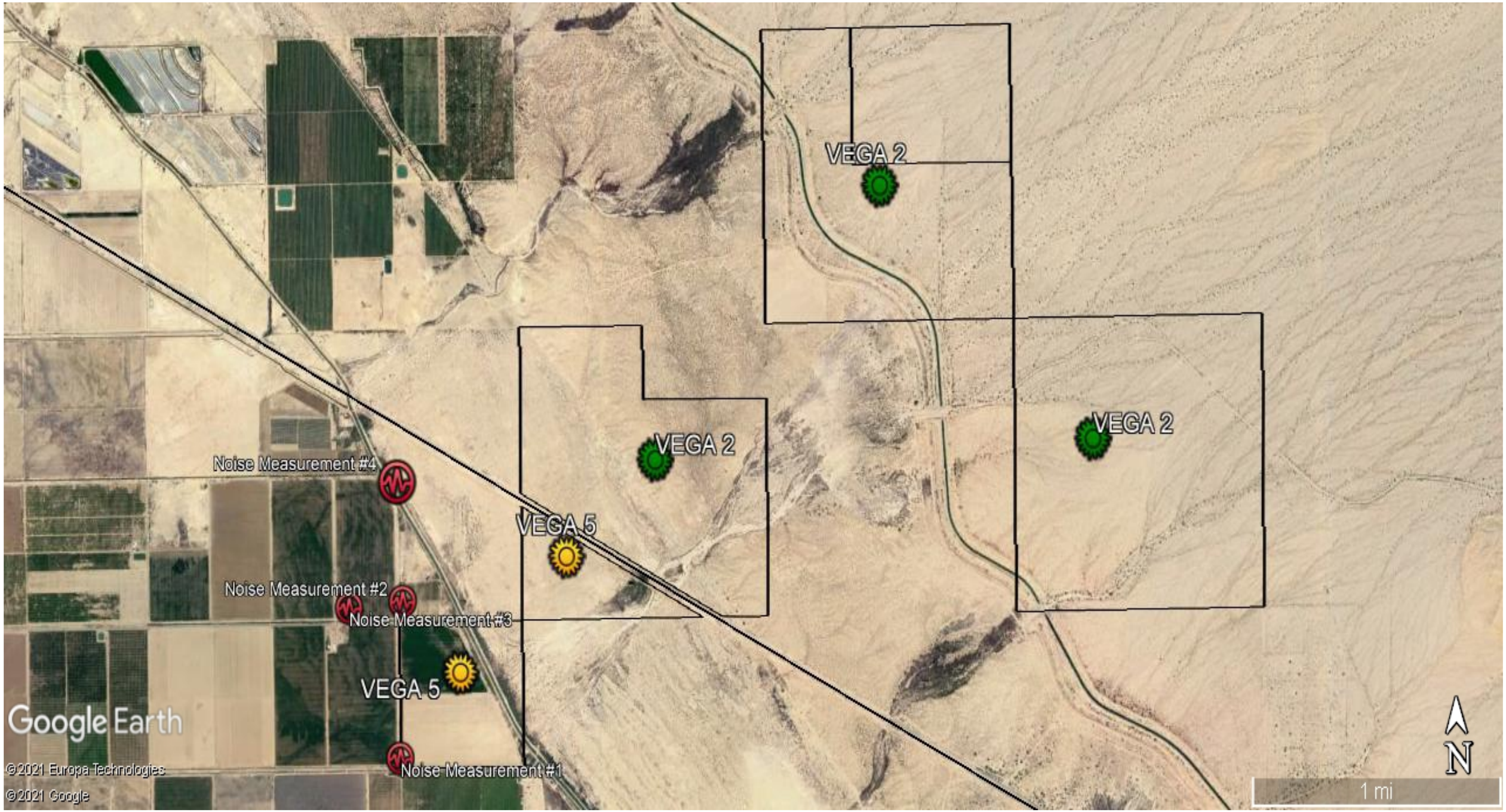

Map Date: *12/14/2020*
Photo (or Base) Source: *Google Earth Pro*

VEGA Complex Baseline Noise Measurement Locations

Vega SES Complex

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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Site Number: V2&3 - 1			
Recorded By: Jessie Beckman			
Job Number: 2020 – 144			
Date: 1/12/21			
Time: 11:35 am – 11:50 am			
Location: W Schrimpf Rd and Weist Rd			
Source of Peak Noise: Distant traffic, vehicles on access rd south of Schrimpf rd			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
45.5	43.1	52.0	94.9

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0005120**	**9/14/2020**	
	Microphone	**Larson Davis**	**377B02**	**174464**	**9/14/2020**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**042852**	**9/14/2020**	
	Calibrator	**Larson Davis**	**CAL200**	**14105**	**9/10/2020**	

Weather Data			
Est.	**Duration: 15 minutes**		**Sky: 10% CC**
	Note: dBA Offset = 0.01 Calibration Δ = - 0.11		**Sensor Height (ft): 3.5**
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	0-1	66	30.31Hg

Photo of Measurement Location

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Measurement Report

Report Summary

Meter's File Name	LxT_Data.352	Computer's File Name	SLM_0005120_LxT_Data_352.00.ldbin
Meter	LxT SE		
Firmware	2.404		
User	Lindsay Liegler	Location	
Description			
Note			
Start Time	2021-01-12 11:34:24	Duration	0:15:00.0
End Time	2021-01-12 11:49:24	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	45.5 dB		
LAE	75.1 dB	SEA	--- dB
EA	3.6 µPa²h		
LZ_{peak}	94.9 dB	2021-01-12 11:38:03	
LAS_{max}	52.0 dB	2021-01-12 11:46:13	
LAS_{min}	43.1 dB	2021-01-12 11:42:44	
LA_{eq}	45.5 dB		
LC_{eq}	59.0 dB	LC_{eq} - LA_{eq}	13.5 dB
LAI_{eq}	46.8 dB	LAI_{eq} - LA_{eq}	1.2 dB

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	45.5 dB	45.5 dB	0.0 dB

	LDEN	LDay	LEve	LNight
	45.5 dB	45.5 dB	--- dB	--- dB

Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	45.5 dB		59.0 dB		--- dB	
$Ls_{(max)}$	52.0 dB	2021-01-12 11:46:13	--- dB		--- dB	
$LS_{(min)}$	43.1 dB	2021-01-12 11:42:44	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		94.9 dB	2021-01-12 11:38:03

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	46.8 dB
LAS 10.0	46.4 dB
LAS 33.3	45.7 dB
LAS 50.0	45.4 dB
LAS 66.6	45.0 dB
LAS 90.0	44.4 dB

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Site Number: V2&3 - 2			
Recorded By: Jessie Beckman			
Job Number: 2020 – 144			
Date: 1/12/21			
Time: 11:57 am – 11:12 am			
Location: Weist Rd and McDonald Rd			
Source of Peak Noise: Channel parallel to McDonald Rd, vehicles on McDonald Rd			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
47.5	37.2	61.9	94.8

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0005120**	**9/14/2020**	
	Microphone	**Larson Davis**	**377B02**	**174464**	**9/14/2020**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**042852**	**9/14/2020**	
	Calibrator	**Larson Davis**	**CAL200**	**14105**	**9/10/2020**	

Weather Data			
Est.	**Duration: 15 minutes**		**Sky: 10% CC**
	Note: dBA Offset = 0.01 Calibration Δ = - 0.11		**Sensor Height (ft): 3.5**
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	0-1	66	30.29Hg

Photo of Measurement Location

PC ORIGINAL PKG

Measurement Report

Report Summary

Meter's File Name	LxT_Data.353	Computer's File Name	SLM_0005120_LxT_Data_353.00.ldbin
Meter	LxT SE		
Firmware	2.404		
User	Lindsay Liegler	Location	
Description			
Note			

Start Time	2021-01-12 11:57:57	Duration	0:15:00.0		
End Time	2021-01-12 12:12:57	Run Time	0:15:00.0	Pause Time	0:00:00.0

Results

Overall Metrics

LA_{eq}	47.5 dB		
LAE	77.0 dB	SEA	--- dB
EA	5.6 µPa²h		
LZ_{peak}	94.8 dB	2021-01-12 12:04:32	
LAS_{max}	61.9 dB	2021-01-12 12:08:04	
LAS_{min}	37.2 dB	2021-01-12 12:04:32	
LA_{eq}	47.5 dB		
LC_{eq}	63.8 dB	LC_{eq} - LA_{eq}	16.4 dB
LAI_{eq}	49.3 dB	LAI_{eq} - LA_{eq}	1.8 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
47.5 dB	47.5 dB	0.0 dB

LDEN	LDay	LEve	LNight
47.5 dB	47.5 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	47.5 dB		63.8 dB		--- dB	
$Ls_{(max)}$	61.9 dB	2021-01-12 12:08:04	--- dB		--- dB	
$LS_{(min)}$	37.2 dB	2021-01-12 12:04:32	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		94.8 dB	2021-01-12 12:04:32

Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	1	0:00:02.0

Statistics

LAS 5.0	53.3 dB
LAS 10.0	49.4 dB
LAS 33.3	43.8 dB
LAS 50.0	42.4 dB
LAS 66.6	40.5 dB
LAS 90.0	38.4 dB

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Site Number: V2&3 - 3			
Recorded By: Jessie Beckman			
Job Number: 2020 – 144			
Date: 1/12/21			
Time: 12:16 pm – 12:31 pm			
Location: McDonald Rd, ~700ft W of Wiest Rd			
Source of Peak Noise: Traffic on McDonald Rd			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
45.8	31.6	70.7	92.4

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0005120**	**9/14/2020**	
	Microphone	**Larson Davis**	**377B02**	**174464**	**9/14/2020**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**042852**	**9/14/2020**	
	Calibrator	**Larson Davis**	**CAL200**	**14105**	**9/10/2020**	

Weather Data			
Est.	**Duration: 15 minutes**		**Sky: 10% CC**
	Note: dBA Offset = 0.01 Calibration Δ = - 0.11		**Sensor Height (ft): 3.5**
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	0-1	66	30.29Hg

Photo of Measurement Location

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Measurement Report

Report Summary

Meter's File Name	LxT_Data.354	Computer's File Name	SLM_0005120_LxT_Data_354.00.ldbin
Meter	LxT SE		
Firmware	2.404		
User	Lindsay Liegler	Location	
Description			
Note			
Start Time	2021-01-12 12:16:44	Duration	0:15:00.0
End Time	2021-01-12 12:31:44	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	45.8 dB		
LAE	75.3 dB	SEA	--- dB
EA	3.8 µPa²h		
LZ_{peak}	92.4 dB	2021-01-12 12:22:33	
LAS_{max}	70.7 dB	2021-01-12 12:23:40	
LAS_{min}	31.6 dB	2021-01-12 12:31:33	
LA_{eq}	45.8 dB		
LC_{eq}	60.2 dB	LC_{eq} - LA_{eq}	14.5 dB
LAI_{eq}	48.3 dB	LAI_{eq} - LA_{eq}	2.6 dB

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	45.8 dB	45.8 dB	0.0 dB

	LDEN	LDay	LEve	LNight
	45.8 dB	45.8 dB	--- dB	--- dB

Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	45.8 dB		60.2 dB		--- dB	
$Ls_{(max)}$	70.7 dB	2021-01-12 12:23:40	--- dB		--- dB	
$LS_{(min)}$	31.6 dB	2021-01-12 12:31:33	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		92.4 dB	2021-01-12 12:22:33

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	42.1 dB
LAS 10.0	40.7 dB
LAS 33.3	37.2 dB
LAS 50.0	36.0 dB
LAS 66.6	34.7 dB
LAS 90.0	33.4 dB

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Site Number: V2&3 - 4			
Recorded By: Jessie Beckman			
Job Number: 2020 – 199			
Date: 1/12/21			
Time: 12:39 pm – 12:54 pm			
Location: Wiest Rd ~1000ft south of Wiest/Noffsinger Intersection			
Source of Peak Noise: Traffic on Wiest Rd			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
48.1	32.2	69.1	93.7

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0005120**	**9/14/2020**	
	Microphone	**Larson Davis**	**377B02**	**174464**	**9/14/2020**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**042852**	**9/14/2020**	
	Calibrator	**Larson Davis**	**CAL200**	**14105**	**9/10/2020**	

Weather Data			
Est.	**Duration: 15 minutes**		**Sky: 10% CC**
	Note: dBA Offset = 0.01 Calibration Δ = - 0.11		**Sensor Height (ft): 3.5**
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	0-1	66	30.28Hg

Photo of Measurement Location

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Measurement Report

Report Summary

Meter's File Name	LxT_Data.355	Computer's File Name	SLM_0005120_LxT_Data_355.00.ldbin
Meter	LxT SE		
Firmware	2.404		
User	Lindsay Liegler	Location	
Description			
Note			
Start Time	2021-01-12 12:39:35	Duration	0:15:00.0
End Time	2021-01-12 12:54:35	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	48.1 dB		
LAE	77.6 dB	SEA	--- dB
EA	6.5 µPa²h		
LZ_{peak}	93.7 dB	2021-01-12 12:43:12	
LAS_{max}	69.1 dB	2021-01-12 12:43:12	
LAS_{min}	32.2 dB	2021-01-12 12:45:36	
LA_{eq}	48.1 dB		
LC_{eq}	62.1 dB	LC_{eq} - LA_{eq}	14.0 dB
LAI_{eq}	52.3 dB	LAI_{eq} - LA_{eq}	4.2 dB

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	48.1 dB	48.1 dB	0.0 dB

	LDEN	LDay	LEve	LNight
	48.1 dB	48.1 dB	--- dB	--- dB

Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	48.1 dB		62.1 dB		--- dB	
$Ls_{(max)}$	69.1 dB	2021-01-12 12:43:12	--- dB		--- dB	
$LS_{(min)}$	32.2 dB	2021-01-12 12:45:36	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		93.7 dB	2021-01-12 12:43:12

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	1	0:00:02.0

Statistics

LAS 5.0	49.8 dB
LAS 10.0	44.3 dB
LAS 33.3	38.5 dB
LAS 50.0	35.8 dB
LAS 66.6	34.4 dB
LAS 90.0	33.5 dB

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Federal Highway Administration Highway Roadway Construction Noise Outputs – Project Construction Noise

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Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/1/2022
Case Description: Vega 2/3 Demolition and Grubbing

Description	**Land Use**
Demolition and Grubbing	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**
Concrete Saw	No	20		89.6	3154
Excavator	No	40		80.7	3154
Excavator	No	40		80.7	3154
Excavator	No	40		80.7	3154
Dozer	No	40		81.7	3154
Dozer	No	40		81.7	3154

Calculated (dBA)

Equipment		***Lmax**	**Leq**
Concrete Saw		53.6	46.6
Excavator		44.7	40.7
Excavator		44.7	40.7
Excavator		44.7	40.7
Dozer		45.7	41.7
Dozer		45.7	41.7
	Total	**53.6**	**50.4**

*Calculated Lmax is the Loudest value.

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Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/1/2022
Case Description: Vega 2/3 Grading

Description	**Land Use**
Grading	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**
Grader	No	40	85		3154
Excavator	No	40		80.7	3154
Excavator	No	40		80.7	3154
Dozer	No	40		81.7	3154
Scraper	No	40		83.6	3154
Scraper	No	40		83.6	3154
Tractor	No	40	84		3154
Tractor	No	40	84		3154

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Grader	49	45
Excavator	44.7	40.7
Excavator	44.7	40.7
Dozer	45.7	41.7
Scraper	47.6	43.6
Scraper	47.6	43.6
Tractor	48	44
Tractor	48	44
Total	**49**	**52.2**

*Calculated Lmax is the Loudest value.

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Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/1/2022
Case Description: Vega 2/3 Construction and Paving

Description	**Land Use**
Construction and Paving	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**
Paver	No	50		77.2	3154
Paver	No	50		77.2	3154
Pavement Scarafier	No	20		89.5	3154
Pavement Scarafier	No	20		89.5	3154
Roller	No	20		80	3154
Roller	No	20		80	3154
Crane	No	16		80.6	3154
Gradall	No	40		83.4	3154
Gradall	No	40		83.4	3154
Gradall	No	40		83.4	3154
Generator	No	50		80.6	3154
Tractor	No	40	84		3154
Tractor	No	40	84		3154
Tractor	No	40	84		3154
Slurry Trenching Machine	No	50		80.4	3154
Welder / Torch	No	40		74	3154

	Calculated (dBA)	
Equipment	***Lmax**	**Leq**
Paver	41.2	38.2
Paver	41.2	38.2
Pavement Scarafier	53.5	46.5
Pavement Scarafier	53.5	46.5
Roller	44	37
Roller	44	37
Crane	44.6	36.6
Gradall	47.4	43.4
Gradall	47.4	43.4
Gradall	47.4	43.4
Generator	44.6	41.6
Tractor	48	44
Tractor	48	44

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Tractor		48	44
Slurry Trenching Machine		44.4	41.4
Welder / Torch		38	34
	Total	**53.5**	**54.6**

*Calculated Lmax is the Loudest value.

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Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/1/2022
Case Description: Vega 2 & 3 Demolition and Grubbing

Description	**Land Use**
Demolition and Grubbing	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**
Concrete Saw	No	20		89.6	523
Excavator	No	40		80.7	523
Excavator	No	40		80.7	523
Excavator	No	40		80.7	523
Dozer	No	40		81.7	523
Dozer	No	40		81.7	523

Calculated (dBA)

Equipment		***Lmax**	**Leq**
Concrete Saw		69.2	62.2
Excavator		60.3	56.3
Excavator		60.3	56.3
Excavator		60.3	56.3
Dozer		61.3	57.3
Dozer		61.3	57.3
	Total	**69.2**	**66**

*Calculated Lmax is the Loudest value.

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Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/1/2022
Case Description: Vega 2 & 3 Grading

Description	**Land Use**
Grading	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**
Grader	No	40	85		523
Excavator	No	40		80.7	523
Excavator	No	40		80.7	523
Scraper	No	40		83.6	523
Scraper	No	40		83.6	523
Dozer	No	40		81.7	523
Tractor	No	40	84		523
Tractor	No	40	84		523

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Grader	64.6	60.6
Excavator	60.3	56.3
Excavator	60.3	56.3
Scraper	63.2	59.2
Scraper	63.2	59.2
Dozer	61.3	57.3
Tractor	63.6	59.6
Tractor	63.6	59.6
Total	**64.6**	**67.8**

*Calculated Lmax is the Loudest value.

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Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/1/2022
Case Description: Vega 2/3 Construction and Paving

Description	**Land Use**
Construction and Paving	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**
Paver	No	50		77.2	523
Paver	No	50		77.2	523
Pavement Scarafier	No	20		89.5	523
Pavement Scarafier	No	20		89.5	523
Roller	No	20		80	523
Roller	No	20		80	523
Crane	No	16		80.6	523
Gradall	No	40		83.4	523
Gradall	No	40		83.4	523
Gradall	No	40		83.4	523
Generator	No	50		80.6	523
Tractor	No	40	84		523
Tractor	No	40	84		523
Tractor	No	40	84		523
Slurry Trenching Machine	No	50		80.4	523
Welder / Torch	No	40		74	523

	Calculated (dBA)	
Equipment	***Lmax**	**Leq**
Paver	56.8	53.8
Paver	56.8	53.8
Pavement Scarafier	69.1	62.1
Pavement Scarafier	69.1	62.1
Roller	59.6	52.6
Roller	59.6	52.6
Crane	60.2	52.2
Gradall	63	59
Gradall	63	59
Gradall	63	59
Generator	60.2	57.2
Tractor	63.6	59.6

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Tractor		63.6	59.6
Tractor		63.6	59.6
Slurry Trenching Machine		60	57
Welder / Torch		53.6	49.6
	Total	**69.1**	**70.2**

*Calculated Lmax is the Loudest value.

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SoundPLAN 3-D Noise Model Outputs – Project Onsite Noise

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SoundPLAN
Output Source Information

Number	Reciever Name	Floor	Level at Receiver
1	Vega SES Complex-5C Receptor #1	Ground Floor	37 dBA
2	Vega SES Complex-5C Receptor #2	Ground Floor	36.7 dBA
3	Vega SES Complex-5C Receptor #3	Ground Floor	37.4 dBA

Number	Noise Source Information	Citation	Level at Source
1	Noise Activity at Solar Facility	ECORP Consulting	47.1 dBA

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Vega SES 2/3 Solar Energy Storage Project

TRAFFIC IMPACT STUDY
IMPERIAL COUNTY, CALIFORNIA

Prepared By:

February 2021/November 2022

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1.0 Introduction

This traffic impact analysis (TIA) has been prepared to identify the potential traffic impacts associated with developing the Vega SES 2 and Vega SES 3 Solar Energy Storage (Projects) in Imperial County. The study was completed following the guidelines described in the County of Imperial Department of Public Works *Traffic Study and Report Policy* dated March 12, 2007, revised June 29, 2007 and approved by the Board of Supervisors of the County of Imperial on August 7, 2007 ("Traffic Study and Report Policy").

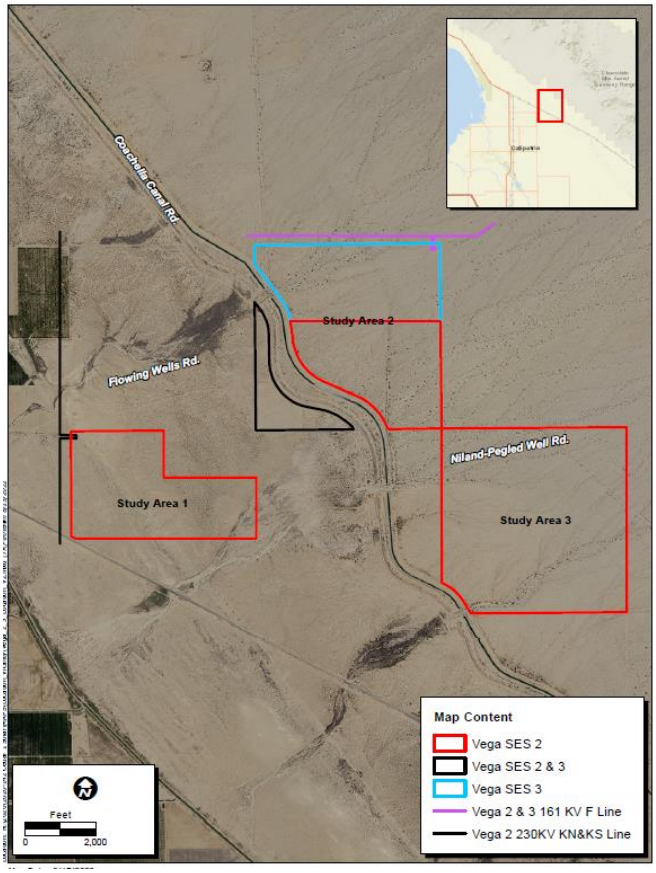
KOA has coordinated with the County's Engineering Department on the scope of the traffic analysis, including the study area and future year analysis assumptions. As necessary, if required, projects will be identified to offset or reduce significant impacts. Based on discussions with City staff, current and future traffic conditions at select intersections in close proximity to the proposed project have been evaluated for the purposes of this TIA.

This report describes the existing roadway network in the vicinity of the project site. It includes a review of the existing and proposed traffic activities for weekday peak AM and PM periods and daily traffic conditions.

Project Location

The project location is shown in Figure 1.1.

Figure 1.1 Study Area



Source: ECORP

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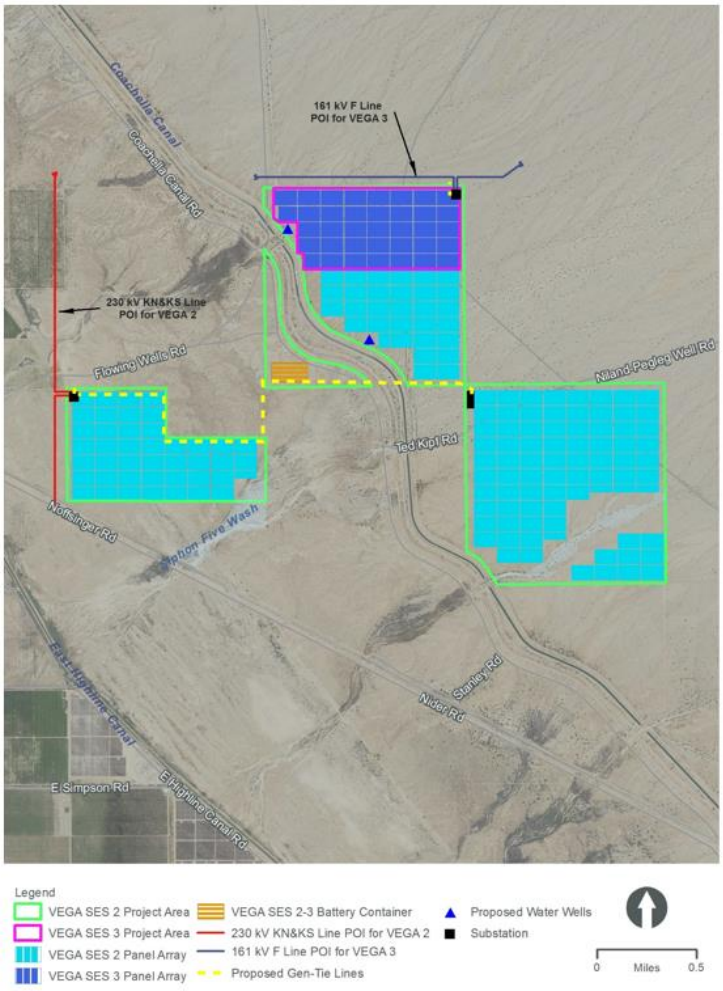
Project Description

Vega SES 2, LLC and Vega SES 3, LLC. are proposing to develop the **Vega SES 2 site.** This is a two-hundred and forty (240)–megawatt alternating current (MWAC) solar photovoltaic (PV) energy generation project with an integrated 480 MW Battery Energy Storage System (BESS), on approximately 1,323 acres of land in Imperial County, California. The project site plan is shown in Figure 1.2.

The **Vega SES 3** project will be located within the Vega 2 site. The Vega SES 3 project will be a sixty (60)–megawatt alternating current (MWAC) solar photovoltaic (PV) energy generation project with an integrated 120 MW Battery Energy Storage System (BESS), on approximately 230 acres of land in Imperial County, California. The construction of both projects would occur simultaneously and so are being studied together. The projects are estimated to take 12-18 months and would begin in 2023. The project opening is anticipated to be in late 2023 or early 2024.

Figure 1.2 Site Plan



Source: First Administrative Draft EIR | VEGA SES 2, 3, & 5 Solar Energy Project

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Construction Activities

The construction of the site to include site preparation and construction is estimated to take 12-18 months and would begin in 2023. The number of on–site construction workers for the solar project facilities is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the battery storage facility and the substation is not expected to exceed 100 workers at any one time.

Construction of the Projects will include the following activities:

- Site preparation
- Grading and earthwork
- Concrete foundations
- Structural steel work
- Electrical/instrumentation work
- Collector line installation
- Architecture and landscaping

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2.0 Capacity Analysis Methodologies

This section presents a brief overview of traffic analysis methodologies and concepts used in this study. Street system operating conditions are typically described in terms of "level of service (LOS)" to compare without project and with project alternatives. LOS is a report-card scale used to indicate the quality of traffic flow on roadway segments and at intersections. The levels of service range from Level A (free flow, little congestion) to Level F (forced flow, higher congestion).

Study Area Criteria

The study area is determined based on the County of Imperial Department of Public Works *Traffic Study and Report Policy* dated March 12, 2007, revised June 29, 2007 and approved by the Board of Supervisors of the County of Imperial on August 7, 2007 ("Traffic Study and Report Policy"). "Any project that has the potential to degrade an existing road section, an existing signalized intersection, or an existing unsignalized intersection to below the existing level of service or to cause it to be lower than a level of service (LOS) "C" during any peak hour, using the HCM Methods of analysis on any individual, existing traffic movement." Traffic Study and Report Policy, 4-5.

The study area for this project includes those locations that will likely be affected by this project where a minimum of 50 peak hour vehicles impact the location. The specific study area consists of the following intersections:

1. McDonald Road and Weist Road
2. McDonald Road and SR-111
3. SR-111 and SR-115
4. SR-111 and north ramps with SR-78
5. SR-111 and south ramps with SR-78

The study area also includes the following study segments:

1. McDonald Road from SR-111 to Weist Road
2. SR-111 from McDonald Road to Niland Ave
3. SR-111 from McDonald Road to SR-115
4. SR-111 from SR-115 to SR-78 north ramps
5. SR-111 from SR-78 north ramps to SR-78 south ramps

Scenario Criteria

The proposed project's traffic impacts were analyzed in three scenarios as listed below. The traffic analysis included intersections and roadway segments within Imperial County and Caltrans District 11 in the following scenarios to determine the potential impacts:

- Existing Year (2020) Conditions
- Construction Year (2023) Baseline Conditions
- Construction Year (2023) + Project Construction Conditions

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Peak Hour Intersection Level of Service Standards

Traffic conditions on most roadway facilities are analyzed using the principles of the specific analysis methods contained in the latest version (2010) of the *Highway Capacity Manual* (*HCM*), a publication of the Transportation Research Board, a research agency affiliated with the Federal Government. Chapter 18 of the *HCM 2010* is devoted to analysis of signalized intersections. The methodology in the *HCM 2010* for signalized intersections is based upon measurements or forecasts of control delay for traffic utilizing all approaches to the intersection.

Unsignalized intersections, including two-way and all-way stop controlled intersections were analyzed using the 2010 Highway Capacity Manual unsignalized intersection analysis methodology. The LOS for a two-way stop controlled (TWSC) intersection is determined by the computed or measured control delay and is defined for each minor movement. The analysis of peak hour intersection conditions was conducted using the Synchro 10 software program developed by Trafficware. Results are displayed in terms of control delay (seconds per vehicle) and an equivalent LOS as shown in Table 2.1.

Table 2.1 HCM Level of Service Definitions for Intersections

LOS	Signalized Intersection Delay (Seconds per Vehicle)	Unsignalized Intersection Average Stop Delay (Seconds)
A	<10	<10
B	>10 and <20	>10 and <15
C	>20 and <35	>15 and <25
D	>35 and <55	>25 and <35
E	>55 and <80	>35 and <50
F	>80	>50

Source: Highway Capacity Manual, 2010.

Roadway Segment Level of Service Standards

Roadway segment LOS standards and thresholds provide the basis for analysis of roadway segment performance. The analysis of roadway segment LOS is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and existing or forecast Average Daily Traffic (ADT) volumes.

The County of Imperial level of service analysis was performed by utilizing the *Circulation and Scenic Highways Element, January 2008*. The thresholds for each facility type are presented in Table 2.2.

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Table 2.2 County of Imperial ADT Level of Service Volumes by Roadway Type

Road		Level of Service (LOS)				
Class	X-Section	A	B	C	D	E
Expressway	154/210	30,000	42,000	60,000	70,000	80,000
Prime Arterial	106/136	22,200	37,000	44,600	50,000	57,000
Minor Arterial	82/102	14,800	24,700	29,600	33,400	37,000
Major Collector	64/84	13,700	22,800	27,400	30,800	34,200
Minor (Local) Collector	40/70	1,900	4,100	7,100	10,900	16,200

* Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.
Source: *Imperial County Circulation and Scenic Highways Element 2008 and Imperial County Long Range Transportation Plan 2013 Update*

Freeway Segments

Freeway level of service analysis is based upon procedures developed by Caltrans. The procedure for calculating freeway level of service involves calculating a peak hour volume to capacity (V/C) ratio. Peak hour volumes are calculated from Average Daily Traffic (ADT) volumes by applying design hour ("K"), directional ("D") and truck ("T") factors. The base capacities for Interstate 8 freeway lanes determined from the Highway Capacity Manual as assumed to be 2,350 passenger-car per hour per main lane (pc/h/ln).

The resulting V/C ratio is then compared to acceptable ranges of V/C values corresponding to the various levels of service for each facility classification, as shown in Table 2.3. The corresponding level of service represents an approximation of freeway operating conditions in the peak direction of travel during the peak hour. Constant with Caltrans requirements, LOS D or better is used in this study as the threshold for acceptable freeway operations.

Table 2.3 CALTRANS Level of Service Facility Classification

CALTRANS FREEWAY SEGMENT LEVEL OF SERVICE DEFINITIONS

LOS	Maximum V/C	Congestion/Delay	Traffic Description
A	≤ 0.30	None	Free flow.
B	> 0.30 - 0.50	None	Free to stable flow, light to moderate volumes.
C	> 0.50 - 0.71	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
D	> 0.71 - 0.89	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
E	> 0.89 - 1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
F	> 1.00	Considerable	Forced or breakdown flow. Delay measured in average travel speed (MPH). Signalized segments experience delays >60.0 seconds/vehicle.

Source: Caltrans Guide for the Preparation of Traffic Impact Studies, 2002.

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Analysis of Significance

Imperial County

The significance criteria for traffic impacts are based on the Imperial County Planning & Development Services Department LOS standard as outlined in the "Circulation Element". "The County's goal for an acceptable traffic service standard on an Average Daily Traffic (ADT) basis and during AM and PM peak periods for all County-Maintained Roads shall be LOS C for all street segment links and intersections."

- Strive to maintain LOS "C" or better on arterial and collector streets, at all intersections, and on principal arterials during the hour of highest volume during the AM hours and also during the PM hours. Imperial County has established LOS "C" as the general threshold for acceptable overall traffic operations for both signalized and un-signalized intersections.

- Accept LOS "D" after finding that there is no practical and feasible way to mitigate to LOS "C;" and the development causing the lower level of service provides a clear, overall public benefit.

- For segments that operate at LOS D or lower, an incremental increase in V/C of greater than 0.02 is considered to be a significant impact. For intersections that operate at LOS D or lower, an incremental increase in vehicle delay of 2.0 seconds or greater is considered to be a significant impact.

Caltrans

- For segments that operate at LOS D or lower, an incremental increase in V/C of greater than 0.02 is considered to be a significant impact. For intersections that operate at LOS D or lower, an incremental increase in vehicle delay of 2.0 seconds or greater is considered to be a significant impact.

- For freeway segments that operate at LOS D or lower, an incremental increase in V/C of greater than 0.01 is considered to be a significant impact.

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3.0 Existing Conditions

This section documents the Existing Year Conditions in the study area. The Existing Year is taken to be 2020 for analysis purposes based on existing traffic counts taken in December, 2020 The discussion presented here is limited to segments and intersections in the project's vicinity.

Existing Roadways

Each of the key roadways, as well as associated study intersections within the study area, are discussed below.

Roadway Facilities

1. *State Route 111 (SR-111))* is a two-lane highway with no median and a posted speed limit of 65 mph.

2. *McDonald Road* is a two lane paved local roadway that runs in an east-west direction. This road provides access from the site to/from SR-111.

3. *Weist Road* is a north-south that connects Mc Donald Road. North of McDonald Road, Weist Road is unpaved. Weist Road also crosses over the Highland Canal, and has an at-grade crossing of the Union Pacific Railroad tracks

4. *Noffsinger Road* is a two lane unpaved local roadway that runs in a diagonal direction from northwest to southeast. A bridge is provided over the Highland Canal.

5. *Flowing Well Road* is a two lane unpaved local roadway that runs in an east-west direction that connects to Weist Road which leads to the project site.

6. *Coachella Canal Road* is classified as a Local County. It has two lanes and is unpaved.

7. *Ted Kipf Road is* classified as a Local County. It has two lanes and is unpaved.

Figure 3.1 displays the existing intersection geometrics for study area intersections.

Traffic Volumes

Existing turning movement counts at the study intersections were conducted on Tuesday, December 8, 2020. The existing condition reflects those land uses that were built and occupied at the time of the traffic counts and represent a typical weekday commute period. Intersection turning movement counts are provided in Appendix A. Existing average daily traffic (ADT) segment counts were obtained from the Caltrans for the year 2019. The ADT, weekday a.m. and p.m. peak hour traffic volumes are shown on Figure 3.2.

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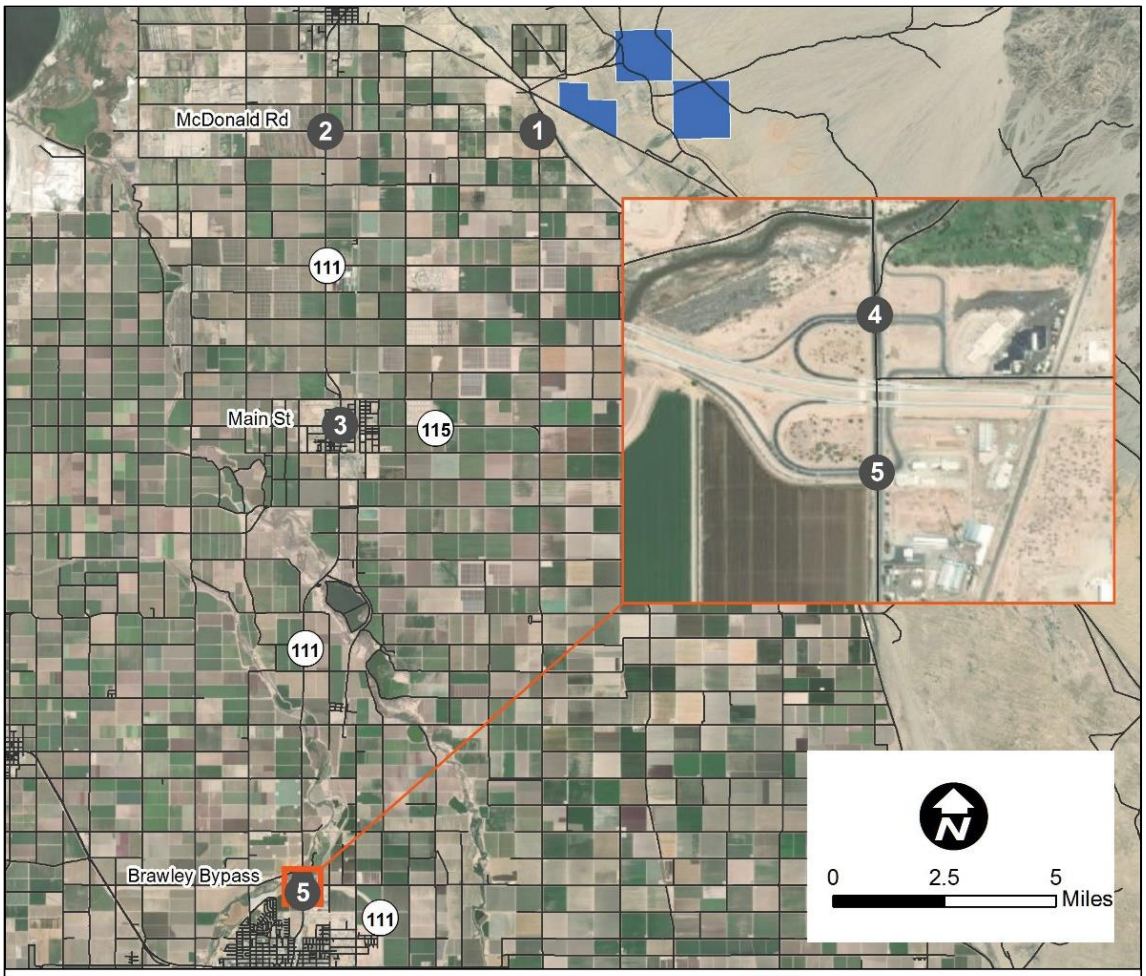
Figure 3.1 Intersection Geometrics



Intersection Geometry

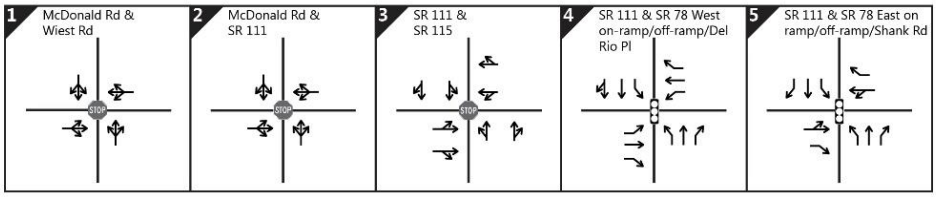


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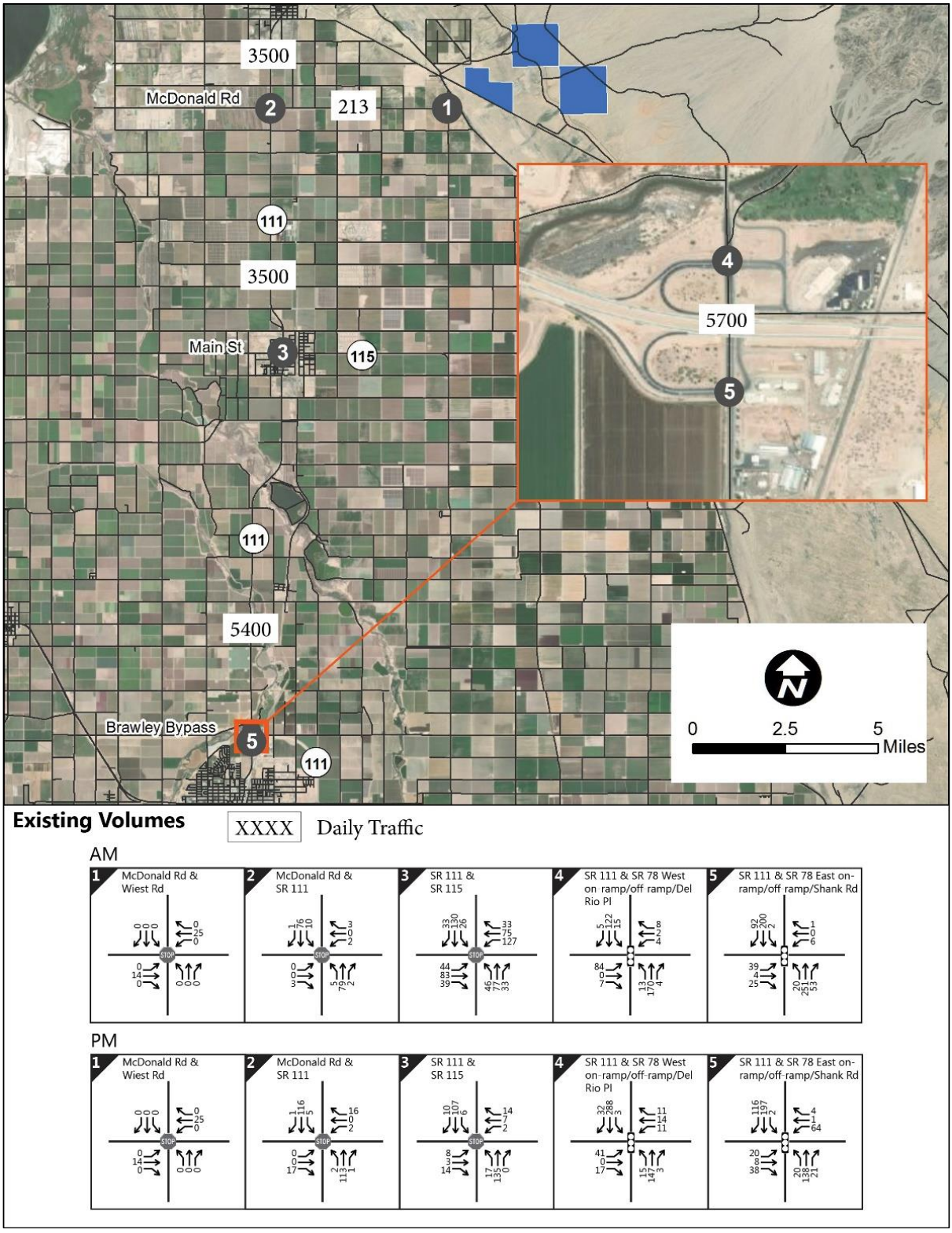
Figure 3.2 Existing Volumes



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Existing Year Conditions

This section documents the existing traffic conditions of study area segments and intersections.

Segments

Roadway segment analysis was conducted for the study area's specified segments. Using average daily traffic (ADT) counts, KOA was able to determine the existing level of service for the designated roadway segments. Table 3.1 below displays these levels of service.

Table 3.1 Existing Year Conditions Roadway Segment Analysis

Roadway Segment	From/ To	Lanes/ Class	LOS E Capacity	Existing		
				ADT	V/C	LOS
McDonald Rd	Project to SR 111	Minor Collector	16,200	213	0.01	A
SR-111	McDonald Road to Niland Ave	Major Collector 2 Lane	17,100	3,500	0.20	A
SR-111	McDonald Rd to SR-115	Major Collector 2 Lane	17,100	3,500	0.20	A
SR-111	SR-115 to SR-78 North Ramps	Major Collector 2 Lane	17,100	5,400	0.32	B
SR-111	SR-78 North Ramps to SR-78 South Ramps	Major Collector 4 Lane	34,200	5,700	0.17	A

Intersections

An intersection LOS analysis was prepared for the existing (without-project) condition and is summarized in Table 3.2 which indicates that there are two study area intersections. Detailed LOS worksheets are included in Appendix B.

Table 3.2 Existing Year Conditions Peak Hour Intersection Analysis

#	Intersection	Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	McDonald Road and Weist Road	SB Stop	0.0	A	0.0	A
2	McDonald Road and SR-111	EB/WB Stop	9.2	A	9.1	A
3	SR-111 and SR-115	AWSC	10.2	B	8	A
4	SR-111 and north ramps with SR-78	Sig	11.1	b	10.7	B
5	SR-111 and south ramps with SR-78	Sig	12.3	B	14.3	B

Delay is in seconds/vehicle. LOS = Level of Service

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4.0 Trip Generation/Distribution/Assignment

Project Trip Generation

The project trip generation consists of a construction phase and operations phase. Once constructed, the site will not require personnel to be present on-site and will not result in daily trip generation. For this reason, only the trip generation for the construction phase was analyzed.

The construction of the site is estimated to take 12-18 months and would begin in 2022. The number of on–site construction workers for the solar project facilities is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the battery storage facility and the substation is not expected to exceed 100 workers at any one time. The trip generation was estimated if the construction phases were to overlap, so both are included. Delivery trucks are expected to follow the same routes as the construction workers. An estimated two trucks would arrive at the project site each day during the first few weeks of construction of the solar generating facility. Truck trips have been converted into passenger equivalent volumes (PCE) using a PCE factor of 2.5.

Work hours will be between the hours of 8:00 a.m. and 5:00 p.m. Monday through Saturday. The trips generated during the construction phase of construction are shown in Table 4.1.

Table 4.1 Construction Trip Generation–Construction Phase

	Intensity	Unit	Daily Rate (1)	Daily Trips		AM Peak Hour			PM Peak Hour		
						Total	In	Out	Total	In	Out
Solar Construction Workers	150.0	Employee	2	300	Rate	1.00	100%	0%	1.00	0%	100%
					Trips	150	150	0	150	0	150
Battery Storage Workers	100.0	Employee	2	200	Rate	1.00	100%	0%	1.00	0%	100%
					Trips	100	100	0	100	0	100
Equipment Deliveries and Construction Truck Trips (PCE)	4.0	trucks	2.5	10	Rate	0.13	75%	25%	0.13	25 %	75%
					Trips	1	1	0	1	0	1
Total				510	Trips	251	251	0	251	0	251

Once construction is completed, the facilities would be remotely operated, controlled and monitored and with no requirement for daily on-site employees.

Trip Distribution and Assignment

Trip distribution and assignment is the process of identifying the probable destinations, directions and traffic routes that project related traffic will likely affect. Trip distribution and assignment information can be estimated from observed traffic patterns, experience or through use of a computerized travel forecast model. Once the proposed developments trips have been estimated, they are assigned to the study area street network. The trip distribution was estimated based on using logical travel paths between the project and local origins.

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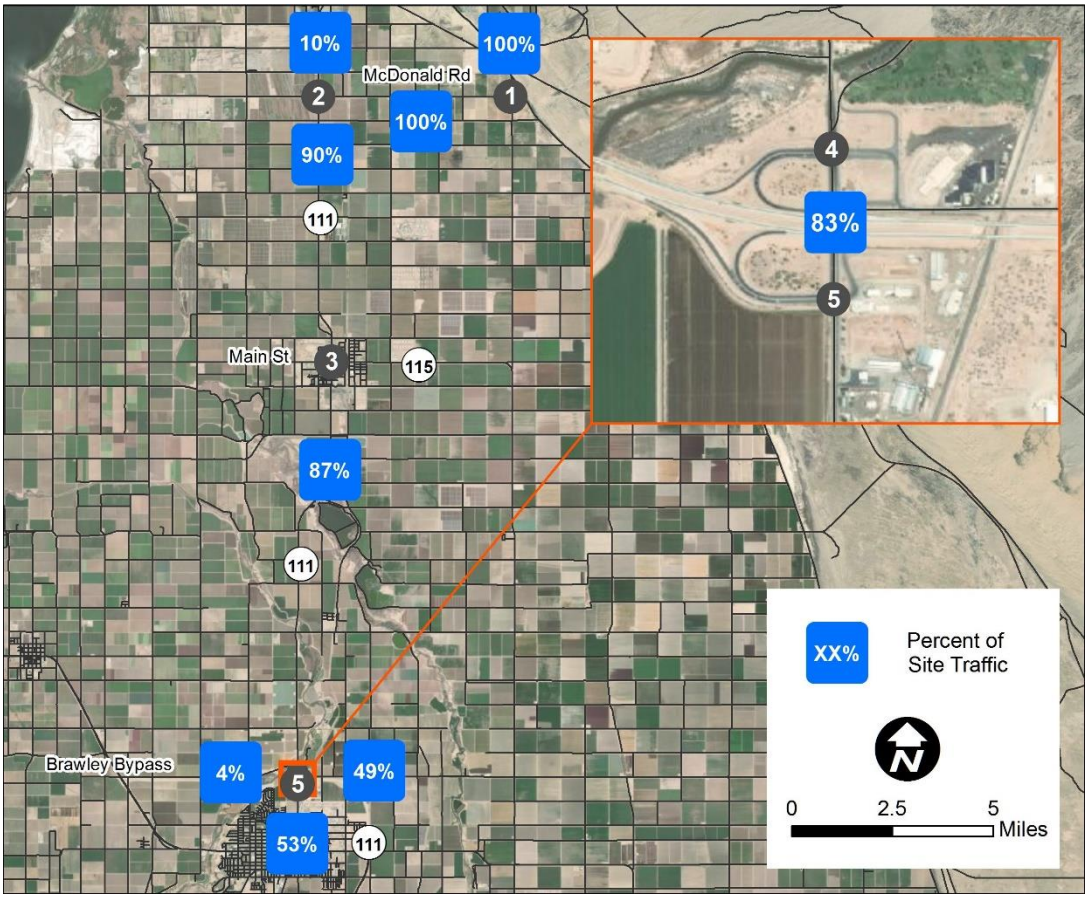
Construction traffic to the VEGA SES 2 and 3 project sites is expected to travel along SR-111 east along McDonald Road to Noffsinger Road over the canal crossing, Wiest Road, over the Union Pacific railroad tracks crossing, then to Flowing Wells Road to access APNs 025-260-011 and 025-010-006, and beyond to Coachella Canal Road using Niland Pegleg Well Road to cross a second canal and access APN 025-270-023. The trip distribution for the project-related trips is shown in Figure 4.1.

Figure 4.1 Trip Distribution



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5.0 Construction Year Conditions

This section documents the analysis for the Project Completion Year conditions. This scenario considers the traffic conditions at the time that the proposed development is constructed by increasing the existing traffic counts by an ambient growth rate to reflect cumulative projects. Projected project only volumes are then added to create the 2023 Baseline with Project Scenario. It is anticipated that the project will be completed in Year 2023. An annual ambient growth of 1.8% was utilized to account for traffic growth between 2020 and 2023.

The growth rate is based on the California Economic Forecast *California County-Level Economic Forecast 2017-2050*, dated September 2017 documents an average annual growth factor of 1.8% from 2020 to 2025 for Imperial County. Year 2021 traffic data was obtained by factoring the 2019 traffic counts by the application of the 1.8% annual growth (5.4 percent for 2020-23). Figure 5.1 illustrates the Project Construction Year background volumes. Figure 5.2 shows the *Construction Year with Project* traffic volumes in the study area.

This section documents the construction year traffic conditions of study area segments and intersections with and without the project.

Segments

Roadway segment analysis was conducted for the study area's specified segments. Using average daily traffic (ADT) counts, KOA determined the opening year level of service for the designated roadway segments. Table 5.1 below displays these levels of service.

Summarized in Table 5.2 are Construction Year and Construction Year plus Project roadway segment average daily traffic volumes and their associated LOS on route segments without and with the project under the near term condition. All roadway segments would operate at LOS B or better with and without the project. Therefore, the project would not result in any significant impacts to any segments within the project study area under the construction year condition.

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Table 5.1: Construction Year Roadway Segment Analysis

Roadway Segment	From/ To	Lanes/ Class	LOS E Capacity	Project Volumes	Construction Year			Construction Year + Project			Comparison	
					Volume	V/C	LOS	Volume	V/C	LOS	Δ V/C	Sig?
Mc Donald Rd	Project to SR-111	Local Collector	16,200	510	225	0.01	A	735	0.05	A	0.03	No
SR-111	Mc Donald to Weist Rd	Minor Arterial 2	18,500	51	3,692	0.20	A	3,743	0.20	A	0.00	No
SR-111	Mc Donald to SR-115	Minor Arterial 2	18,500	459	5,697	0.31	A	6,156	0.33	A	0.02	No
SR-111	SR-115 to SR-78 north ramps	Minor Arterial 2	18,500	444	6,013	0.33	A	6,457	0.35	A	0.02	No
SR-111	SR-78 north ramps to So. Ramps	Minor Arterial 2	18,500	262	5,700	0.31	A	5,962	0.32	A	0.01	No

Intersections

Table 5.2 summarizes the LOS at each intersection during the AM and PM peak hours under the construction year condition in 2022, without and with the project volumes. The estimated change in project delay associated with the project is also reported. All intersections would operate at a LOS C or better during both AM and PM peak hours with and without the project. Therefore, the project would not result in any significant impacts to any intersections within the project study area under the construction year condition. Detailed LOS worksheets are for the Construction Year are included in Appendix C and for the Construction Year plus Project in Appendix D.

Table 5.2: Construction Year Peak Hour Intersection Analysis

No.	Intersection	Control	Construction Year		Construction Year + Project		Change Delay	Significant
			Delay	LOS	Delay	LOS		
AM Peak Hour between 7:00 to 9:00 a.m.								
1	McDonald Road and Weist Road	SB Stop	n/a	A	7.3	A	n/a	N
2	McDonald Road and SR-111	SB Stop	9.2	A	10.3	B	1.1	N
3	SR-111 and SR-115	AWSC	10.5	B	12.2	A	1.7	N
4	SR-111 and north ramps with SR-78	EB/WB Stop	11.2	B	12.2	B	1.0	N
5	SR-111 and south ramps with SR-78	EB Stop	10.5	B	12.9	B	2.4	N
PM Peak Hour between 4:00 to 6:00 p.m.								
1	McDonald Road and Weist Road	SB Stop	n/a	A	8.2	A	n/a	N
2	McDonald Road and SR-111	EB/WB Stop	9.2	A	10.4	B	1.2	N
3	SR-111 and SR-115	AWSC	8.1	A	8.9	A	0.8	N
4	SR-111 and north ramps with SR-78	Sig	9.6	A	11.7	A	2.1	N
5	SR-111 and south ramps with SR-78	Sig	10.0	B	16	B	6.0	N

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Figure 5.1 Construction Year Volumes

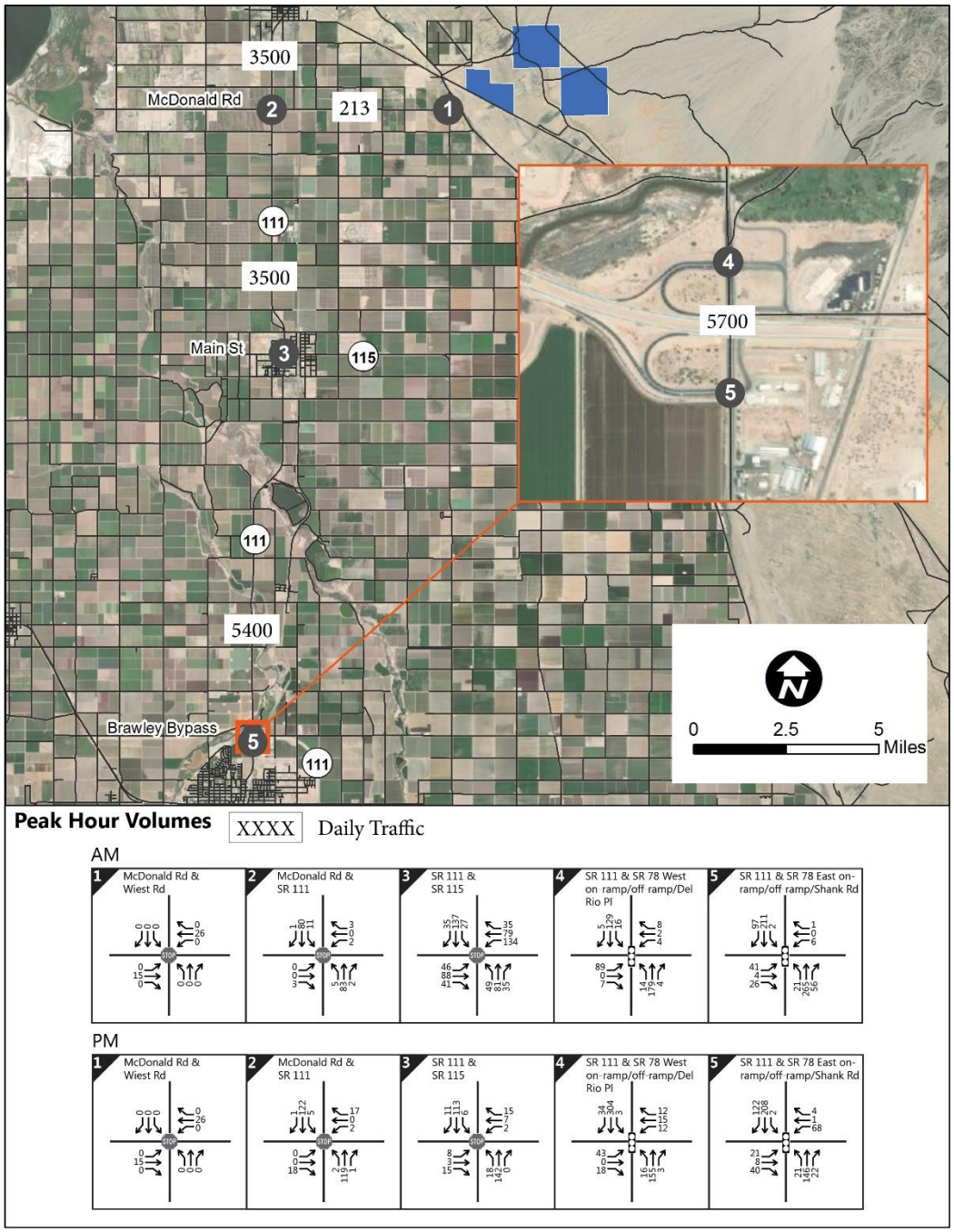

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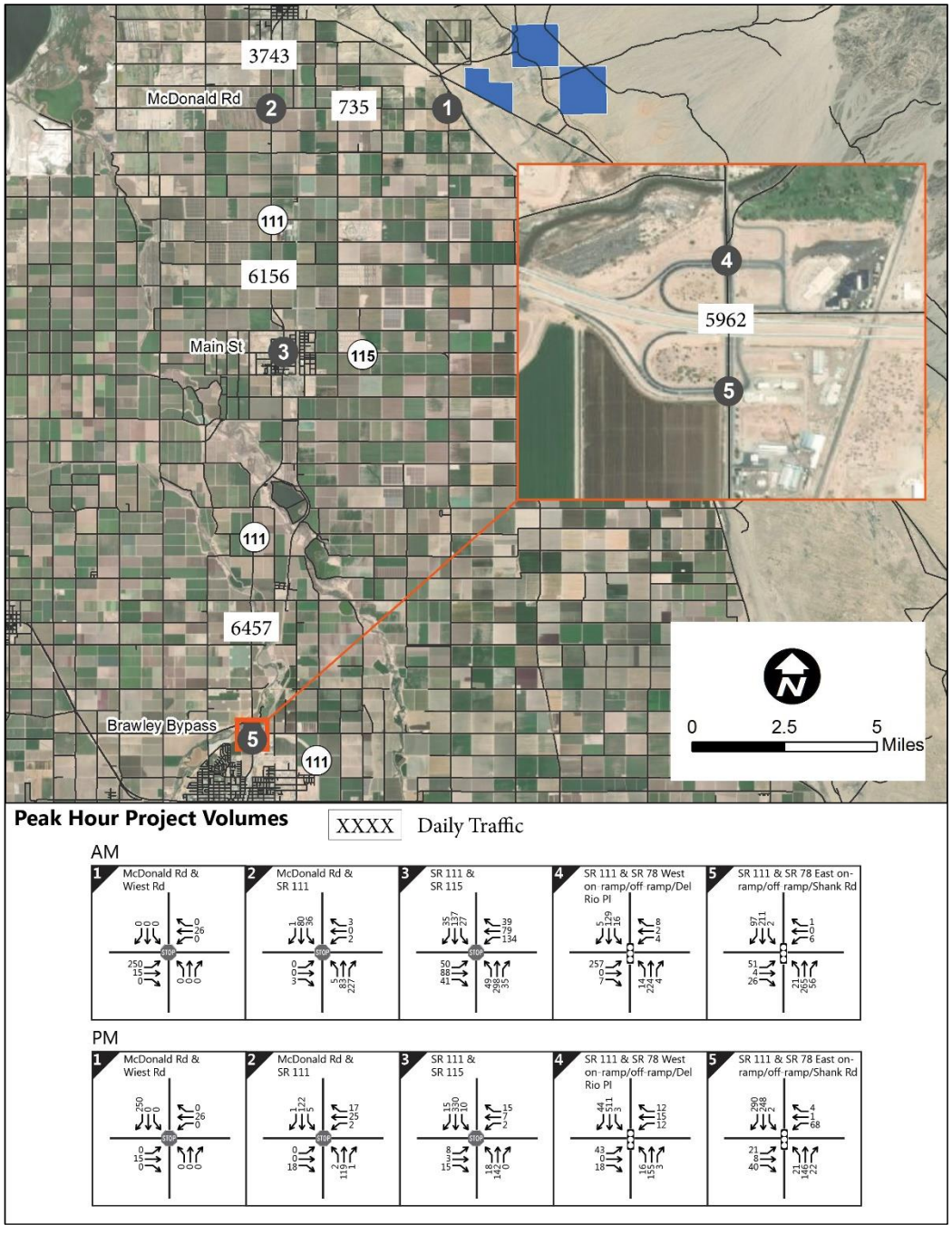
Figure 5.2 Construction Year Plus Project Year Volumes



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6.0 Circulation

The following section discusses the proposed project's access and circulation characteristics.

Project Access and Circulation

The project site is located east of the U.P. Railroad tracks and east of the Highland Canal. Primary access to and from the site will be from SR-111 along McDonald Road to Weist Road. Construction related traffic would cross the Highland Canal at Noffsinger Road. Weist Road continues to Flowing Well Road. The crossing of the UP Railroad tracks is at an unsignalized crossing on Weist Road. The site will be accessed from Flowing Well Road. Weist Road, Noffsinger Road and Flowing Well Road are unpaved roadways. Flowing Well Road, although occasionally maintained by the County of Imperial, is on BLM land and a right-of-way (ROW) approval from the BLM is required. There is no alternative route that either exists or can be used to gain access to the VEGA SES 2 and 3 project sites that do not cross some Federal lands, hence Flowing Wells Road, is the only viable route.

The VEGA SES 2 and 3 projects would not require changes to Flowing Wells Road either in terms of alignment, cross section, width or length. The project applicant is requesting a 24-foot-wide ROW given that the road currently has no designated width. The VEGA SES 2 and 3 projects, if required as part of the permitting or ROW approval, would grade and maintain Flowing Wells Road during construction as required by the BLM, County and/or Air District, including future years maintenance for safe access to the sites. A maintenance agreement with the County/BLM will be included in the conditions of approval.

It is estimated that there will be two in-bound and two out-bound truck trips per day to the project site. Truck trips shall access the site from SR 111 using Pound Road, and Noffsinger Road. Access to the east side of the East Highline Canal shall utilize the Flowing Wells Road bridge, continue on Flowing Wells Road and Coachella Canal Road. The Project shall contribute towards a structural assessment of the capacity of the Flowing Wells Road bridge along the proposed Vega Project access route to support heavy truck trips in excess of 74,000 lbs. The assessment shall demonstrate the feasibility, bridge structure improvements if necessary, and Project fair share for improvements needed to support expected heavy truck loads during Project construction and operations. Should such assessment indicate needed improvements are infeasible, the Project shall identify and evaluate an alternative feasible alternative access route and enter into a Road Maintenance Agreement to the satisfaction of the County."

Parking

The existing parking demand for up to 250 vehicles and for construction equipment will be provided on site.

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7.0 Impacts and Mitigation

This traffic impact analysis (TIA) has been prepared to identify the potential traffic impacts associated with the Vega SES 2 Vega SES 3 located within the Vega SES 2 site.

The construction of both projects is estimated to take 12-18 months and would begin in 2023. During the construction phase, at peak construction, the project is anticipated to generate a net total of 510 trip ends per day with 251 AM peak hour trips and 251 PM peak hour trips. When constructed, the project will not generate any additional trips. The project opening is anticipated to be the end of 2023 or early 2024.

The project is not expected to create significant impacts at study intersections or study segments, therefore no mitigation measures are required. All study intersections and segments were found to operate at LOS C or better for all of the traffic scenarios analyzed.

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APPENDIX A: TRAFFIC COUNT DATA

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

County of Imperial
N/S: SR-111
E/W: McDonald Road
Weather: Clear

File Name : 06_CIM_SR-111_McDonald AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				McDonald Road Westbound				SR-111 Northbound				McDonald Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	16	0	17	1	0	1	2	0	21	0	21	0	0	0	0	40
07:15 AM	2	18	0	20	0	0	0	0	2	23	0	25	0	0	0	0	45
07:30 AM	2	14	0	16	1	0	2	3	1	23	1	25	0	0	0	0	44
07:45 AM	3	23	1	27	0	0	1	1	2	16	1	19	0	0	1	1	48
Total	8	71	1	80	2	0	4	6	5	83	2	90	0	0	1	1	177
08:00 AM	3	21	0	24	1	0	0	1	0	17	0	17	0	0	2	2	44
08:15 AM	1	18	0	19	1	0	1	2	1	10	1	12	0	0	0	0	33
08:30 AM	3	19	0	22	1	0	0	1	0	14	0	14	0	1	0	1	38
08:45 AM	1	28	1	30	0	0	2	2	1	7	0	8	0	0	0	0	40
Total	8	86	1	95	3	0	3	6	2	48	1	51	0	1	2	3	155
Grand Total	16	157	2	175	5	0	7	12	7	131	3	141	0	1	3	4	332
Apprch %	9.1	89.7	1.1		41.7	0	58.3		5	92.9	2.1		0	25	75		
Total %	4.8	47.3	0.6	52.7	1.5	0	2.1	3.6	2.1	39.5	0.9	42.5	0	0.3	0.9	1.2	

	SR-111 Southbound				McDonald Road Westbound				SR-111 Northbound				McDonald Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	2	18	0	20	0	0	0	0	**2**	**23**	0	**25**	0	0	0	0	45
07:30 AM	2	14	0	16	**1**	0	**2**	**3**	1	23	**1**	25	0	0	0	0	44
07:45 AM	**3**	**23**	**1**	**27**	0	0	1	1	2	16	1	19	0	0	1	1	**48**
08:00 AM	3	21	0	24	1	0	0	1	0	17	0	17	0	0	**2**	**2**	44
Total Volume	10	76	1	87	2	0	3	5	5	79	2	86	0	0	3	3	181
% App. Total	11.5	87.4	1.1		40	0	60		5.8	91.9	2.3		0	0	100		
PHF	.833	.826	.250	.806	.500	.000	.375	.417	.625	.859	.500	.860	.000	.000	.375	.375	.943

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Counts Unlimited, Inc.
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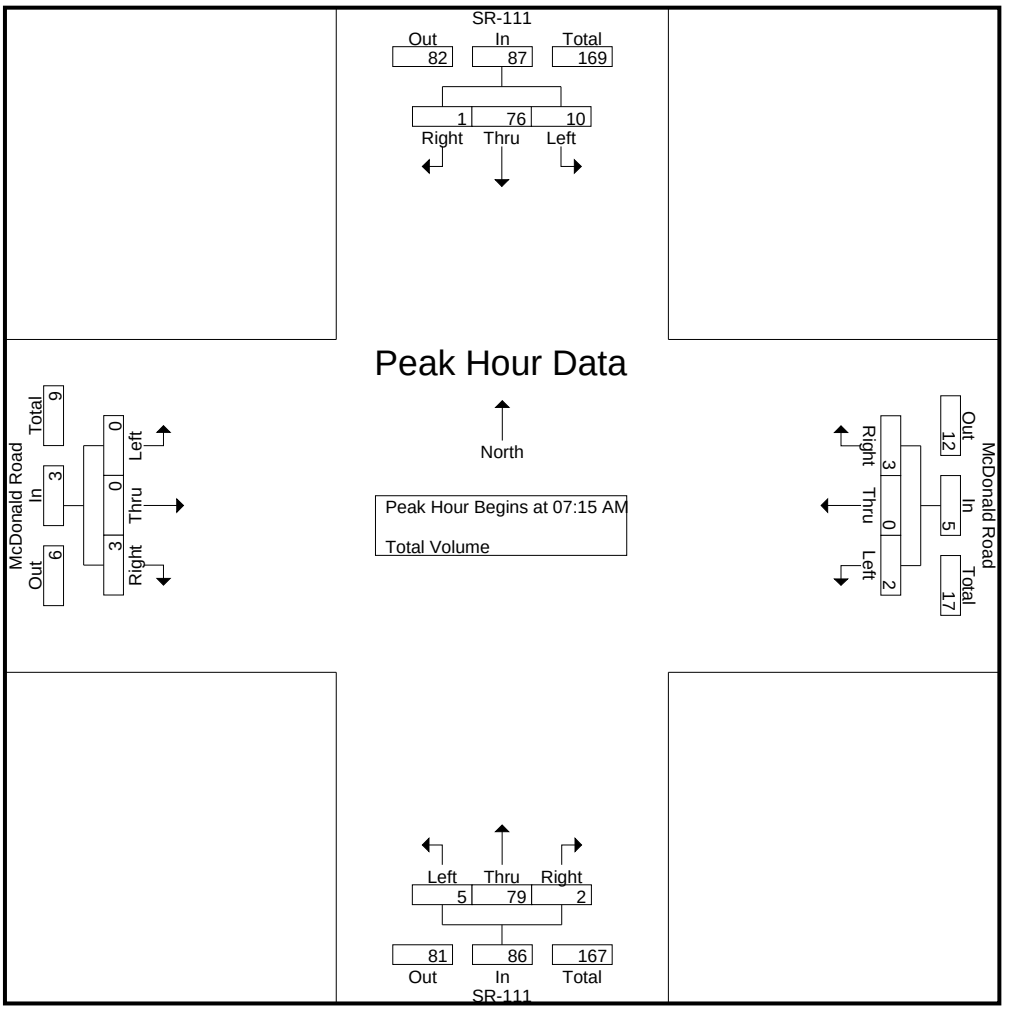
County of Imperial
N/S: SR-111
E/W: McDonald Road
Weather: Clear

File Name : 06_CIM_SR-111_McDonald AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				07:00 AM				07:45 AM			
+0 mins.	**3**	21	0	24	**1**	0	**2**	**3**	0	21	0	21	0	0	1	1
+15 mins.	1	18	0	19	0	0	1	1	**2**	**23**	0	**25**	0	0	**2**	**2**
+30 mins.	3	19	0	22	1	0	0	1	1	23	**1**	25	0	0	0	0
+45 mins.	1	**28**	**1**	**30**	1	0	1	2	2	16	1	19	0	**1**	0	1
Total Volume	8	86	1	95	3	0	4	7	5	83	2	90	0	1	3	4
% App. Total	8.4	90.5	1.1		42.9	0	57.1		5.6	92.2	2.2		0	25	75	
PHF	.667	.768	.250	.792	.750	.000	.500	.583	.625	.902	.500	.900	.000	.250	.375	.500

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

County of Imperial
N/S: SR-111
E/W: McDonald Road
Weather: Clear

File Name : 06_CIM_SR-111_McDonald PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				McDonald Road Westbound				SR-111 Northbound				McDonald Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	49	0	50	1	0	6	7	0	25	0	25	0	0	12	12	94
04:15 PM	1	21	0	22	0	0	2	2	1	27	1	29	0	0	2	2	55
04:30 PM	2	21	1	24	0	0	6	6	1	32	0	33	0	0	2	2	65
04:45 PM	1	25	0	26	1	0	2	3	0	29	0	29	0	0	1	1	59
Total	5	116	1	122	2	0	16	18	2	113	1	116	0	0	17	17	273
05:00 PM	1	17	0	18	1	0	1	2	2	22	0	24	0	0	0	0	44
05:15 PM	0	18	0	18	0	0	1	1	1	26	0	27	0	0	1	1	47
05:30 PM	0	5	0	5	1	0	1	2	1	21	0	22	0	0	1	1	30
05:45 PM	0	8	0	8	0	0	0	0	0	14	0	14	0	0	3	3	25
Total	1	48	0	49	2	0	3	5	4	83	0	87	0	0	5	5	146
Grand Total	6	164	1	171	4	0	19	23	6	196	1	203	0	0	22	22	419
Apprch %	3.5	95.9	0.6		17.4	0	82.6		3	96.6	0.5		0	0	100		
Total %	1.4	39.1	0.2	40.8	1	0	4.5	5.5	1.4	46.8	0.2	48.4	0	0	5.3	5.3	

	SR-111 Southbound				McDonald Road Westbound				SR-111 Northbound				McDonald Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	**49**	0	**50**	**1**	0	**6**	**7**	0	25	0	25	0	0	**12**	**12**	**94**
04:15 PM	1	21	0	22	0	0	2	2	**1**	27	**1**	29	0	0	2	2	55
04:30 PM	**2**	21	**1**	24	0	0	6	6	1	**32**	0	**33**	0	0	2	2	65
04:45 PM	1	25	0	26	1	0	2	3	0	29	0	29	0	0	1	1	59
Total Volume	5	116	1	122	2	0	16	18	2	113	1	116	0	0	17	17	273
% App. Total	4.1	95.1	0.8		11.1	0	88.9		1.7	97.4	0.9		0	0	100		
PHF	.625	.592	.250	.610	.500	.000	.667	.643	.500	.883	.250	.879	.000	.000	.354	.354	.726

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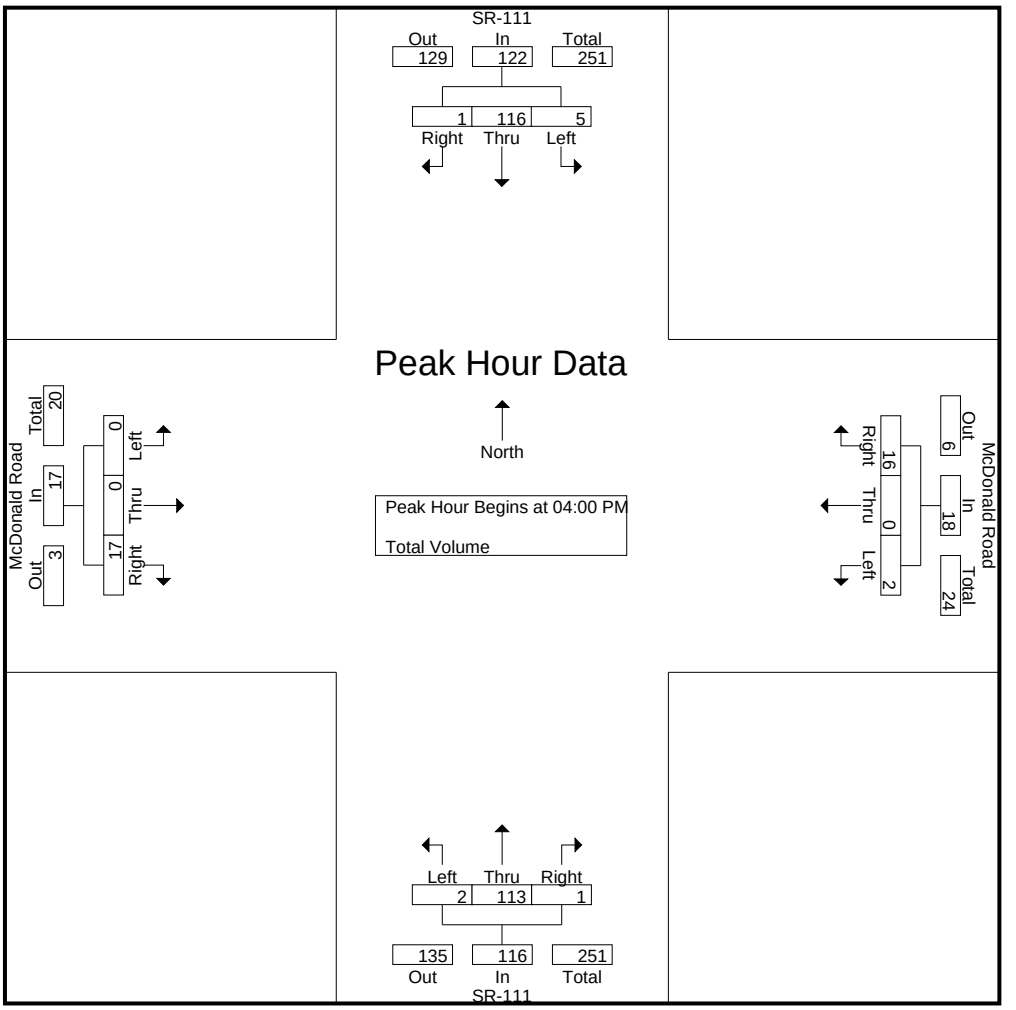
Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

County of Imperial
N/S: SR-111
E/W: McDonald Road
Weather: Clear

File Name : 06_CIM_SR-111_McDonald PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	1	**49**	0	**50**	**1**	0	**6**	**7**	0	25	0	25	0	0	**12**	**12**
+15 mins.	1	21	0	22	0	0	2	2	**1**	27	**1**	29	0	0	2	2
+30 mins.	**2**	21	**1**	24	0	0	6	6	1	**32**	0	**33**	0	0	2	2
+45 mins.	1	25	0	26	1	0	2	3	0	29	0	29	0	0	1	1
Total Volume	5	116	1	122	2	0	16	18	2	113	1	116	0	0	17	17
% App. Total	4.1	95.1	0.8		11.1	0	88.9		1.7	97.4	0.9		0	0	100	
PHF	.625	.592	.250	.610	.500	.000	.667	.643	.500	.883	.250	.879	.000	.000	.354	.354

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Calipatria
N/S: SR-111
E/W: SR-115 (Main Street)
Weather: Clear

File Name : 07_CPA_SR-111_SR-115 AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				SR-115 Westbound				SR-111 Northbound				SR-115 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	15	2	17	7	6	4	17	9	29	23	61	8	9	2	19	114
07:15 AM	5	10	4	19	7	13	4	24	8	19	23	50	10	13	3	26	119
07:30 AM	3	14	1	18	6	11	2	19	8	24	33	65	3	15	6	24	126
07:45 AM	5	12	5	22	8	8	4	20	6	18	41	65	7	15	3	25	132
Total	13	51	12	76	28	38	14	80	31	90	120	241	28	52	14	94	491
08:00 AM	3	21	2	26	9	7	3	19	12	27	14	53	4	12	7	23	121
08:15 AM	5	13	6	24	9	8	4	21	9	18	11	38	7	4	6	17	100
08:30 AM	5	22	4	31	7	8	1	16	6	15	13	34	10	12	7	29	110
08:45 AM	5	16	4	25	10	5	5	20	7	12	5	24	3	6	2	11	80
Total	18	72	16	106	35	28	13	76	34	72	43	149	24	34	22	80	411
Grand Total	31	123	28	182	63	66	27	156	65	162	163	390	52	86	36	174	902
Apprch %	17	67.6	15.4		40.4	42.3	17.3		16.7	41.5	41.8		29.9	49.4	20.7		
Total %	3.4	13.6	3.1	20.2	7	7.3	3	17.3	7.2	18	18.1	43.2	5.8	9.5	4	19.3	

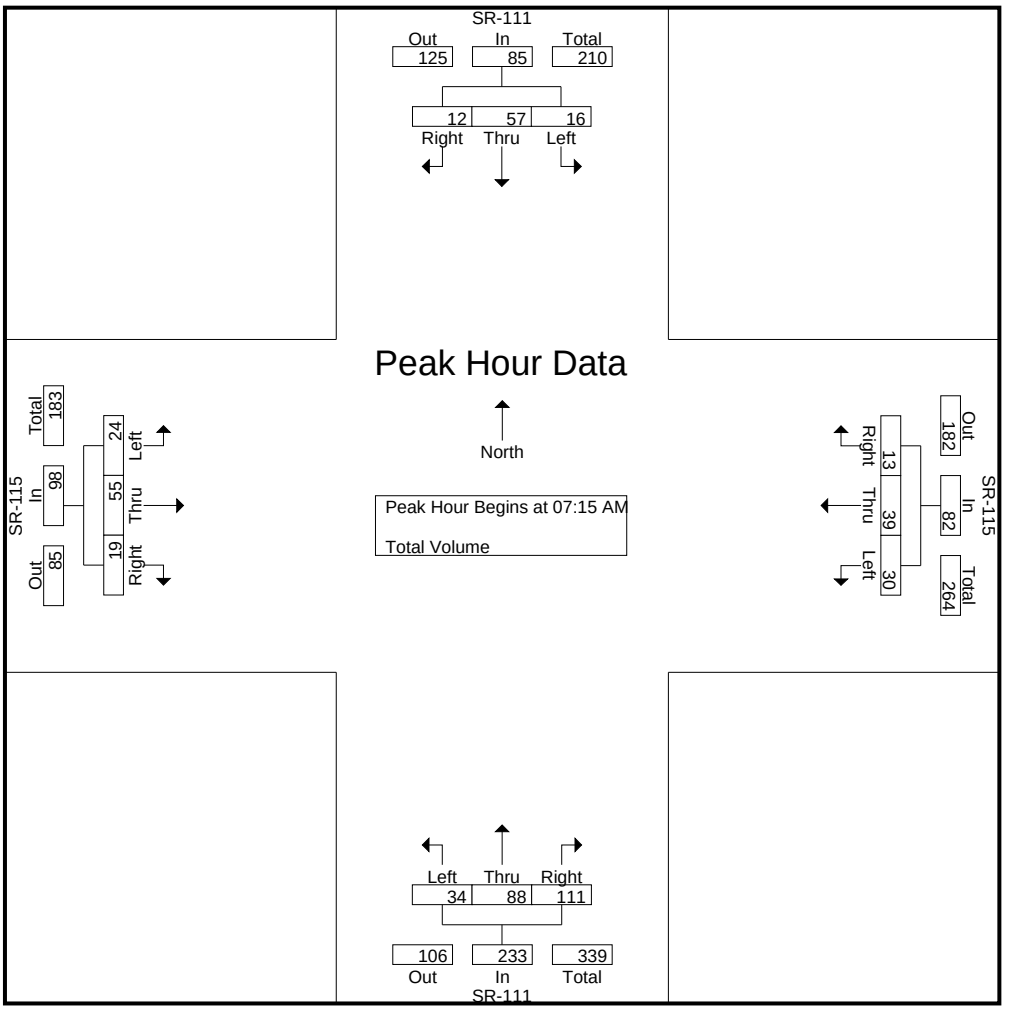
	SR-111 Southbound				SR-115 Westbound				SR-111 Northbound				SR-115 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**5**	10	4	19	7	**13**	**4**	**24**	8	19	23	50	**10**	13	3	**26**	119
07:30 AM	3	14	1	18	6	11	2	19	8	24	33	**65**	3	**15**	6	24	126
07:45 AM	5	12	**5**	22	8	8	4	20	6	18	**41**	65	7	15	3	25	**132**
08:00 AM	3	**21**	2	**26**	**9**	7	3	19	**12**	**27**	14	53	4	12	**7**	23	121
Total Volume	16	57	12	85	30	39	13	82	34	88	111	233	24	55	19	98	498
% App. Total	18.8	67.1	14.1		36.6	47.6	15.9		14.6	37.8	47.6		24.5	56.1	19.4		
PHF	.800	.679	.600	.817	.833	.750	.813	.854	.708	.815	.677	.896	.600	.917	.679	.942	.943

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Calipatria
N/S: SR-111
E/W: SR-115 (Main Street)
Weather: Clear

File Name : 07_CPA_SR-111_SR-115 AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:15 AM				07:00 AM				07:15 AM			
+0 mins.	3	21	2	26	7	**13**	**4**	**24**	**9**	**29**	23	61	**10**	13	3	**26**
+15 mins.	**5**	13	**6**	24	6	11	2	19	8	19	23	50	3	**15**	6	24
+30 mins.	5	**22**	4	**31**	8	8	4	20	8	24	33	**65**	7	15	3	25
+45 mins.	5	16	4	25	**9**	7	3	19	6	18	**41**	65	4	12	**7**	23
Total Volume	18	72	16	106	30	39	13	82	31	90	120	241	24	55	19	98
% App. Total	17	67.9	15.1		36.6	47.6	15.9		12.9	37.3	49.8		24.5	56.1	19.4	
PHF	.900	.818	.667	.855	.833	.750	.813	.854	.861	.776	.732	.927	.600	.917	.679	.942

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Calipatria
N/S: SR-111
E/W: SR-115 (Main Street)
Weather: Clear

File Name : 07_CPA_SR-111_SR-115 PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				SR-115 Westbound				SR-111 Northbound				SR-115 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	10	49	5	64	46	24	9	79	13	18	5	36	16	16	10	42	221
04:15 PM	6	38	8	52	28	22	10	60	11	16	7	34	10	33	12	55	201
04:30 PM	6	24	11	41	26	18	4	48	11	15	14	40	9	18	13	40	169
04:45 PM	4	19	9	32	27	11	10	48	11	28	7	46	9	16	4	29	155
Total	26	130	33	189	127	75	33	235	46	77	33	156	44	83	39	166	746
05:00 PM	7	21	9	37	16	17	10	43	12	15	8	35	17	16	13	46	161
05:15 PM	3	12	3	18	16	13	5	34	12	14	11	37	3	17	4	24	113
05:30 PM	6	13	4	23	7	9	6	22	11	27	14	52	6	14	4	24	121
05:45 PM	5	17	7	29	13	10	6	29	15	13	8	36	7	12	8	27	121
Total	21	63	23	107	52	49	27	128	50	69	41	160	33	59	29	121	516
Grand Total	47	193	56	296	179	124	60	363	96	146	74	316	77	142	68	287	1262
Apprch %	15.9	65.2	18.9		49.3	34.2	16.5		30.4	46.2	23.4		26.8	49.5	23.7		
Total %	3.7	15.3	4.4	23.5	14.2	9.8	4.8	28.8	7.6	11.6	5.9	25	6.1	11.3	5.4	22.7	

	SR-111 Southbound				SR-115 Westbound				SR-111 Northbound				SR-115 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**10**	**49**	5	**64**	**46**	**24**	9	**79**	**13**	18	5	36	**16**	16	10	42	**221**
04:15 PM	6	38	8	52	28	22	**10**	60	11	16	7	34	10	**33**	12	**55**	201
04:30 PM	6	24	**11**	41	26	18	4	48	11	15	**14**	40	9	18	**13**	40	169
04:45 PM	4	19	9	32	27	11	10	48	11	**28**	7	**46**	9	16	4	29	155
Total Volume	26	130	33	189	127	75	33	235	46	77	33	156	44	83	39	166	746
% App. Total	13.8	68.8	17.5		54	31.9	14		29.5	49.4	21.2		26.5	50	23.5		
PHF	.650	.663	.750	.738	.690	.781	.825	.744	.885	.688	.589	.848	.688	.629	.750	.755	.844

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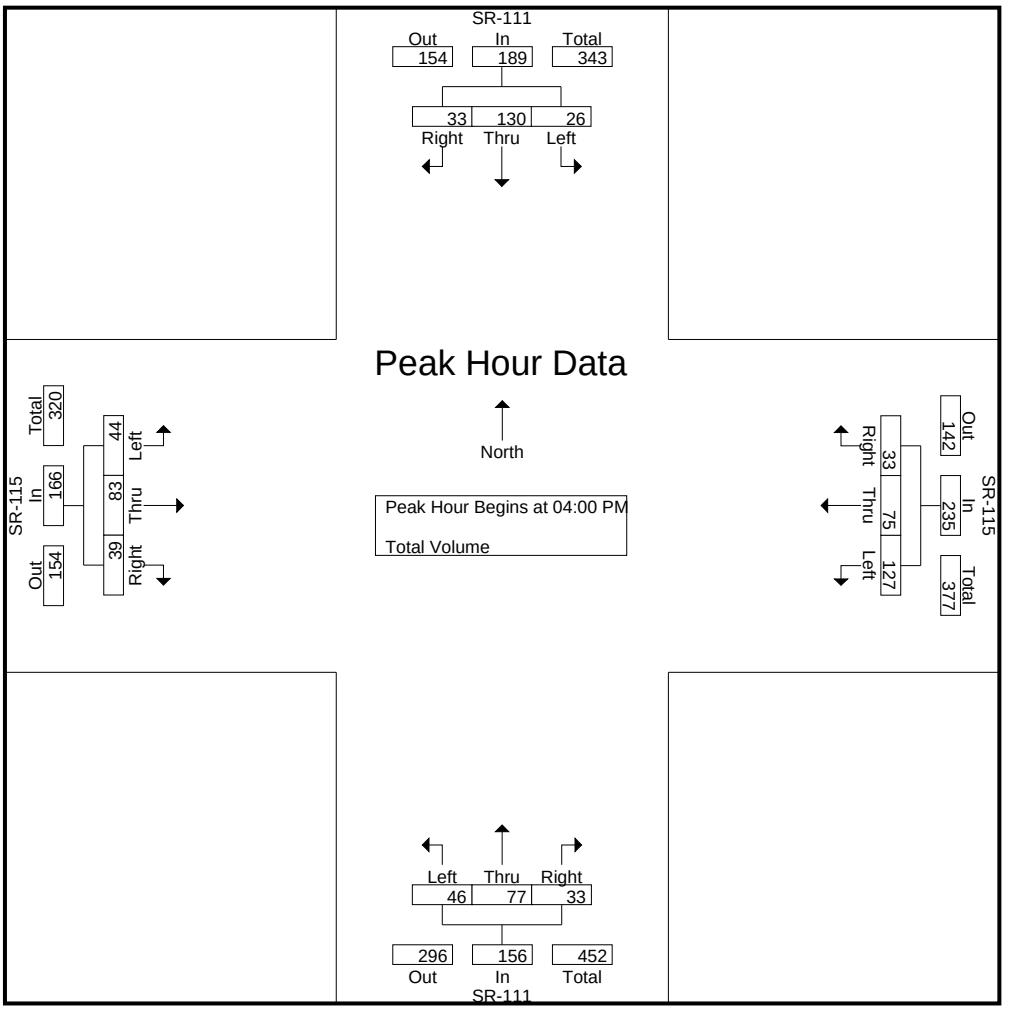
Corona, CA 92878
(951)268-6268

City of Calipatria
N/S: SR-111
E/W: SR-115 (Main Street)
Weather: Clear

File Name : 07_CPA_SR-111_SR-115 PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:45 PM				04:15 PM			
+0 mins.	**10**	**49**	5	**64**	**46**	**24**	9	**79**	11	**28**	7	46	10	**33**	12	**55**
+15 mins.	6	38	8	52	28	22	**10**	60	**12**	15	8	35	9	18	**13**	40
+30 mins.	6	24	**11**	41	26	18	4	48	12	14	11	37	9	16	4	29
+45 mins.	4	19	9	32	27	11	10	48	11	27	**14**	**52**	**17**	16	13	46
Total Volume	26	130	33	189	127	75	33	235	46	84	40	170	45	83	42	170
% App. Total	13.8	68.8	17.5		54	31.9	14		27.1	49.4	23.5		26.5	48.8	24.7	
PHF	.650	.663	.750	.738	.690	.781	.825	.744	.958	.750	.714	.817	.662	.629	.808	.773

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Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Westbound Ramps/Del Rio Place
Weather: Clear

File Name : 08_BWY_SR-111_SR-78W AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				Del Rio Place Westbound				SR-111 Northbound				SR-78 Westbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	31	4	35	1	0	1	2	4	37	0	41	24	0	2	26	104
07:15 AM	1	31	3	35	1	1	3	5	4	50	2	56	24	0	1	25	121
07:30 AM	1	30	4	35	1	0	2	3	3	43	1	47	18	0	2	20	105
07:45 AM	3	30	4	37	1	1	2	4	2	40	1	43	18	0	2	20	104
Total	5	122	15	142	4	2	8	14	13	170	4	187	84	0	7	91	434
08:00 AM	2	24	6	32	1	4	2	7	5	21	1	27	19	0	3	22	88
08:15 AM	2	45	2	49	0	3	1	4	1	26	1	28	9	0	7	16	97
08:30 AM	0	41	4	45	0	2	0	2	3	21	2	26	10	0	4	14	87
08:45 AM	0	36	2	38	0	4	1	5	4	18	1	23	10	2	2	14	80
Total	4	146	14	164	1	13	4	18	13	86	5	104	48	2	16	66	352
Grand Total	9	268	29	306	5	15	12	32	26	256	9	291	132	2	23	157	786
Apprch %	2.9	87.6	9.5		15.6	46.9	37.5		8.9	88	3.1		84.1	1.3	14.6		
Total %	1.1	34.1	3.7	38.9	0.6	1.9	1.5	4.1	3.3	32.6	1.1	37	16.8	0.3	2.9	20	

	SR-111 Southbound				Del Rio Place Westbound				SR-111 Northbound				SR-78 Westbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	**31**	**4**	35	**1**	0	1	2	**4**	37	0	41	**24**	0	**2**	**26**	104
07:15 AM	1	31	3	35	1	**1**	**3**	**5**	4	**50**	**2**	**56**	24	0	1	25	**121**
07:30 AM	1	30	4	35	1	0	2	3	3	43	1	47	18	0	2	20	105
07:45 AM	**3**	30	4	**37**	1	1	2	4	2	40	1	43	18	0	2	20	104
Total Volume	5	122	15	142	4	2	8	14	13	170	4	187	84	0	7	91	434
% App. Total	3.5	85.9	10.6		28.6	14.3	57.1		7	90.9	2.1		92.3	0	7.7		
PHF	.417	.984	.938	.959	1.00	.500	.667	.700	.813	.850	.500	.835	.875	.000	.875	.875	.897

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Corona, CA 92878
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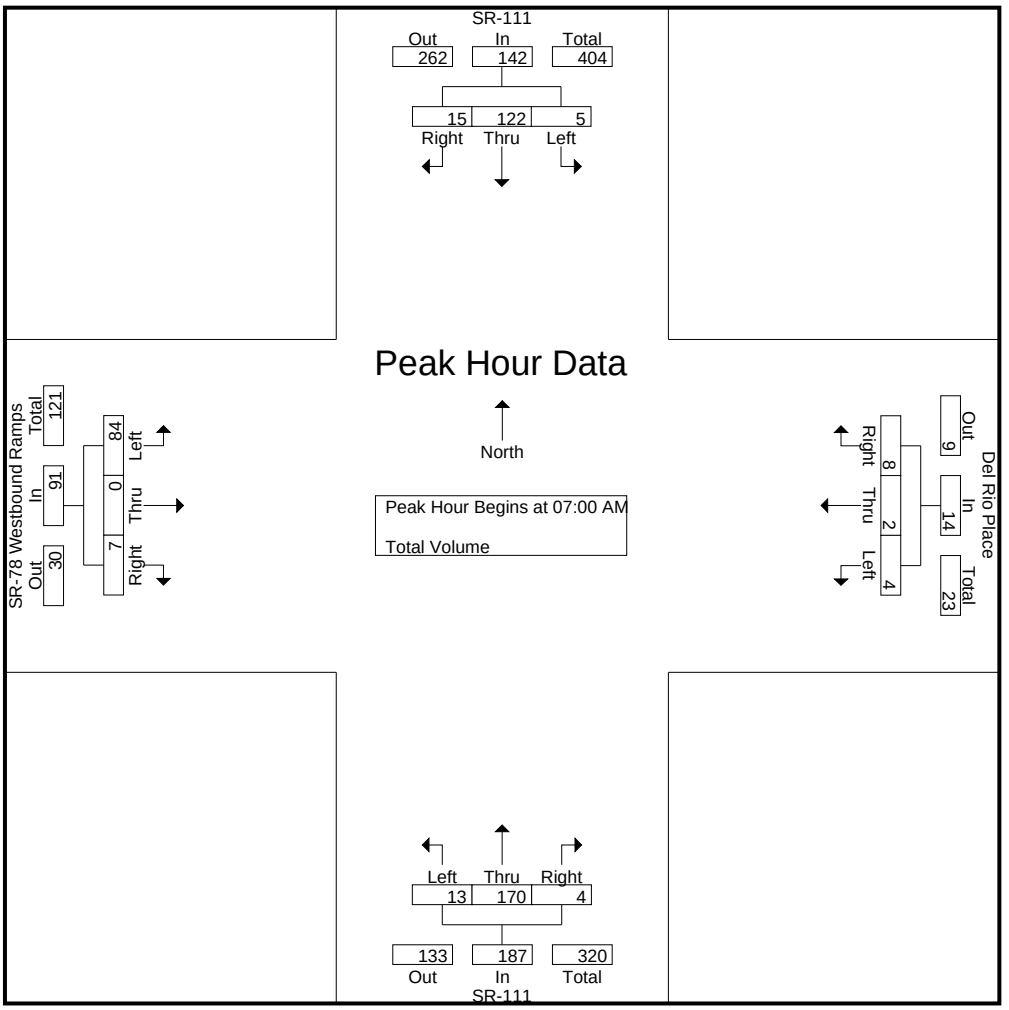
City of Brawley
N/S: SR-111
E/W: SR-78 Westbound Ramps/Del Rio Place
Weather: Clear

File Name : 08_BWY_SR-111_SR-78W AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:15 AM				07:00 AM				07:00 AM			
+0 mins.	**2**	24	**6**	32	**1**	1	**3**	5	**4**	37	0	41	**24**	0	**2**	**26**
+15 mins.	2	**45**	2	**49**	1	0	2	3	4	**50**	**2**	**56**	24	0	1	25
+30 mins.	0	41	4	45	1	1	2	4	3	43	1	47	18	0	2	20
+45 mins.	0	36	2	38	1	**4**	2	**7**	2	40	1	43	18	0	2	20
Total Volume	4	146	14	164	4	6	9	19	13	170	4	187	84	0	7	91
% App. Total	2.4	89	8.5		21.1	31.6	47.4		7	90.9	2.1		92.3	0	7.7	
PHF	.500	.811	.583	.837	1.000	.375	.750	.679	.813	.850	.500	.835	.875	.000	.875	.875

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(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Westbound Ramps/Del Rio Place
Weather: Clear

File Name : 08_BWY_SR-111_SR-78W PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				Del Rio Place Westbound				SR-111 Northbound				SR-78 Westbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	72	7	79	7	8	2	17	4	32	1	37	4	0	3	7	140
04:15 PM	1	82	12	95	2	5	5	12	6	40	0	46	7	0	8	15	168
04:30 PM	1	73	8	82	2	1	4	7	3	43	2	48	18	0	4	22	159
04:45 PM	1	61	5	67	0	0	0	0	2	32	0	34	12	0	2	14	115
Total	3	288	32	323	11	14	11	36	15	147	3	165	41	0	17	58	582
05:00 PM	0	50	5	55	1	3	2	6	5	38	0	43	14	1	5	20	124
05:15 PM	4	48	4	56	0	2	2	4	2	34	0	36	15	0	5	20	116
05:30 PM	1	28	2	31	1	4	0	5	1	34	0	35	16	0	4	20	91
05:45 PM	0	33	7	40	1	1	1	3	2	29	0	31	3	0	0	3	77
Total	5	159	18	182	3	10	5	18	10	135	0	145	48	1	14	63	408
Grand Total	8	447	50	505	14	24	16	54	25	282	3	310	89	1	31	121	990
Apprch %	1.6	88.5	9.9		25.9	44.4	29.6		8.1	91	1		73.6	0.8	25.6		
Total %	0.8	45.2	5.1	51	1.4	2.4	1.6	5.5	2.5	28.5	0.3	31.3	9	0.1	3.1	12.2	

	SR-111 Southbound				Del Rio Place Westbound				SR-111 Northbound				SR-78 Westbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	72	7	79	**7**	**8**	2	**17**	4	32	1	37	4	0	3	7	140
04:15 PM	**1**	**82**	**12**	**95**	2	5	**5**	12	**6**	40	0	46	7	0	**8**	15	**168**
04:30 PM	1	73	8	82	2	1	4	7	3	**43**	**2**	**48**	**18**	0	4	**22**	159
04:45 PM	1	61	5	67	0	0	0	0	2	32	0	34	12	0	2	14	115
Total Volume	3	288	32	323	11	14	11	36	15	147	3	165	41	0	17	58	582
% App. Total	0.9	89.2	9.9		30.6	38.9	30.6		9.1	89.1	1.8		70.7	0	29.3		
PHF	.750	.878	.667	.850	.393	.438	.550	.529	.625	.855	.375	.859	.569	.000	.531	.659	.866

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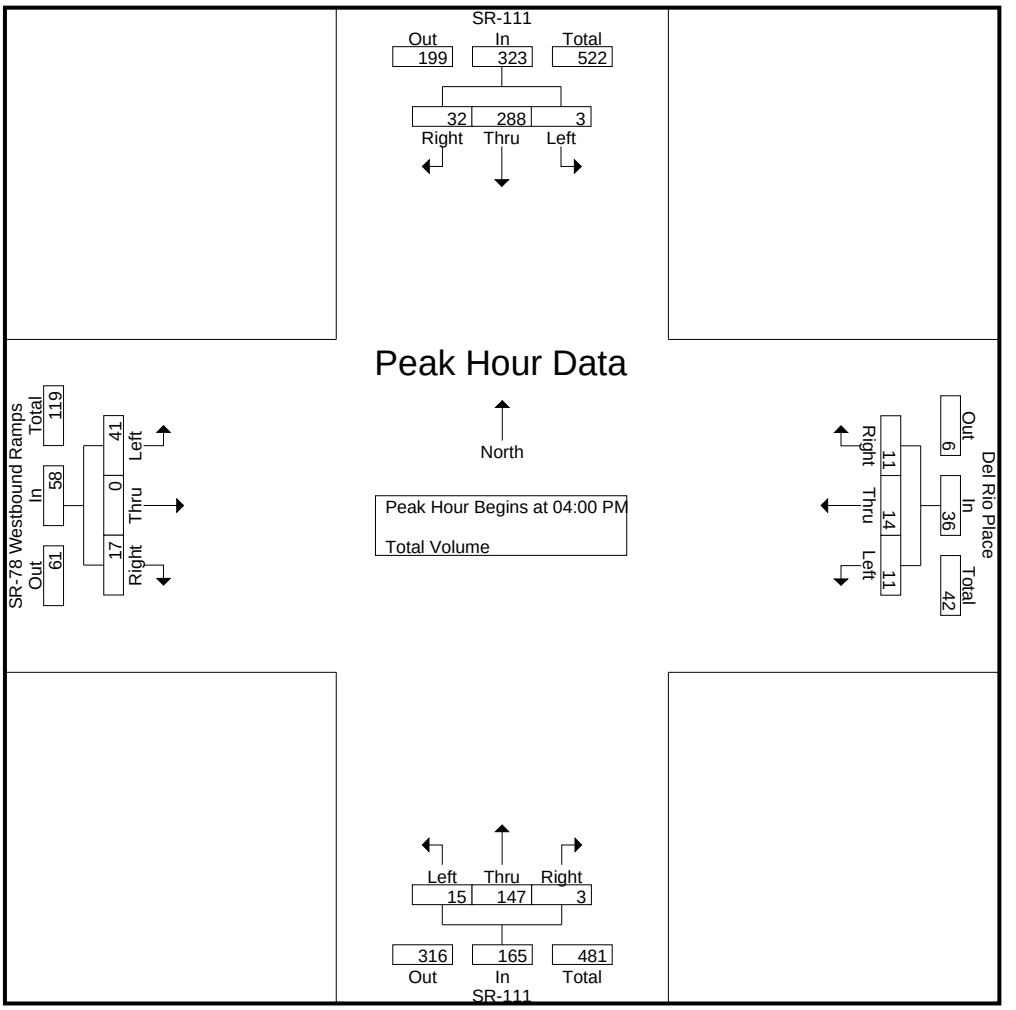
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Westbound Ramps/Del Rio Place
Weather: Clear

File Name : 08_BWY_SR-111_SR-78W PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:15 PM				04:30 PM			
+0 mins.	0	72	7	79	**7**	**8**	2	**17**	**6**	40	0	46	**18**	0	4	**22**
+15 mins.	**1**	**82**	**12**	**95**	2	5	**5**	12	3	**43**	**2**	**48**	12	0	2	14
+30 mins.	1	73	8	82	2	1	4	7	2	32	0	34	14	**1**	**5**	20
+45 mins.	1	61	5	67	0	0	0	0	5	38	0	43	15	0	5	20
Total Volume	3	288	32	323	11	14	11	36	16	153	2	171	59	1	16	76
% App. Total	0.9	89.2	9.9		30.6	38.9	30.6		9.4	89.5	1.2		77.6	1.3	21.1	
PHF	.750	.878	.667	.850	.393	.438	.550	.529	.667	.890	.250	.891	.819	.250	.800	.864

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Counts Unlimited, Inc.
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City of Brawley
N/S: SR-111
E/W: SR-78 Eastbound Ramps/Shank Road
Weather: Clear

File Name : 09_BWY_SR-111_SR-78E AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				Shank Road Westbound				SR-111 Northbound				SR-78 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	22	12	35	2	0	0	2	0	37	8	45	5	0	2	7	89
07:15 AM	0	19	10	29	3	0	0	3	7	45	6	58	3	1	0	4	94
07:30 AM	2	17	18	37	2	0	0	2	3	47	5	55	8	0	4	12	106
07:45 AM	1	24	8	33	6	0	1	7	2	34	11	47	9	1	5	15	102
Total	4	82	48	134	13	0	1	14	12	163	30	205	25	2	11	38	391
08:00 AM	0	23	5	28	3	0	0	3	3	26	3	32	2	1	4	7	70
08:15 AM	0	41	12	53	3	0	0	3	0	20	9	29	6	0	4	10	95
08:30 AM	1	31	12	44	4	0	0	4	3	21	9	33	5	1	2	8	89
08:45 AM	1	23	15	39	2	0	1	3	2	21	2	25	1	0	4	5	72
Total	2	118	44	164	12	0	1	13	8	88	23	119	14	2	14	30	326
Grand Total	6	200	92	298	25	0	2	27	20	251	53	324	39	4	25	68	717
Apprch %	2	67.1	30.9		92.6	0	7.4		6.2	77.5	16.4		57.4	5.9	36.8		
Total %	0.8	27.9	12.8	41.6	3.5	0	0.3	3.8	2.8	35	7.4	45.2	5.4	0.6	3.5	9.5	

	SR-111 Southbound				Shank Road Westbound				SR-111 Northbound				SR-78 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	22	12	35	2	0	0	2	0	37	8	45	5	0	2	7	89
07:15 AM	0	19	10	29	3	0	0	3	**7**	45	6	**58**	3	**1**	0	4	94
07:30 AM	**2**	17	**18**	**37**	2	0	0	2	3	**47**	5	55	8	0	4	12	**106**
07:45 AM	1	**24**	8	33	**6**	0	**1**	**7**	2	34	**11**	47	**9**	1	**5**	**15**	102
Total Volume	4	82	48	134	13	0	1	14	12	163	30	205	25	2	11	38	391
% App. Total	3	61.2	35.8		92.9	0	7.1		5.9	79.5	14.6		65.8	5.3	28.9		
PHF	.500	.854	.667	.905	.542	.000	.250	.500	.429	.867	.682	.884	.694	.500	.550	.633	.922

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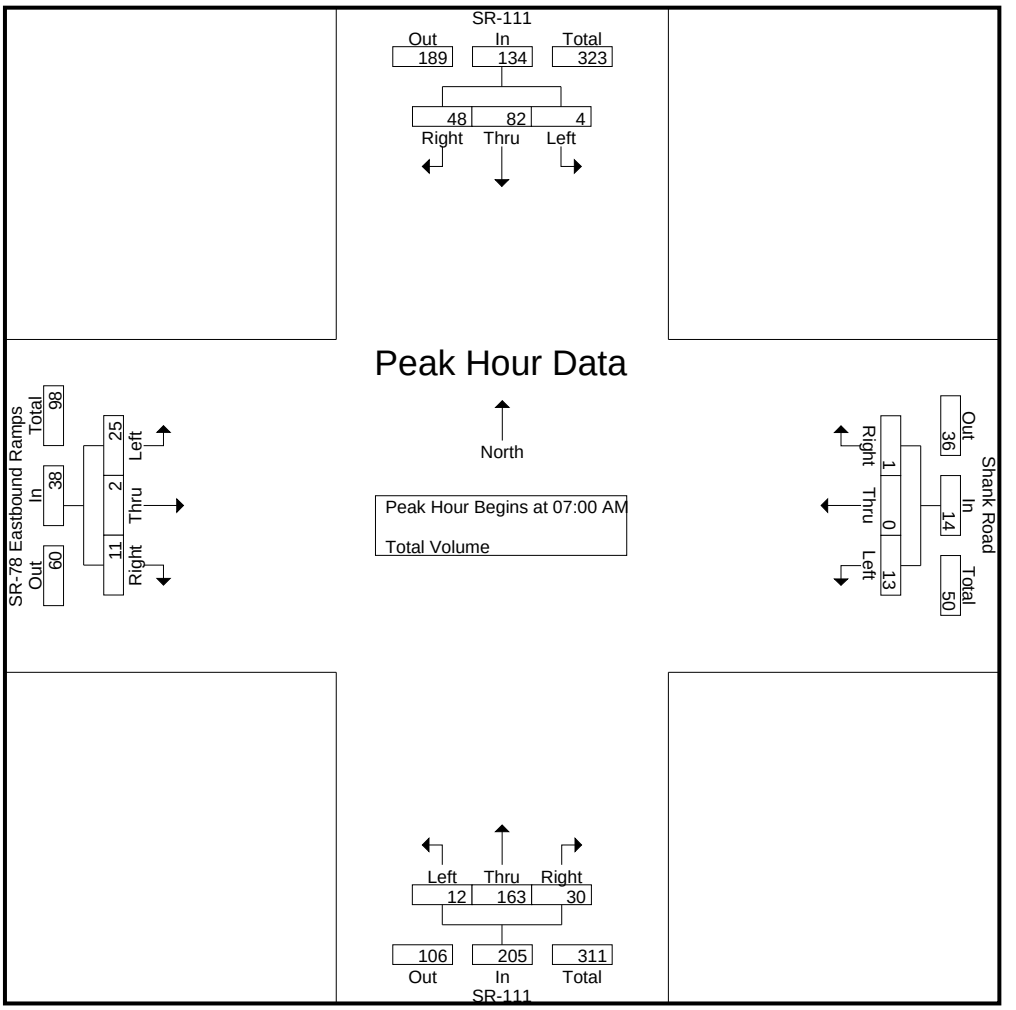
City of Brawley
N/S: SR-111
E/W: SR-78 Eastbound Ramps/Shank Road
Weather: Clear

File Name : 09_BWY_SR-111_SR-78E AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				07:00 AM				07:30 AM			
+0 mins.	0	23	5	28	**6**	0	**1**	**7**	0	37	8	45	8	0	4	12
+15 mins.	0	**41**	12	**53**	3	0	0	3	**7**	45	6	**58**	**9**	**1**	**5**	**15**
+30 mins.	**1**	31	12	44	3	0	0	3	3	**47**	5	55	2	1	4	7
+45 mins.	1	23	**15**	39	4	0	0	4	2	34	**11**	47	6	0	4	10
Total Volume	2	118	44	164	16	0	1	17	12	163	30	205	25	2	17	44
% App. Total	1.2	72	26.8		94.1	0	5.9		5.9	79.5	14.6		56.8	4.5	38.6	
PHF	.500	.720	.733	.774	.667	.000	.250	.607	.429	.867	.682	.884	.694	.500	.850	.733

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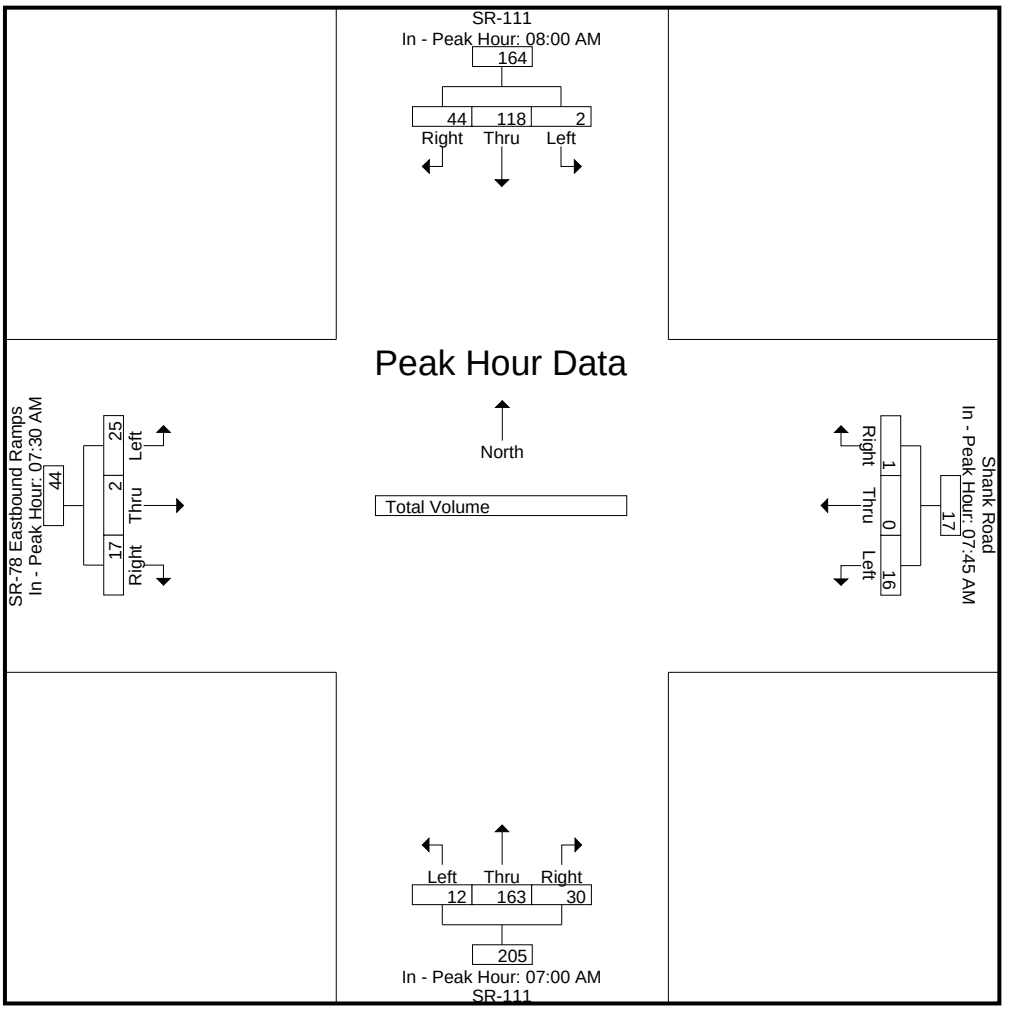

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City of Brawley
N/S: SR-111
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Weather: Clear

File Name : 09_BWY_SR-111_SR-78E PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				Shank Road Westbound				SR-111 Northbound				SR-78 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	52	32	84	17	0	0	17	5	28	3	36	9	2	10	21	158
04:15 PM	1	56	37	94	15	0	0	15	4	38	6	48	5	1	8	14	171
04:30 PM	1	52	24	77	13	0	4	17	7	38	7	52	5	4	11	20	166
04:45 PM	0	37	23	60	19	1	0	20	4	34	5	43	1	1	9	11	134
Total	2	197	116	315	64	1	4	69	20	138	21	179	20	8	38	66	629
05:00 PM	1	39	18	58	17	0	1	18	11	35	3	49	6	1	8	15	140
05:15 PM	0	39	17	56	5	3	0	8	1	34	3	38	2	1	6	9	111
05:30 PM	1	23	8	32	10	0	0	10	2	30	2	34	6	1	3	10	86
05:45 PM	0	28	7	35	7	2	0	9	0	27	3	30	8	1	1	10	84
Total	2	129	50	181	39	5	1	45	14	126	11	151	22	4	18	44	421
Grand Total	4	326	166	496	103	6	5	114	34	264	32	330	42	12	56	110	1050
Apprch %	0.8	65.7	33.5		90.4	5.3	4.4		10.3	80	9.7		38.2	10.9	50.9		
Total %	0.4	31	15.8	47.2	9.8	0.6	0.5	10.9	3.2	25.1	3	31.4	4	1.1	5.3	10.5	

	SR-111 Southbound				Shank Road Westbound				SR-111 Northbound				SR-78 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	52	32	84	17	0	0	17	5	28	3	36	**9**	2	10	**21**	158
04:15 PM	**1**	**56**	**37**	**94**	15	0	0	15	4	**38**	6	48	5	1	8	14	**171**
04:30 PM	1	52	24	77	13	0	**4**	17	**7**	38	**7**	**52**	5	**4**	**11**	20	166
04:45 PM	0	37	23	60	**19**	**1**	0	**20**	4	34	5	43	1	1	9	11	134
Total Volume	2	197	116	315	64	1	4	69	20	138	21	179	20	8	38	66	629
% App. Total	0.6	62.5	36.8		92.8	1.4	5.8		11.2	77.1	11.7		30.3	12.1	57.6		
PHF	.500	.879	.784	.838	.842	.250	.250	.863	.714	.908	.750	.861	.556	.500	.864	.786	.920

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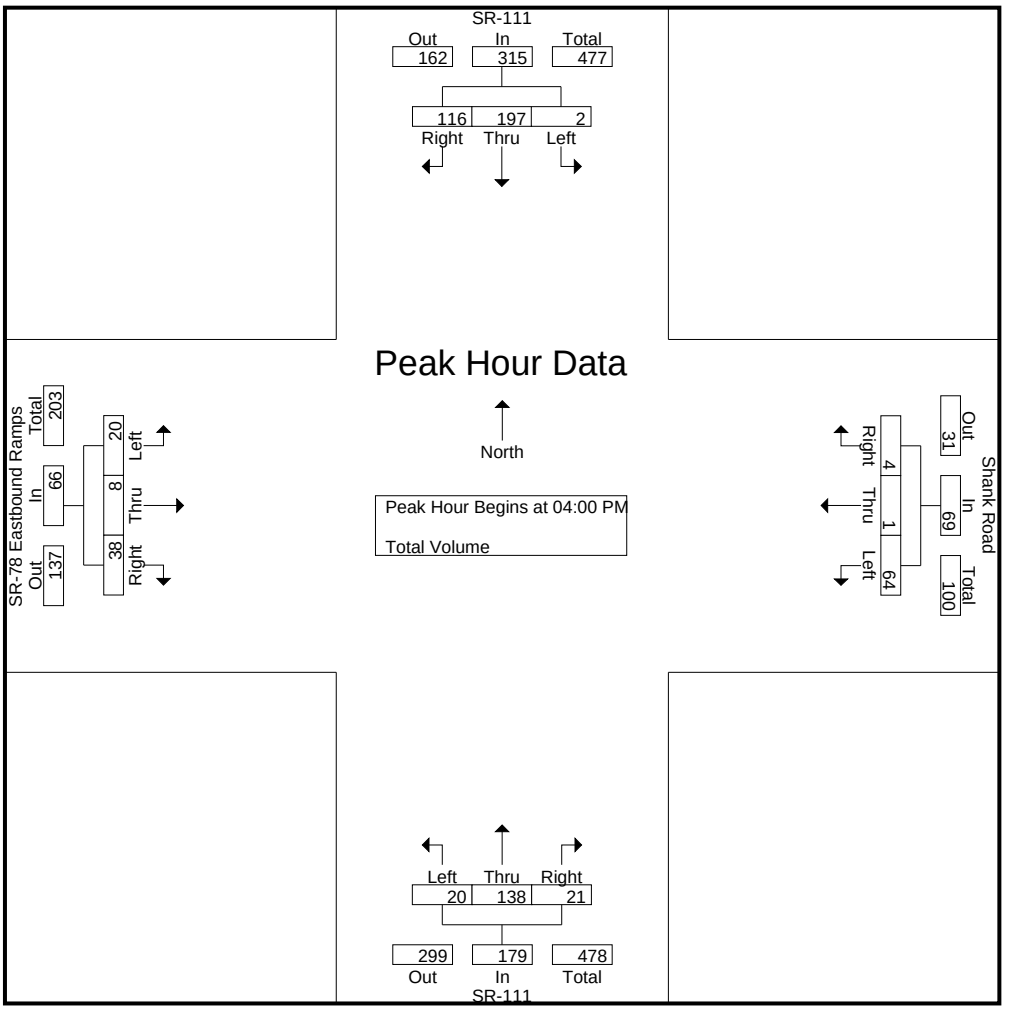
Weather: Clear

File Name : 09_BWY_SR-111_SR-78E PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM				04:15 PM				04:00 PM			
+0 mins.	0	52	32	84	15	0	0	15	4	**38**	6	48	**9**	2	10	**21**
+15 mins.	**1**	**56**	**37**	**94**	13	0	**4**	17	7	38	**7**	**52**	5	1	8	14
+30 mins.	1	52	24	77	**19**	**1**	0	**20**	4	34	5	43	5	**4**	**11**	20
+45 mins.	0	37	23	60	17	0	1	18	**11**	35	3	49	1	1	9	11
Total Volume	2	197	116	315	64	1	5	70	26	145	21	192	20	8	38	66
% App. Total	0.6	62.5	36.8		91.4	1.4	7.1		13.5	75.5	10.9		30.3	12.1	57.6	
PHF	.500	.879	.784	.838	.842	.250	.313	.875	.591	.954	.750	.923	.556	.500	.864	.786

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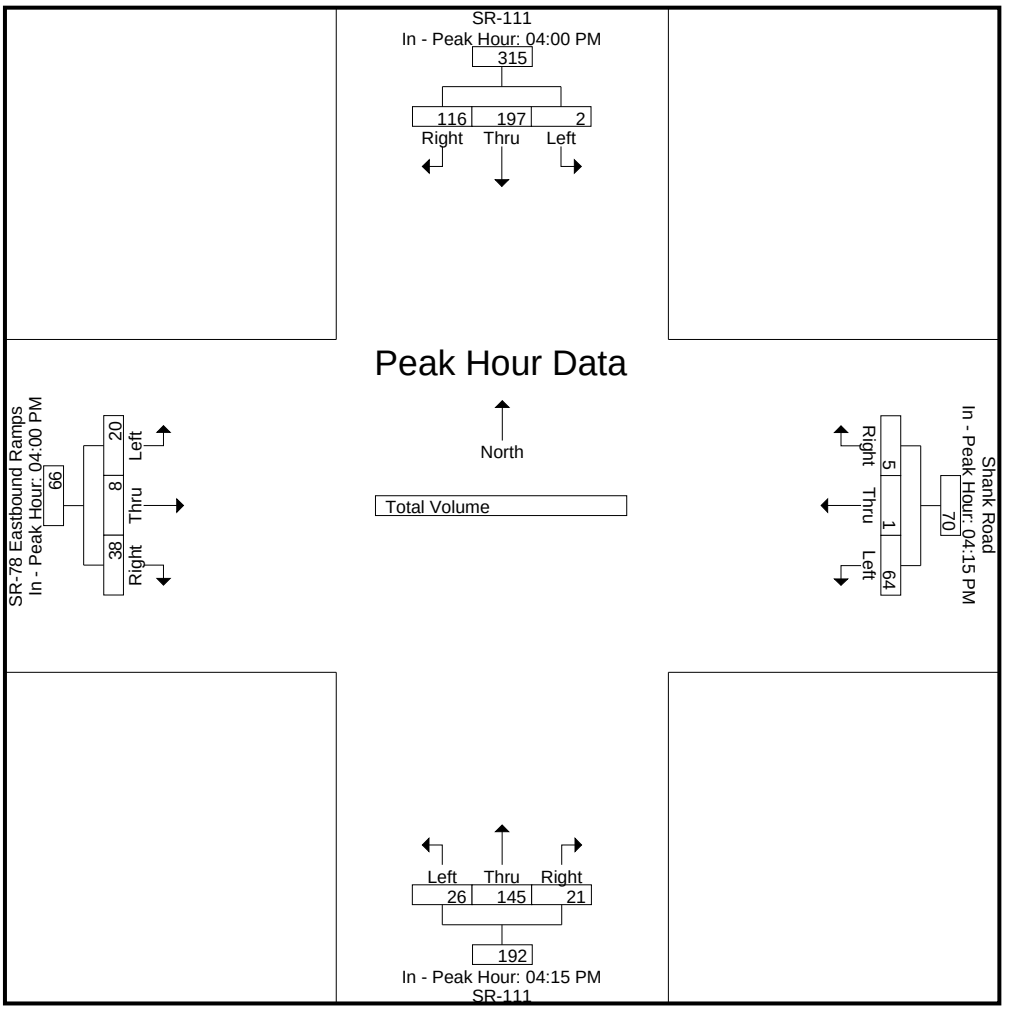

PC ORIGINAL PKG

APPENDIX B : EXISTING YEAR CONDITIONS ANALYSIS WORKSHEETS

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	14	0	0	25	0	0	0	0	0	0	0
Future Vol, veh/h	0	14	0	0	25	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	15	0	0	27	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	27	0	0	15	0	0	42	42	15	42	42	27
Stage 1	-	-	-	-	-	-	15	15	-	27	27	-
Stage 2	-	-	-	-	-	-	27	27	-	15	15	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1587	-	-	1603	-	-	961	850	1065	961	850	1048
Stage 1	-	-	-	-	-	-	1005	883	-	990	873	-
Stage 2	-	-	-	-	-	-	990	873	-	1005	883	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1587	-	-	1603	-	-	961	850	1065	961	850	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	961	850	-	961	850	-
Stage 1	-	-	-	-	-	-	1005	883	-	990	873	-
Stage 2	-	-	-	-	-	-	990	873	-	1005	883	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1587	-	-	1603	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	14	0	0	25	0	0	0	0	0	0	0
Future Vol, veh/h	0	14	0	0	25	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	15	0	0	27	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	27	0	0	15	0	0	42	42	15	42	42	27
Stage 1	-	-	-	-	-	-	15	15	-	27	27	-
Stage 2	-	-	-	-	-	-	27	27	-	15	15	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1587	-	-	1603	-	-	961	850	1065	961	850	1048
Stage 1	-	-	-	-	-	-	1005	883	-	990	873	-
Stage 2	-	-	-	-	-	-	990	873	-	1005	883	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1587	-	-	1603	-	-	961	850	1065	961	850	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	961	850	-	961	850	-
Stage 1	-	-	-	-	-	-	1005	883	-	990	873	-
Stage 2	-	-	-	-	-	-	990	873	-	1005	883	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1587	-	-	1603	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	3	2	0	3	5	79	2	10	76	1
Future Vol, veh/h	0	0	3	2	0	3	5	79	2	10	76	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	2	0	3	5	86	2	11	83	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	205	204	84	204	203	87	84	0	0	88	0	0
Stage 1	106	106	-	97	97	-	-	-	-	-	-	-
Stage 2	99	98	-	107	106	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	753	692	975	754	693	971	1513	-	-	1508	-	-
Stage 1	900	807	-	910	815	-	-	-	-	-	-	-
Stage 2	907	814	-	898	807	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	744	684	975	745	685	971	1513	-	-	1508	-	-
Mov Cap-2 Maneuver	744	684	-	745	685	-	-	-	-	-	-	-
Stage 1	897	801	-	907	813	-	-	-	-	-	-	-
Stage 2	901	812	-	888	801	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9.2	0.4	0.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1513	-	-	975	866	1508	-	-
HCM Lane V/C Ratio	0.004	-	-	0.003	0.006	0.007	-	-
HCM Control Delay (s)	7.4	0	-	8.7	9.2	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

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Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	17	2	0	16	2	113	1	5	116	1
Future Vol, veh/h	0	0	17	2	0	16	2	113	1	5	116	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	18	2	0	17	2	123	1	5	126	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	273	265	127	274	265	124	127	0	0	124	0	0
Stage 1	137	137	-	128	128	-	-	-	-	-	-	-
Stage 2	136	128	-	146	137	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	679	640	923	678	640	927	1459	-	-	1463	-	-
Stage 1	866	783	-	876	790	-	-	-	-	-	-	-
Stage 2	867	790	-	857	783	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	664	637	923	662	637	927	1459	-	-	1463	-	-
Mov Cap-2 Maneuver	664	637	-	662	637	-	-	-	-	-	-	-
Stage 1	865	780	-	875	789	-	-	-	-	-	-	-
Stage 2	850	789	-	836	780	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	9.1	0.1	0.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1459	-	-	923	888	1463	-	-
HCM Lane V/C Ratio	0.001	-	-	0.02	0.022	0.004	-	-
HCM Control Delay (s)	7.5	0	-	9	9.1	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

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Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	83	39	127	75	33	46	77	33	26	130	33
Future Vol, veh/h	44	83	39	127	75	33	46	77	33	26	130	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	90	42	138	82	36	50	84	36	28	141	36
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	9.8	11	9.9	10
HCM LOS	A	B	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	54%	0%	51%	0%	77%	0%	29%	0%
Vol Thru, %	46%	54%	49%	52%	23%	53%	71%	66%
Vol Right, %	0%	46%	0%	48%	0%	47%	0%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	85	72	86	81	165	71	91	98
LT Vol	46	0	44	0	127	0	26	0
Through Vol	39	39	42	42	38	38	65	65
RT Vol	0	33	0	39	0	33	0	33
Lane Flow Rate	92	78	93	88	179	77	99	107
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.163	0.125	0.162	0.138	0.312	0.118	0.17	0.172
Departure Headway (Hd)	6.375	5.772	6.262	5.658	6.273	5.552	6.192	5.808
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	563	621	573	634	574	646	580	618
Service Time	4.112	3.509	3.996	3.392	4.005	3.283	3.929	3.545
HCM Lane V/C Ratio	0.163	0.126	0.162	0.139	0.312	0.119	0.171	0.173
HCM Control Delay	10.4	9.3	10.2	9.3	11.8	9	10.2	9.8
HCM Lane LOS	B	A	B	A	B	A	B	A
HCM 95th-tile Q	0.6	0.4	0.6	0.5	1.3	0.4	0.6	0.6

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Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	3	14	2	7	14	17	135	0	6	107	10
Future Vol, veh/h	8	3	14	2	7	14	17	135	0	6	107	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	3	15	2	8	15	18	147	0	7	116	11
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	7.8	7.7	8.2	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	27%	0%	84%	0%	36%	0%	10%	0%
Vol Thru, %	73%	100%	16%	10%	64%	20%	90%	84%
Vol Right, %	0%	0%	0%	90%	0%	80%	0%	16%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	90	10	16	6	18	60	64
LT Vol	17	0	8	0	2	0	6	0
Through Vol	45	90	2	2	4	4	54	54
RT Vol	0	0	0	14	0	14	0	10
Lane Flow Rate	67	98	10	17	6	19	65	69
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.09	0.127	0.016	0.022	0.009	0.025	0.085	0.088
Departure Headway (Hd)	4.827	4.69	5.691	4.632	5.454	4.708	4.758	4.597
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	734	755	633	777	660	765	742	768
Service Time	2.613	2.475	3.392	2.333	3.154	2.409	2.553	2.392
HCM Lane V/C Ratio	0.091	0.13	0.016	0.022	0.009	0.025	0.088	0.09
HCM Control Delay	8.1	8.2	8.5	7.4	8.2	7.5	8	7.8
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.4	0	0.1	0	0.1	0.3	0.3

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	0	7	4	2	8	13	170	4	15	122	5
Future Volume (veh/h)	84	0	7	4	2	8	13	170	4	15	122	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	91	0	8	4	2	9	14	185	4	16	133	5
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	718	745	633	721	745	633	629	745	633	530	1392	52
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	9.0	0.0	8.2	8.1	8.1	8.2	12.9	14.3	11.8	10.9	8.7	8.7
Ln Grp LOS	A		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		99			15			203			154	
Approach Delay, s/veh		9.0			8.2			14.1			8.9	
Approach LOS		A			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.1		3.8		5.1		4.1
Max Q Clear (g_c+I1), s		6.0		3.9		6.4		2.2
Green Ext Time (g_e), s		0.8		0.2		0.5		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1246		1398		1189		1402

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3479		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		130		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	14	0	91	0	16	0	4
Grp Sat Flow (s), veh/h/ln	0	1246	0	1398	0	1189	0	1402
Q Serve Time (g_s), s	0.0	0.4	0.0	1.9	0.0	0.4	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	1.5	0.0	1.9	0.0	4.4	0.0	0.1
Perm LT Sat Flow (s_l), veh/h/ln	0	1246	0	1398	0	1189	0	1402
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	16.9	0.0	18.0	0.0	14.0	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.4	0.0	1.9	0.0	0.4	0.0	0.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	629	0	718	0	530	0	721
V/C Ratio (X)	0.00	0.02	0.00	0.13	0.00	0.03	0.00	0.01
Avail Cap (c_a), veh/h	0	629	0	718	0	530	0	721
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	8.7	0.0	10.8	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.4	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.9	0.0	9.0	0.0	10.9	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.7	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.8	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	185	0	0	0	67	0	2
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	4.0	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.0	0.0	0.0	0.0	1.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.25	0.00	0.00	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.5	0.0	0.0	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.3	0.0	0.0	0.0	8.7	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	0.0	0.0	0.5	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.2	0.0	0.0	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	4	0	8	0	71	0	9
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1840	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.07	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	736	0	633
V/C Ratio (X)	0.00	0.01	0.00	0.01	0.00	0.10	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	736	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.1	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.2	0.0	8.7	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.5	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.1
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	0	17	11	14	11	15	147	3	3	288	32
Future Volume (veh/h)	41	0	17	11	14	11	15	147	3	3	288	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	45	0	18	12	15	12	16	160	3	3	313	35
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	704	745	633	716	745	633	504	745	633	554	1285	143
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	8.7	0.0	8.3	8.2	8.2	8.2	14.7	13.9	11.8	10.3	9.8	9.8
Ln Grp LOS	A		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		63			39			179			351	
Approach Delay, s/veh		8.6			8.2			13.9			9.8	
Approach LOS		A			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.2		3.9		5.3		4.4
Max Q Clear (g_c+I1), s		5.6		3.1		5.5		2.2
Green Ext Time (g_e), s		0.7		0.1		1.6		0.1
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1029		1378		1218		1389

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3213		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		357		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	16	0	45	0	3	0	12
Grp Sat Flow (s), veh/h/ln	0	1029	0	1378	0	1218	0	1389
Q Serve Time (g_s), s	0.0	0.6	0.0	0.9	0.0	0.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	1.1	0.0	3.5	0.0	0.2
Perm LT Sat Flow (s_l), veh/h/ln	0	1029	0	1378	0	1218	0	1389
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	15.1	0.0	17.8	0.0	14.5	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.6	0.0	0.9	0.0	0.1	0.0	0.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	504	0	704	0	554	0	716
V/C Ratio (X)	0.00	0.03	0.00	0.06	0.00	0.01	0.00	0.02
Avail Cap (c_a), veh/h	0	504	0	704	0	554	0	716
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.6	0.0	8.5	0.0	10.3	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.7	0.0	8.7	0.0	10.3	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.3	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	160	0	0	0	171	0	15
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	3.5	0.0	0.0	0.0	2.9	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	3.5	0.0	0.0	0.0	2.9	0.0	0.2
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	0.24	0.00	0.02
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.2	0.0	0.0	0.0	9.0	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.9	0.0	0.0	0.0	9.8	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	0.0	0.0	1.4	0.0	0.1

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.9	0.0	0.0	0.0	1.5	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	3	0	18	0	177	0	12
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1800	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.3	0.0	2.9	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.3	0.0	2.9	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.20	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	720	0	633
V/C Ratio (X)	0.00	0.00	0.00	0.03	0.00	0.25	0.00	0.02
Avail Cap (c_a), veh/h	0	633	0	633	0	720	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.2	0.0	9.0	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.8	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.3	0.0	9.8	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	1.4	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	1.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	10.7
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	4	25	6	0	1	20	251	53	2	200	92
Future Volume (veh/h)	39	4	25	6	0	1	20	251	53	2	200	92
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	42	4	27	7	0	1	22	273	58	2	217	100
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	402	32	633	409	0	633	472	745	633	470	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	14.0	0.0	8.4	15.2	0.0	8.1	11.6	10.9	8.7	15.9	14.8	13.3
Ln Grp LOS	B		A	B		A	B	B	A	B	B	B
Approach Vol, veh/h		73			8			353			319	
Approach Delay, s/veh		11.9			14.4			10.6			14.3	
Approach LOS		B			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.0		4.8		4.9		5.2
Max Q Clear (g_c+l1), s		7.4		12.4		6.7		12.0
Green Ext Time (g_e), s		1.4		0.1		1.2		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1058		623		1045		621

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		79		1863		0

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	22	0	46	0	2	0	7
Grp Sat Flow (s), veh/h/ln	0	1058	0	702	0	1045	0	621
Q Serve Time (g_s), s	0.0	0.7	0.0	0.9	0.0	0.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	5.4	0.0	10.4	0.0	4.7	0.0	10.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1058	0	1439	0	1045	0	1400
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.3	0.0	8.5	0.0	13.4	0.0	8.1
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	0.9	0.0	0.1	0.0	0.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.91	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	472	0	434	0	470	0	409
V/C Ratio (X)	0.00	0.05	0.00	0.11	0.00	0.00	0.00	0.02
Avail Cap (c_a), veh/h	0	472	0	434	0	470	0	409
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.4	0.0	13.5	0.0	15.9	0.0	15.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.6	0.0	14.0	0.0	15.9	0.0	15.2
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	273	0	0	0	217	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	4.6	0.0	0.0	0.0	4.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.6	0.0	0.0	0.0	4.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.37	0.00	0.00	0.00	0.29	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.5	0.0	0.0	0.0	13.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.0	0.0	1.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.9	0.0	0.0	0.0	14.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	0.0	0.0	2.4	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.6	0.0	0.0	0.0	2.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	58	0	27	0	100	0	1
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	1.0	0.0	0.5	0.0	2.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.0	0.0	0.5	0.0	2.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.09	0.00	0.04	0.00	0.16	0.00	0.00
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.4	0.0	8.2	0.0	12.8	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.1	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.7	0.0	8.4	0.0	13.3	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	0.2	0.0	1.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.2	0.0	1.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	8	38	64	1	4	20	138	21	2	197	116
Future Volume (veh/h)	20	8	38	64	1	4	20	138	21	2	197	116
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	9	41	70	1	4	22	150	23	2	214	126
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	137	34	633	161	1	633	467	745	633	579	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	13.8	0.0	8.5	30.6	0.0	8.1	11.6	9.4	8.3	13.8	14.7	13.8
Ln Grp LOS	B		A	C		A	B	A	A	B	B	B
Approach Vol, veh/h		72			75			195			342	
Approach Delay, s/veh		10.8			29.4			9.5			14.4	
Approach LOS		B			C			A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.0		4.6		4.8		5.3
Max Q Clear (g_c+l1), s		7.4		20.0		6.7		20.0
Green Ext Time (g_e), s		0.7		0.0		1.2		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1036		1		1207		5

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		85		1863		3

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	22	0	31	0	2	0	71
Grp Sat Flow (s), veh/h/ln	0	1036	0	87	0	1207	0	8
Q Serve Time (g_s), s	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	5.4	0.0	18.0	0.0	2.4	0.0	18.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1036	0	1434	0	1207	0	1376
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.3	0.0	0.0	0.0	15.6	0.0	0.1
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.71	0.00	1.00	0.00	0.99
Lane Grp Cap (c), veh/h	0	467	0	171	0	579	0	162
V/C Ratio (X)	0.00	0.05	0.00	0.18	0.00	0.00	0.00	0.44
Avail Cap (c_a), veh/h	0	467	0	171	0	579	0	162
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.4	0.0	11.5	0.0	13.8	0.0	22.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	2.3	0.0	0.0	0.0	8.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.6	0.0	13.8	0.0	13.8	0.0	30.6
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.3	0.0	0.0	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.42
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	150	0	0	0	214	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	2.4	0.0	0.0	0.0	4.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.4	0.0	0.0	0.0	4.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.20	0.00	0.00	0.00	0.29	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.8	0.0	0.0	0.0	13.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	0.0	1.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.4	0.0	0.0	0.0	14.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	0.0	0.0	2.4	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	0.0	0.0	2.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	41	0	126	0	4
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	0.4	0.0	0.7	0.0	3.2	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	0.4	0.0	0.7	0.0	3.2	0.0	0.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.04	0.00	0.06	0.00	0.20	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.2	0.0	8.3	0.0	13.1	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.3	0.0	8.5	0.0	13.8	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.3	0.0	1.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.3	0.0	1.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	14.3
HCM 2010 LOS	B

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APPENDIX C : CONSTRUCTION YEAR ANALYSIS WORKSHEETS

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	0
Future Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	16	0	0	28	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	16	0	0	44	44	16	44	44	28
Stage 1	-	-	-	-	-	-	16	16	-	28	28	-
Stage 2	-	-	-	-	-	-	28	28	-	16	16	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1602	-	-	958	848	1063	958	848	1047
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	1004	882	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1585	-	-	1602	-	-	958	848	1063	958	848	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	958	848	-	958	848	-
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	1004	882	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1585	-	-	1602	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

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Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	0
Future Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	16	0	0	28	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	16	0	0	44	44	16	44	44	28
Stage 1	-	-	-	-	-	-	16	16	-	28	28	-
Stage 2	-	-	-	-	-	-	28	28	-	16	16	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1602	-	-	958	848	1063	958	848	1047
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	1004	882	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1585	-	-	1602	-	-	958	848	1063	958	848	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	958	848	-	958	848	-
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	1004	882	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1585	-	-	1602	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

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Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	3	2	0	3	5	83	2	11	80	1
Future Vol, veh/h	0	0	3	2	0	3	5	83	2	11	80	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	2	0	3	5	90	2	12	87	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	215	214	88	214	213	91	88	0	0	92	0	0
Stage 1	112	112	-	101	101	-	-	-	-	-	-	-
Stage 2	103	102	-	113	112	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	742	684	970	743	684	967	1508	-	-	1503	-	-
Stage 1	893	803	-	905	811	-	-	-	-	-	-	-
Stage 2	903	811	-	892	803	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	733	676	970	734	676	967	1508	-	-	1503	-	-
Mov Cap-2 Maneuver	733	676	-	734	676	-	-	-	-	-	-	-
Stage 1	890	797	-	902	809	-	-	-	-	-	-	-
Stage 2	897	809	-	882	797	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9.2	0.4	0.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1508	-	-	970	858	1503	-	-
HCM Lane V/C Ratio	0.004	-	-	0.003	0.006	0.008	-	-
HCM Control Delay (s)	7.4	0	-	8.7	9.2	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

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Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	18	2	0	17	2	119	1	5	122	1
Future Vol, veh/h	0	0	18	2	0	17	2	119	1	5	122	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	20	2	0	18	2	129	1	5	133	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	287	278	134	288	278	130	134	0	0	130	0	0
Stage 1	144	144	-	134	134	-	-	-	-	-	-	-
Stage 2	143	134	-	154	144	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	665	630	915	664	630	920	1451	-	-	1455	-	-
Stage 1	859	778	-	869	785	-	-	-	-	-	-	-
Stage 2	860	785	-	848	778	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	649	627	915	647	627	920	1451	-	-	1455	-	-
Mov Cap-2 Maneuver	649	627	-	647	627	-	-	-	-	-	-	-
Stage 1	858	775	-	868	784	-	-	-	-	-	-	-
Stage 2	842	784	-	827	775	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	9.2	0.1	0.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1451	-	-	915	881	1455	-	-
HCM Lane V/C Ratio	0.001	-	-	0.021	0.023	0.004	-	-
HCM Control Delay (s)	7.5	0	-	9	9.2	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

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Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	88	41	134	79	35	49	81	35	27	137	35
Future Vol, veh/h	46	88	41	134	79	35	49	81	35	27	137	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	96	45	146	86	38	53	88	38	29	149	38
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	10	11.4	10.1	10.2
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	55%	0%	51%	0%	77%	0%	28%	0%
Vol Thru, %	45%	54%	49%	52%	23%	53%	72%	66%
Vol Right, %	0%	46%	0%	48%	0%	47%	0%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	76	90	85	174	75	96	104
LT Vol	49	0	46	0	134	0	27	0
Through Vol	41	41	44	44	40	40	69	69
RT Vol	0	35	0	41	0	35	0	35
Lane Flow Rate	97	82	98	92	189	81	104	112
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.175	0.134	0.173	0.148	0.333	0.127	0.182	0.185
Departure Headway (Hd)	6.485	5.878	6.363	5.762	6.365	5.642	6.295	5.912
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	554	610	563	622	566	635	570	606
Service Time	4.225	3.618	4.104	3.503	4.104	3.38	4.033	3.65
HCM Lane V/C Ratio	0.175	0.134	0.174	0.148	0.334	0.128	0.182	0.185
HCM Control Delay	10.6	9.5	10.4	9.5	12.3	9.2	10.4	10
HCM Lane LOS	B	A	B	A	B	A	B	A
HCM 95th-tile Q	0.6	0.5	0.6	0.5	1.5	0.4	0.7	0.7

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Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	3	15	2	7	15	18	142	0	6	113	11
Future Vol, veh/h	8	3	15	2	7	15	18	142	0	6	113	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	3	16	2	8	16	20	154	0	7	123	12
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	7.9	7.7	8.2	8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	28%	0%	84%	0%	36%	0%	10%	0%
Vol Thru, %	72%	100%	16%	9%	64%	19%	90%	84%
Vol Right, %	0%	0%	0%	91%	0%	81%	0%	16%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	95	10	17	6	19	63	68
LT Vol	18	0	8	0	2	0	6	0
Through Vol	47	95	2	2	4	4	57	57
RT Vol	0	0	0	15	0	15	0	11
Lane Flow Rate	71	103	10	18	6	20	68	73
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.095	0.134	0.016	0.023	0.009	0.026	0.092	0.094
Departure Headway (Hd)	4.836	4.698	5.731	4.668	5.494	4.741	4.863	4.601
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	732	753	628	771	655	759	741	767
Service Time	2.626	2.488	3.435	2.372	3.198	2.445	2.563	2.4
HCM Lane V/C Ratio	0.097	0.137	0.016	0.023	0.009	0.026	0.092	0.095
HCM Control Delay	8.1	8.2	8.5	7.5	8.2	7.6	8.1	7.9
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0	0.1	0	0.1	0.3	0.3

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	0	7	4	2	8	14	179	4	16	129	5
Future Volume (veh/h)	89	0	7	4	2	8	14	179	4	16	129	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	97	0	8	4	2	9	15	195	4	17	140	5
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	718	745	633	721	745	633	624	745	633	521	1395	50
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	9.1	0.0	8.2	8.1	8.1	8.2	13.0	14.4	11.8	11.1	8.7	8.7
Ln Grp LOS	A		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		105			15			214			162	
Approach Delay, s/veh		9.0			8.2			14.3			9.0	
Approach LOS		A			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.1		3.8		5.1		4.1
Max Q Clear (g_c+I1), s		6.2		4.0		6.7		2.2
Green Ext Time (g_e), s		0.8		0.2		0.5		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1238		1398		1179		1402

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3486		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		124		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	15	0	97	0	17	0	4
Grp Sat Flow (s), veh/h/ln	0	1238	0	1398	0	1179	0	1402
Q Serve Time (g_s), s	0.0	0.5	0.0	2.0	0.0	0.5	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	1.6	0.0	2.0	0.0	4.7	0.0	0.1
Perm LT Sat Flow (s_l), veh/h/ln	0	1238	0	1398	0	1179	0	1402
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	16.9	0.0	18.0	0.0	13.8	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.5	0.0	2.0	0.0	0.5	0.0	0.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	624	0	718	0	521	0	721
V/C Ratio (X)	0.00	0.02	0.00	0.14	0.00	0.03	0.00	0.01
Avail Cap (c_a), veh/h	0	624	0	718	0	521	0	721
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	8.7	0.0	11.0	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.4	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.0	0.0	9.1	0.0	11.1	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.8	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.9	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	195	0	0	0	71	0	2
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	4.2	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.2	0.0	0.0	0.0	1.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.26	0.00	0.00	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.6	0.0	0.0	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.4	0.0	0.0	0.0	8.7	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	0.0	0.0	0.6	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.4	0.0	0.0	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	4	0	8	0	74	0	9
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1841	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.07	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	736	0	633
V/C Ratio (X)	0.00	0.01	0.00	0.01	0.00	0.10	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	736	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.1	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.2	0.0	8.7	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.2
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	0	18	12	15	12	16	155	3	3	304	34
Future Volume (veh/h)	43	0	18	12	15	12	16	155	3	3	304	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	47	0	20	13	16	13	17	168	3	3	330	37
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	703	745	633	715	745	633	494	745	633	546	1285	143
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	8.7	0.0	8.3	8.2	8.2	8.2	14.9	14.0	11.8	10.5	9.9	9.9
Ln Grp LOS	A		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		67			42			188			370	
Approach Delay, s/veh		8.6			8.2			14.0			9.9	
Approach LOS		A			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.2		3.9		5.3		4.4
Max Q Clear (g_c+I1), s		5.8		3.2		5.7		2.3
Green Ext Time (g_e), s		0.7		0.1		1.7		0.1
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1011		1375		1209		1386

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3212		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		358		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	17	0	47	0	3	0	13
Grp Sat Flow (s), veh/h/ln	0	1011	0	1375	0	1209	0	1386
Q Serve Time (g_s), s	0.0	0.7	0.0	1.0	0.0	0.1	0.0	0.3
Cycle Q Clear Time (g_c), s	0.0	3.8	0.0	1.2	0.0	3.7	0.0	0.3
Perm LT Sat Flow (s_l), veh/h/ln	0	1011	0	1375	0	1209	0	1386
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	14.9	0.0	17.8	0.0	14.4	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	1.0	0.0	0.1	0.0	0.3
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	494	0	703	0	546	0	715
V/C Ratio (X)	0.00	0.03	0.00	0.07	0.00	0.01	0.00	0.02
Avail Cap (c_a), veh/h	0	494	0	703	0	546	0	715
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.8	0.0	8.5	0.0	10.5	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.9	0.0	8.7	0.0	10.5	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	168	0	0	0	181	0	16
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	3.6	0.0	0.0	0.0	3.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	0.0	0.0	3.1	0.0	0.2
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.23	0.00	0.00	0.00	0.26	0.00	0.02
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.3	0.0	0.0	0.0	9.0	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.9	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.0	0.0	0.0	0.0	9.9	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	0.0	0.0	1.5	0.0	0.1

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.0	0.0	0.0	0.0	1.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	3	0	20	0	186	0	13
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1800	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.3	0.0	3.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.3	0.0	3.1	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.20	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	720	0	633
V/C Ratio (X)	0.00	0.00	0.00	0.03	0.00	0.26	0.00	0.02
Avail Cap (c_a), veh/h	0	633	0	633	0	720	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.2	0.0	9.0	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.9	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.3	0.0	9.9	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	1.6	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.2	0.0	1.7	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	4	26	6	0	1	21	265	56	2	211	97
Future Volume (veh/h)	41	4	26	6	0	1	21	265	56	2	211	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	45	4	28	7	0	1	23	288	61	2	229	105
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	378	27	633	379	0	633	461	745	633	458	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	15.0	0.0	8.4	16.1	0.0	8.1	11.8	11.1	8.7	16.1	15.0	13.4
Ln Grp LOS	B		A	B		A	B	B	A	B	B	B
Approach Vol, veh/h		77			8			372			336	
Approach Delay, s/veh		12.6			15.1			10.8			14.5	
Approach LOS		B			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.0		4.8		4.9		5.2
Max Q Clear (g_c+l1), s		7.7		13.4		7.0		13.0
Green Ext Time (g_e), s		1.4		0.1		1.2		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1042		560		1028		548

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		68		1863		0

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	49	0	2	0	7
Grp Sat Flow (s), veh/h/ln	0	1042	0	628	0	1028	0	548
Q Serve Time (g_s), s	0.0	0.7	0.0	1.1	0.0	0.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	5.7	0.0	11.4	0.0	5.0	0.0	11.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1042	0	1439	0	1028	0	1399
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.0	0.0	7.6	0.0	13.1	0.0	7.2
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	1.1	0.0	0.1	0.0	0.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.92	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	461	0	405	0	458	0	379
V/C Ratio (X)	0.00	0.05	0.00	0.12	0.00	0.00	0.00	0.02
Avail Cap (c_a), veh/h	0	461	0	405	0	458	0	379
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.6	0.0	14.3	0.0	16.1	0.0	16.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.6	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	15.0	0.0	16.1	0.0	16.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.6	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	288	0	0	0	229	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	4.9	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.9	0.0	0.0	0.0	5.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.39	0.00	0.00	0.00	0.31	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.6	0.0	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.0	1.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.1	0.0	0.0	0.0	15.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.0	0.0	2.6	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.8	0.0	0.0	0.0	2.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	61	0	28	0	105	0	1
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	1.1	0.0	0.5	0.0	2.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	0.5	0.0	2.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.10	0.00	0.04	0.00	0.17	0.00	0.00
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.4	0.0	8.2	0.0	12.9	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.1	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.7	0.0	8.4	0.0	13.4	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	0.2	0.0	1.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.2	0.0	1.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	8	40	68	1	4	21	146	22	2	208	122
Future Volume (veh/h)	21	8	40	68	1	4	21	146	22	2	208	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	23	9	43	74	1	4	23	159	24	2	226	133
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	138	32	633	160	1	633	456	745	633	571	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	14.0	0.0	8.5	31.7	0.0	8.1	11.8	9.5	8.3	14.0	14.9	13.9
Ln Grp LOS	B		A	C		A	B	A	A	B	B	B
Approach Vol, veh/h		75			79			206			361	
Approach Delay, s/veh		10.9			30.5			9.6			14.5	
Approach LOS		B			C			A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.1		4.6		4.8		5.3
Max Q Clear (g_c+l1), s		7.7		20.0		6.9		20.0
Green Ext Time (g_e), s		0.7		0.0		1.3		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1018		0		1196		1

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		81		1863		3

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	32	0	2	0	75
Grp Sat Flow (s), veh/h/ln	0	1018	0	82	0	1196	0	4
Q Serve Time (g_s), s	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.7	0.0	18.0	0.0	2.6	0.0	18.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1018	0	1434	0	1196	0	1374
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.1	0.0	0.0	0.0	15.5	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.72	0.00	1.00	0.00	0.99
Lane Grp Cap (c), veh/h	0	456	0	170	0	571	0	161
V/C Ratio (X)	0.00	0.05	0.00	0.19	0.00	0.00	0.00	0.47
Avail Cap (c_a), veh/h	0	456	0	170	0	571	0	161
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.6	0.0	11.5	0.0	14.0	0.0	22.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	2.4	0.0	0.0	0.0	9.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	14.0	0.0	14.0	0.0	31.7
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.45
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	159	0	0	0	226	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	2.5	0.0	0.0	0.0	4.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.5	0.0	0.0	0.0	4.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	0.30	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.9	0.0	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	1.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.5	0.0	0.0	0.0	14.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	0.0	0.0	2.5	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.4	0.0	0.0	0.0	2.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	24	0	43	0	133	0	4
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	0.4	0.0	0.8	0.0	3.4	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	0.4	0.0	0.8	0.0	3.4	0.0	0.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.04	0.00	0.07	0.00	0.21	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.2	0.0	8.3	0.0	13.2	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.3	0.0	8.5	0.0	13.9	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.3	0.0	1.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	1.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	14.5
HCM 2010 LOS	B

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APPENDIX D : CONSTRUCTION YEAR PLUS PROJECT ANALYSIS WORKSHEETS

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Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	250	15	0	0	26	0	0	0	0	0	0	0
Future Vol, veh/h	250	15	0	0	26	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	272	16	0	0	28	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	16	0	0	588	588	16	588	588	28
Stage 1	-	-	-	-	-	-	560	560	-	28	28	-
Stage 2	-	-	-	-	-	-	28	28	-	560	560	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1602	-	-	421	421	1063	421	421	1047
Stage 1	-	-	-	-	-	-	513	511	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	513	511	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1585	-	-	1602	-	-	365	348	1063	365	348	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	365	348	-	365	348	-
Stage 1	-	-	-	-	-	-	424	423	-	818	872	-
Stage 2	-	-	-	-	-	-	989	872	-	424	423	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	7.3	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1585	-	-	1602	-	-	-
HCM Lane V/C Ratio	-	0.171	-	-	-	-	-	-
HCM Control Delay (s)	0	7.7	0	-	0	-	-	0
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0.6	-	-	0	-	-	-

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Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	3	2	0	3	5	83	227	36	80	1
Future Vol, veh/h	0	0	3	2	0	3	5	83	227	36	80	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	2	0	3	5	90	247	39	87	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	391	513	88	391	390	214	88	0	0	337	0	0
Stage 1	166	166	-	224	224	-	-	-	-	-	-	-
Stage 2	225	347	-	167	166	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	568	465	970	568	545	826	1508	-	-	1222	-	-
Stage 1	836	761	-	779	718	-	-	-	-	-	-	-
Stage 2	778	635	-	835	761	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	549	447	970	550	524	826	1508	-	-	1222	-	-
Mov Cap-2 Maneuver	549	447	-	550	524	-	-	-	-	-	-	-
Stage 1	833	735	-	776	715	-	-	-	-	-	-	-
Stage 2	772	632	-	804	735	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	10.3	0.1	2.5
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1508	-	-	970	688	1222	-	-
HCM Lane V/C Ratio	0.004	-	-	0.003	0.008	0.032	-	-
HCM Control Delay (s)	7.4	0	-	8.7	10.3	8	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.1	-	-

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Intersection	
Intersection Delay, s/veh	12.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	88	41	134	79	39	49	298	35	27	137	35
Future Vol, veh/h	50	88	41	134	79	39	49	298	35	27	137	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	96	45	146	86	42	53	324	38	29	149	38
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	11.2	12.9	12.9	11.1
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	25%	0%	53%	0%	77%	0%	28%	0%
Vol Thru, %	75%	81%	47%	52%	23%	50%	72%	66%
Vol Right, %	0%	19%	0%	48%	0%	50%	0%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	198	184	94	85	174	79	96	104
LT Vol	49	0	50	0	134	0	27	0
Through Vol	149	149	44	44	40	40	69	69
RT Vol	0	35	0	41	0	39	0	35
Lane Flow Rate	215	200	102	92	189	85	104	112
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.39	0.348	0.203	0.167	0.372	0.151	0.198	0.202
Departure Headway (Hd)	6.52	6.259	7.141	6.525	7.098	6.351	6.856	6.471
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	549	572	500	546	505	561	520	551
Service Time	4.291	4.03	4.926	4.31	4.876	4.129	4.638	4.253
HCM Lane V/C Ratio	0.392	0.35	0.204	0.168	0.374	0.152	0.2	0.203
HCM Control Delay	13.4	12.4	11.8	10.6	14.1	10.3	11.3	10.9
HCM Lane LOS	B	B	B	B	B	B	B	B
HCM 95th-tile Q	1.8	1.5	0.8	0.6	1.7	0.5	0.7	0.7

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	257	0	7	4	2	8	14	224	4	16	129	5
Future Volume (veh/h)	257	0	7	4	2	8	14	224	4	16	129	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	279	0	8	4	2	9	15	243	4	17	140	5
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	718	745	633	721	745	633	624	745	633	478	1395	50
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	11.7	0.0	8.2	8.1	8.1	8.2	13.0	15.2	11.8	11.9	8.7	8.7
Ln Grp LOS	B		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		287			15			262			162	
Approach Delay, s/veh		11.6			8.2			15.0			9.1	
Approach LOS		B			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.2		3.8		5.2		4.1
Max Q Clear (g_c+I1), s		7.3		8.8		7.8		2.2
Green Ext Time (g_e), s		1.0		0.6		0.5		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1238		1398		1128		1402

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3486		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		124		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	15	0	279	0	17	0	4
Grp Sat Flow (s), veh/h/ln	0	1238	0	1398	0	1128	0	1402
Q Serve Time (g_s), s	0.0	0.5	0.0	6.7	0.0	0.5	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	1.6	0.0	6.8	0.0	5.8	0.0	0.1
Perm LT Sat Flow (s_l), veh/h/ln	0	1238	0	1398	0	1128	0	1402
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	16.9	0.0	18.0	0.0	12.7	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.5	0.0	6.7	0.0	0.5	0.0	0.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	624	0	718	0	478	0	721
V/C Ratio (X)	0.00	0.02	0.00	0.39	0.00	0.04	0.00	0.01
Avail Cap (c_a), veh/h	0	624	0	718	0	478	0	721
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	10.1	0.0	11.8	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.6	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.0	0.0	11.7	0.0	11.9	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	2.6	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	2.9	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	243	0	0	0	71	0	2
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	5.3	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.3	0.0	0.0	0.0	1.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.33	0.00	0.00	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.0	0.0	0.0	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.2	0.0	0.0	0.0	8.7	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	2.7	0.0	0.0	0.0	0.6	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.0	0.0	0.0	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	4	0	8	0	74	0	9
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1841	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.07	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	736	0	633
V/C Ratio (X)	0.00	0.01	0.00	0.01	0.00	0.10	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	736	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.1	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.2	0.0	8.7	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	4	26	6	0	1	21	265	56	2	211	97
Future Volume (veh/h)	51	4	26	6	0	1	21	265	56	2	211	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	55	4	28	7	0	1	23	288	61	2	229	105
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	293	16	633	282	0	633	461	745	633	458	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	18.7	0.0	8.4	18.9	0.0	8.1	11.8	11.1	8.7	16.1	15.0	13.4
Ln Grp LOS	B		A	B		A	B	B	A	B	B	B
Approach Vol, veh/h		87			8			372			336	
Approach Delay, s/veh		15.4			17.6			10.8			14.5	
Approach LOS		B			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.0		4.9		4.9		5.2
Max Q Clear (g_c+l1), s		7.7		16.9		7.0		16.2
Green Ext Time (g_e), s		1.4		0.0		1.2		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1042		345		1028		304

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		40		1863		0

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	59	0	2	0	7
Grp Sat Flow (s), veh/h/ln	0	1042	0	385	0	1028	0	304
Q Serve Time (g_s), s	0.0	0.7	0.0	1.5	0.0	0.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	5.7	0.0	14.9	0.0	5.0	0.0	14.2
Perm LT Sat Flow (s_l), veh/h/ln	0	1042	0	1439	0	1028	0	1399
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.0	0.0	4.6	0.0	13.1	0.0	4.0
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	1.5	0.0	0.1	0.0	0.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.93	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	461	0	309	0	458	0	282
V/C Ratio (X)	0.00	0.05	0.00	0.19	0.00	0.00	0.00	0.02
Avail Cap (c_a), veh/h	0	461	0	309	0	458	0	282
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.6	0.0	17.4	0.0	16.1	0.0	18.8
Incr Delay (d2), s/veh	0.0	0.2	0.0	1.4	0.0	0.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	18.7	0.0	16.1	0.0	18.9
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.7	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.8	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	288	0	0	0	229	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	4.9	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.9	0.0	0.0	0.0	5.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.39	0.00	0.00	0.00	0.31	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.6	0.0	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.0	1.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.1	0.0	0.0	0.0	15.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.0	0.0	2.6	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.8	0.0	0.0	0.0	2.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	61	0	28	0	105	0	1
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	1.1	0.0	0.5	0.0	2.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	0.5	0.0	2.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.10	0.00	0.04	0.00	0.17	0.00	0.00
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.4	0.0	8.2	0.0	12.9	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.1	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.7	0.0	8.4	0.0	13.4	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	0.2	0.0	1.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.2	0.0	1.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.9
HCM 2010 LOS	B

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Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	250
Future Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	250
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	16	0	0	28	0	0	0	0	0	0	272

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	16	0	0	180	44	16	44	44	28
Stage 1	-	-	-	-	-	-	16	16	-	28	28	-
Stage 2	-	-	-	-	-	-	164	28	-	16	16	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1602	-	-	782	848	1063	958	848	1047
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	838	872	-	1004	882	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1585	-	-	1602	-	-	579	848	1063	958	848	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	579	848	-	958	848	-
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	621	872	-	1004	882	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1585	-	-	1602	-	-	1047
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.26
HCM Control Delay (s)	0	0	-	-	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	1

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Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	18	2	25	17	2	119	1	5	122	1
Future Vol, veh/h	0	0	18	2	25	17	2	119	1	5	122	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	20	2	27	18	2	129	1	5	133	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	300	278	134	288	278	130	134	0	0	130	0	0
Stage 1	144	144	-	134	134	-	-	-	-	-	-	-
Stage 2	156	134	-	154	144	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	652	630	915	664	630	920	1451	-	-	1455	-	-
Stage 1	859	778	-	869	785	-	-	-	-	-	-	-
Stage 2	846	785	-	848	778	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	615	627	915	647	627	920	1451	-	-	1455	-	-
Mov Cap-2 Maneuver	615	627	-	647	627	-	-	-	-	-	-	-
Stage 1	858	775	-	868	784	-	-	-	-	-	-	-
Stage 2	799	784	-	827	775	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	10.4	0.1	0.3
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1451	-	-	915	716	1455	-	-
HCM Lane V/C Ratio	0.001	-	-	0.021	0.067	0.004	-	-
HCM Control Delay (s)	7.5	0	-	9	10.4	7.5	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

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Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	3	15	2	7	15	18	142	0	10	330	15
Future Vol, veh/h	8	3	15	2	7	15	18	142	0	10	330	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	3	16	2	8	16	20	154	0	11	359	16
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.5	8.3	8.6	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	28%	0%	84%	0%	36%	0%	6%	0%
Vol Thru, %	72%	100%	16%	9%	64%	19%	94%	92%
Vol Right, %	0%	0%	0%	91%	0%	81%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	95	10	17	6	19	175	180
LT Vol	18	0	8	0	2	0	10	0
Through Vol	47	95	2	2	4	4	165	165
RT Vol	0	0	0	15	0	15	0	15
Lane Flow Rate	71	103	10	18	6	20	190	196
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.102	0.143	0.018	0.026	0.01	0.029	0.256	0.259
Departure Headway (Hd)	5.146	5.008	6.262	5.195	6.025	5.269	4.854	4.767
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	698	717	572	689	594	679	742	755
Service Time	2.867	2.729	3.995	2.928	3.759	3.003	2.572	2.485
HCM Lane V/C Ratio	0.102	0.144	0.017	0.026	0.01	0.029	0.256	0.26
HCM Control Delay	8.5	8.6	9.1	8.1	8.8	8.2	9.2	9.1
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0.1	0.1	0	0.1	1	1

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	0	18	12	15	12	16	155	3	3	511	44
Future Volume (veh/h)	43	0	18	12	15	12	16	155	3	3	511	44
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	47	0	20	13	16	13	17	168	3	3	555	48
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	703	745	633	715	745	633	386	745	633	546	1319	114
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	8.7	0.0	8.3	8.2	8.2	8.2	17.2	14.0	11.8	10.5	11.6	11.5
Ln Grp LOS	A		A	A	A	A	B	B	B	B	B	B
Approach Vol, veh/h		67			42			188			606	
Approach Delay, s/veh		8.6			8.2			14.2			11.5	
Approach LOS		A			A			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.3		3.9		5.3		4.4
Max Q Clear (g_c+l1), s		8.3		3.2		7.5		2.3
Green Ext Time (g_e), s		0.6		0.1		2.7		0.1
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		813		1375		1209		1386

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3298		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		285		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	17	0	47	0	3	0	13
Grp Sat Flow (s), veh/h/ln	0	813	0	1375	0	1209	0	1386
Q Serve Time (g_s), s	0.0	0.9	0.0	1.0	0.0	0.1	0.0	0.3
Cycle Q Clear Time (g_c), s	0.0	6.3	0.0	1.2	0.0	3.7	0.0	0.3
Perm LT Sat Flow (s_l), veh/h/ln	0	813	0	1375	0	1209	0	1386
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	12.5	0.0	17.8	0.0	14.4	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.9	0.0	1.0	0.0	0.1	0.0	0.3
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	386	0	703	0	546	0	715
V/C Ratio (X)	0.00	0.04	0.00	0.07	0.00	0.01	0.00	0.02
Avail Cap (c_a), veh/h	0	386	0	703	0	546	0	715
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.0	0.0	8.5	0.0	10.5	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.2	0.0	8.7	0.0	10.5	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	168	0	0	0	297	0	16
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	3.6	0.0	0.0	0.0	5.5	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	0.0	0.0	5.5	0.0	0.2
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.23	0.00	0.00	0.00	0.42	0.00	0.02
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.3	0.0	0.0	0.0	9.7	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	1.8	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.0	0.0	0.0	0.0	11.6	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	0.0	0.0	2.6	0.0	0.1

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.0	0.0	0.0	0.0	3.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.03	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	3	0	20	0	306	0	13
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1813	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.3	0.0	5.5	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.3	0.0	5.5	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.16	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	725	0	633
V/C Ratio (X)	0.00	0.00	0.00	0.03	0.00	0.42	0.00	0.02
Avail Cap (c_a), veh/h	0	633	0	633	0	725	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.2	0.0	9.7	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.8	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.3	0.0	11.5	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	2.7	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.2	0.0	3.1	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.7
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	8	40	68	1	4	21	146	22	2	248	290
Future Volume (veh/h)	21	8	40	68	1	4	21	146	22	2	248	290
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	23	9	43	74	1	4	23	159	24	2	270	315
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	138	32	633	160	1	633	381	745	633	571	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	14.0	0.0	8.5	31.7	0.0	8.1	12.7	9.5	8.3	14.0	15.7	18.1
Ln Grp LOS	B		A	C		A	B	A	A	B	B	B
Approach Vol, veh/h		75			79			206			587	
Approach Delay, s/veh		10.9			30.5			9.7			17.0	
Approach LOS		B			C			A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.1		4.6		4.6		5.3
Max Q Clear (g_c+I1), s		8.9		20.0		10.3		20.0
Green Ext Time (g_e), s		0.7		0.0		1.7		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		827		0		1196		1

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		81		1863		3

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	32	0	2	0	75
Grp Sat Flow (s), veh/h/ln	0	827	0	82	0	1196	0	4
Q Serve Time (g_s), s	0.0	0.9	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.9	0.0	18.0	0.0	2.6	0.0	18.0
Perm LT Sat Flow (s_l), veh/h/ln	0	827	0	1434	0	1196	0	1374
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	12.1	0.0	0.0	0.0	15.5	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.9	0.0	0.0	0.0	0.1	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.72	0.00	1.00	0.00	0.99
Lane Grp Cap (c), veh/h	0	381	0	170	0	571	0	161
V/C Ratio (X)	0.00	0.06	0.00	0.19	0.00	0.00	0.00	0.47
Avail Cap (c_a), veh/h	0	381	0	170	0	571	0	161
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.4	0.0	11.5	0.0	14.0	0.0	22.2
Incr Delay (d2), s/veh	0.0	0.3	0.0	2.4	0.0	0.0	0.0	9.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.7	0.0	14.0	0.0	14.0	0.0	31.7
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.45
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	159	0	0	0	270	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	2.5	0.0	0.0	0.0	5.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.5	0.0	0.0	0.0	5.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	0.36	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.9	0.0	0.0	0.0	14.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	1.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.5	0.0	0.0	0.0	15.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	0.0	0.0	3.1	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.4	0.0	0.0	0.0	3.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.07	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	24	0	43	0	315	0	4
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	0.4	0.0	0.8	0.0	8.3	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	0.4	0.0	0.8	0.0	8.3	0.0	0.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.04	0.00	0.07	0.00	0.50	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.2	0.0	8.3	0.0	15.3	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	2.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.3	0.0	8.5	0.0	18.1	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.3	0.0	3.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	4.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.08	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	16.0
HCM 2010 LOS	B

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Vega SES 5 Solar Energy Storage Project

TRAFFIC IMPACT STUDY
IMPERIAL COUNTY, CALIFORNIA

Prepared By:

February 2021/November 2022

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1.0 Introduction

This traffic impact analysis (TIA) has been prepared to identify the potential traffic impacts associated with developing the Vega SES 5 Solar Energy Storage (Projects) in Imperial County. The study was completed following the guidelines described in the County of Imperial Department of Public Works *Traffic Study and Report Policy* dated March 12, 2007, revised June 29, 2007 and approved by the Board of Supervisors of the County of Imperial on August 7, 2007 ("Traffic Study and Report Policy").

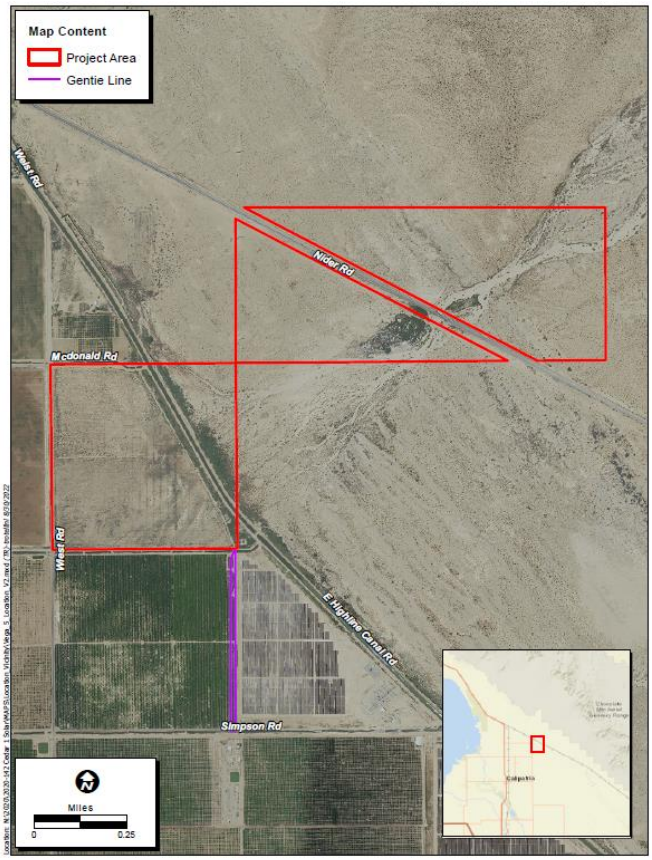
KOA has coordinated with the County's Engineering Department on the scope of the traffic analysis, including the study area and future year analysis assumptions. As necessary, if required, projects will be identified to offset or reduce significant impacts. Based on discussions with City staff, current and future traffic conditions at select intersections in close proximity to the proposed project have been evaluated for the purposes of this TIA.

This report describes the existing roadway network in the vicinity of the project site. It includes a review of the existing and proposed traffic activities for weekday peak AM and PM periods and daily traffic conditions.

Project Location

The project location is adjacent to the Highland Canal at the eastern end of McDonald Road, as shown in Figure 1.1.

Figure 1.1 Study Area



Source: ECORP

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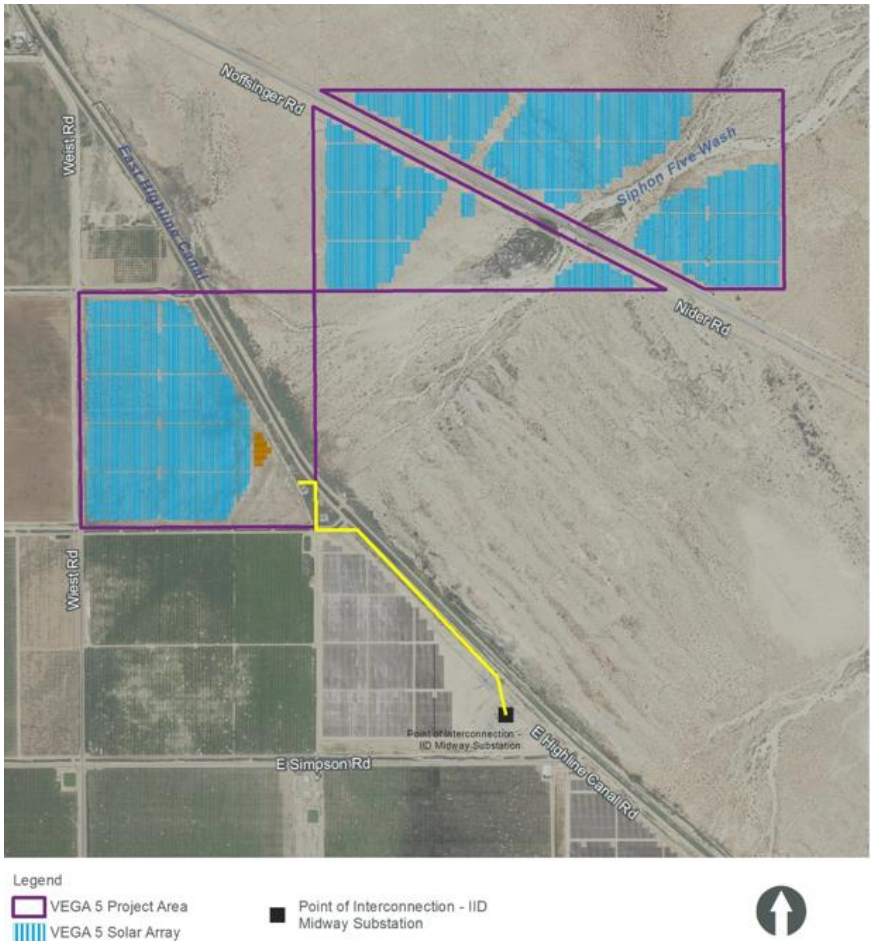
Project Description

Vega SES 5, LLC is proposing to develop the **Vega SES 5 site.** This is a fifty (50) megawatt alternating current (MWAC) solar photovoltaic (PV) energy generation project with an integrated 100 MW Battery Energy Storage System (BESS), on approximately 410 acres of land in Imperial County, California. The project site plan is shown in Figure 1.2.

Figure 1.2 Site Plan



Source: First Administrative Draft EIR | VEGA SES 2, 3, & 5 Solar Energy Project

Construction Activities

The projects are estimated to take 12 months and would begin in 2023. The project opening is anticipated to be the end of 2024 or early 2025. . The number of on–site construction workers for the solar project facilities is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the battery storage facility and the substation is not expected to exceed 50 workers at any one time.

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Construction of the Projects will include the following activities:

- Site preparation
- Grading and earthwork
- Concrete foundations
- Structural steel work
- Electrical/instrumentation work
- Collector line installation
- Architecture and landscaping

2.0 Capacity Analysis Methodologies

This section presents a brief overview of traffic analysis methodologies and concepts used in this study. Street system operating conditions are typically described in terms of "level of service (LOS)" to compare without project and with project alternatives. LOS is a report-card scale used to indicate the quality of traffic flow on roadway segments and at intersections. The levels of service range from Level A (free flow, little congestion) to Level F (forced flow, higher congestion).

Study Area Criteria

The study area is determined based on the County of Imperial Department of Public Works *Traffic Study and Report Policy* dated March 12, 2007, revised June 29, 2007 and approved by the Board of Supervisors of the County of Imperial on August 7, 2007 ("Traffic Study and Report Policy"). "Any project that has the potential to degrade an existing road section, an existing signalized intersection, or an existing unsignalized intersection to below the existing level of service or to cause it to be lower than a level of service (LOS) "C" during any peak hour, using the HCM Methods of analysis on any individual, existing traffic movement." Traffic Study and Report Policy, 4-5.

The study area for this project includes those locations that likely will be affected by this project where a minimum of 50 peak hour vehicles impact the location. The specific study area consists of the following intersections:

1. McDonald Road and Weist Road
2. McDonald Road and SR-111
3. SR-111 and SR-115
4. SR-111 and north ramps with SR-78
5. SR-111 and south ramps with SR-78

The study area also includes the following study segments:

1. McDonald Road from SR-111 to Weist Road
2. SR-111 from McDonald Road to Niland Ave
3. SR-111 from McDonald Road to SR-115
4. SR-111 from SR-115 to SR-78 north ramps
5. SR-111 from SR-78 north ramps to SR-78 south ramps

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Scenario Criteria

The proposed project's traffic impacts were analyzed in three scenarios as listed below. The traffic analysis included intersections and roadway segments within Imperial County and Caltrans District 11 in the following scenarios to determine the potential impacts:

- Existing Year (2020) Conditions
- Construction Year (2023) Baseline Conditions
- Construction Year (2023) + Project Construction Conditions

Peak Hour Intersection Level of Service Standards

Traffic conditions on most roadway facilities are analyzed using the principles of the specific analysis methods contained in the latest version (2010) of the *Highway Capacity Manual* (*HCM*), a publication of the Transportation Research Board, a research agency affiliated with the Federal Government. Chapter 18 of the *HCM 2010* is devoted to analysis of signalized intersections. The methodology in the *HCM 2010* for signalized intersections is based upon measurements or forecasts of control delay for traffic utilizing all approaches to the intersection.

Unsignalized intersections, including two-way and all-way stop controlled intersections were analyzed using the 2010 Highway Capacity Manual unsignalized intersection analysis methodology. The LOS for a two-way stop controlled (TWSC) intersection is determined by the computed or measured control delay and is defined for each minor movement. The analysis of peak hour intersection conditions was conducted using the Synchro 10 software program developed by Trafficware. Results are displayed in terms of control delay (seconds per vehicle) and an equivalent LOS as shown in Table 2.1.

Table 2.1 HCM Level of Service Definitions for Intersections

LOS	Signalized Intersection Delay (Seconds per Vehicle)	Unsignalized Intersection Average Stop Delay (Seconds)
A	<10	<10
B	>10 and <20	>10 and <15
C	>20 and <35	>15 and <25
D	>35 and <55	>25 and <35
E	>55 and <80	>35 and <50
F	>80	>50

Source: Highway Capacity Manual, 2010.

Roadway Segment Level of Service Standards

Roadway segment LOS standards and thresholds provide the basis for analysis of roadway segment performance. The analysis of roadway segment LOS is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and existing or forecast Average Daily Traffic (ADT) volumes. The County of Imperial level of service analysis was performed by utilizing the *Circulation and Scenic Highways Element, January 2008*. The thresholds for each facility type are presented in Table 2.2.

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Table 2.2 County of Imperial ADT Level of Service Volumes by Roadway Type

Road		Level of Service (LOS)				
Class	X-Section	A	B	C	D	E
Expressway	154/210	30,000	42,000	60,000	70,000	80,000
Prime Arterial	106/136	22,200	37,000	44,600	50,000	57,000
Minor Arterial	82/102	14,800	24,700	29,600	33,400	37,000
Major Collector	64/84	13,700	22,800	27,400	30,800	34,200
Minor (Local) Collector	40/70	1,900	4,100	7,100	10,900	16,200

* Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.
Source: *Imperial County Circulation and Scenic Highways Element 2008 and Imperial County Long Range Transportation Plan 2013 Update*

Freeway Segments

Freeway level of service analysis is based upon procedures developed by Caltrans. The procedure for calculating freeway level of service involves calculating a peak hour volume to capacity (V/C) ratio. Peak hour volumes are calculated from Average Daily Traffic (ADT) volumes by applying design hour ("K"), directional ("D") and truck ("T") factors. The base capacities for Interstate 8 freeway lanes determined from the Highway Capacity Manual as assumed to be 2,350 passenger-car per hour per main lane (pc/h/ln).

The resulting V/C ratio is then compared to acceptable ranges of V/C values corresponding to the various levels of service for each facility classification, as shown in Table 2.3. The corresponding level of service represents an approximation of freeway operating conditions in the peak direction of travel during the peak hour. Constant with Caltrans requirements, LOS D or better is used in this study as the threshold for acceptable freeway operations.

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Table 2.3 CALTRANS Level of Service Facility Classification

CALTRANS FREEWAY SEGMENT LEVEL OF SERVICE DEFINITIONS

LOS	Maximum V/C	Congestion/Delay	Traffic Description
A	≤ 0.30	None	Free flow.
B	> 0.30 - 0.50	None	Free to stable flow, light to moderate volumes.
C	> 0.50 - 0.71	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
D	> 0.71 - 0.89	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
E	> 0.89 - 1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
F	> 1.00	Considerable	Forced or breakdown flow. Delay measured in average travel speed (MPH). Signalized segments experience delays >60.0 seconds/vehicle.

Source: Caltrans Guide for the Preparation of Traffic Impact Studies, 2002.

Analysis of Significance

Imperial County

The significance criteria for traffic impacts are based on the Imperial County Planning & Development Services Department LOS standard as outlined in the "Circulation Element". "The County's goal for an acceptable traffic service standard on an Average Daily Traffic (ADT) basis and during AM and PM peak periods for all County-Maintained Roads shall be LOS C for all street segment links and intersections."

- Strive to maintain LOS "C" or better on arterial and collector streets, at all intersections, and on principal arterials during the hour of highest volume during the AM hours and also during the PM hours. Imperial County has established LOS "C" as the general threshold for acceptable overall traffic operations for both signalized and un-signalized intersections.

- Accept LOS "D" after finding that there is no practical and feasible way to mitigate to LOS "C;" and the development causing the lower level of service provides a clear, overall public benefit.

- For segments that operate at LOS D or lower, an incremental increase in V/C of greater than 0.02 is considered to be a significant impact. For intersections that operate at LOS D or lower, an incremental increase in vehicle delay of 2.0 seconds or greater is considered to be a significant impact.

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Caltrans

- For segments that operate at LOS D or lower, an incremental increase in V/C of greater than 0.02 is considered to be a significant impact. For intersections that operate at LOS D or lower, an incremental increase in vehicle delay of 2.0 seconds or greater is considered to be a significant impact.
- For freeway segments that operate at LOS D or lower, an incremental increase in V/C of greater than 0.01 is considered to be a significant impact.

3.0 Existing Conditions

This section documents the Existing Year Conditions in the study area. The Existing Year is taken to be 2020 for analysis purposes based on existing traffic counts taken in December, 2020 The discussion presented here is limited to segments and intersections in the project's vicinity.

Existing Roadways

Each of the key roadways, as well as associated study intersections within the study area, are discussed below.

Roadway Facilities

1. *State Route 111 (SR-111))* is a two-lane highway with no median and a posted speed limit of 65 mph.

2. *McDonald Road* is a two lane paved local roadway that runs in an east-west direction. This road provides access from the site to/from SR-111.

3. Weist Road is a north-south roadway that connect McDonald Road. North of McDonald Rod, Weist Road is unpaved.

Figure 3.1 displays the existing intersection geometrics for study area intersections.

Traffic Volumes

Existing turning movement counts at the study intersections were conducted on Tuesday, December 8, 2020. The existing condition reflects those land uses that were built and occupied at the time of the traffic counts and represent a typical weekday commute period. Intersection turning movement counts are provided in Appendix A. Existing average daily traffic (ADT) segment counts were obtained from the Caltrans for the year 2019. The ADT, weekday a.m. and p.m. peak hour traffic volumes are shown on Figure 3.2.

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Figure 3.1 Intersection Geometrics

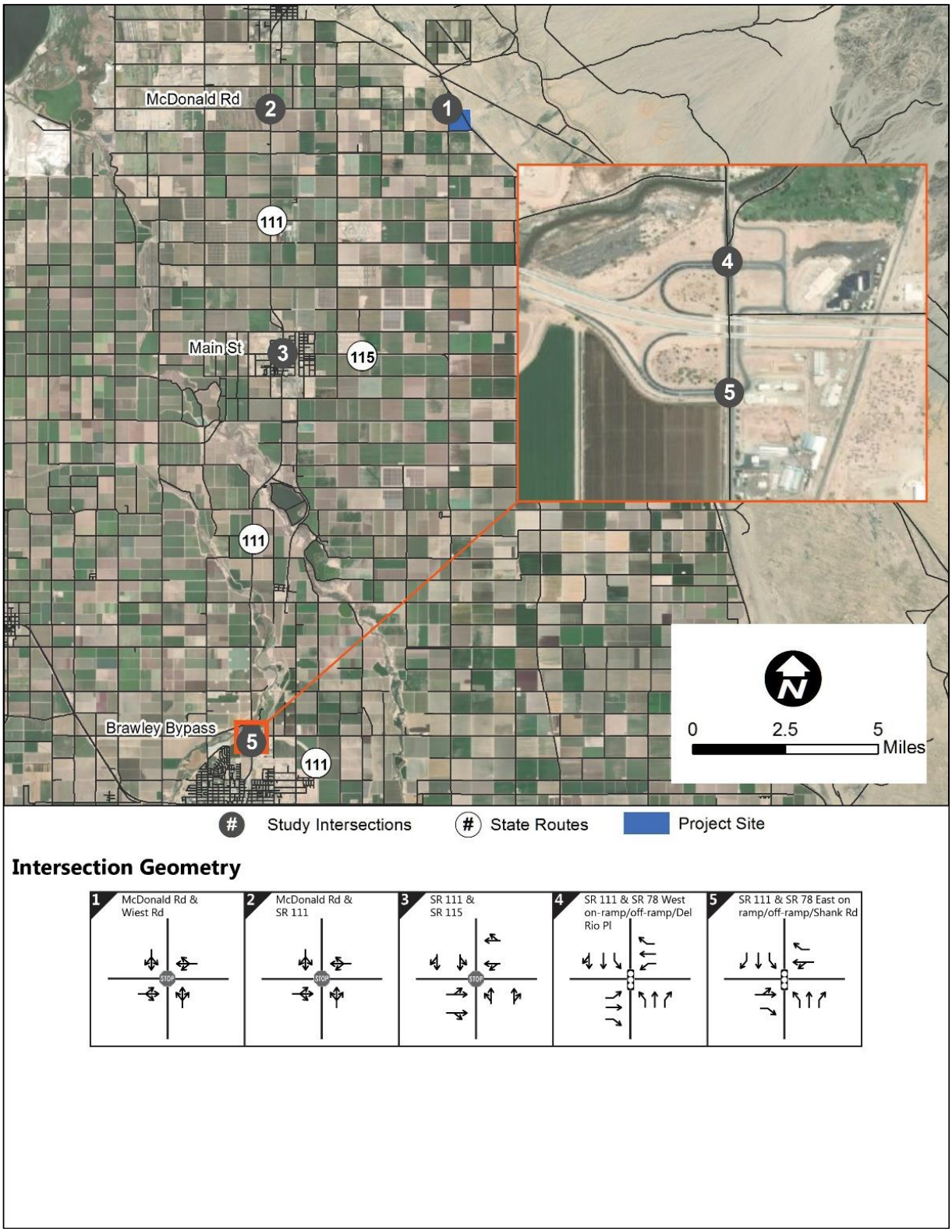

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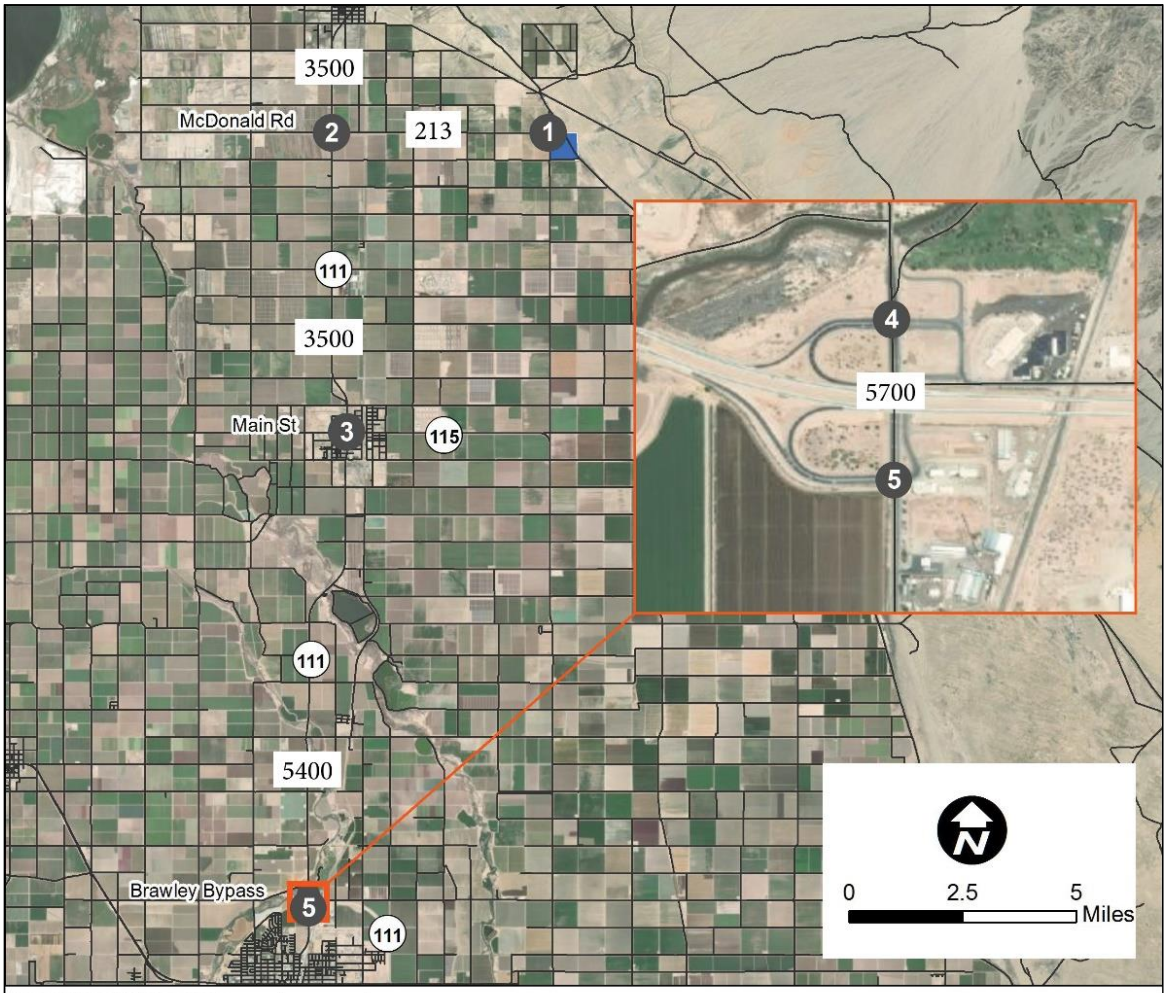
Figure 3.2 Existing Volumes



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Existing Year Conditions

This section documents the existing traffic conditions of study area segments and intersections.

Segments

Roadway segment analysis was conducted for the study area's specified segments. Using average daily traffic (ADT) counts, KOA was able to determine the existing level of service for the designated roadway segments. Table 3.1 below displays these levels of service.

Table 3.1 Existing Year Conditions Roadway Segment Analysis

Roadway Segment	From/ To	Lanes/ Class	LOS E Capacity	Existing		
				ADT	V/C	LOS
McDonald Rd	Project to SR 111	Minor Collector	16,200	213	0.01	A
SR-111	McDonald Road to Niland Ave	Major Collector 2 Lane	17,100	3,500	0.20	A
SR-111	McDonald Rd to SR-115	Major Collector 2 Lane	17,100	3,500	0.20	A
SR-111	SR-115 to SR-78 North Ramps	Major Collector 2 Lane	17,100	5,400	0.32	B
SR-111	SR-78 North Ramps to SR-78 South Ramps	Major Collector 4 Lane	34,200	5,700	0.17	A

Intersections

An intersection LOS analysis was prepared for the existing (without-project) condition and is summarized in Table 3.2 which indicates that there are two study area intersections. Detailed LOS worksheets are included in Appendix B.

Table 3.2 Existing Year Conditions Peak Hour Intersection Analysis

#	Intersection	Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	McDonald Road and Weist Road	SB Stop	0.0	A	0.0	A
2	McDonald Road and SR-111	EB/WB Stop	9.2	A	9.1	A
3	SR-111 and SR-115	AWSC	10.2	B	8	A
4	SR-111 and north ramps with SR-78	Sig	11.1	b	10.7	B
5	SR-111 and south ramps with SR-78	Sig	12.3	B	14.3	B

Delay is in seconds/vehicle. LOS = Level of Service

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4.0 Trip Generation/Distribution/Assignment

Project Trip Generation

The project trip generation consists of a construction phase and operations phase. Once constructed, the site will not require personnel to be present on-site and will not result in daily trip generation. For this reason, only the trip generation for the construction phase was analyzed.

The number of on–site construction workers for the solar project facilities is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the battery storage facility and the substation is not expected to exceed 50 workers at any one time. The trip generation was estimated if the construction phases were to overlap, so both are included. Delivery trucks are expected to follow the same routes as the construction workers. An estimated two trucks would arrive at the project site each day during the first few weeks of construction of the solar generating facility. Truck trips have been converted into passenger equivalent volumes (PCE) using a PCE factor of 2.5.

Work hours will be between the hours of 8:00 a.m. and 5:00 p.m. Monday through Saturday. The trips generated during the construction phase of construction are shown in Table 4.1.

Table 4.1 Construction Trip Generation –Construction Phase

	Intensity	Unit	Daily Rate	Daily Trips		AM Peak Hour			PM Peak Hour		
						Total	In	Out	Total	In	Out
Solar Construction Workers	75.0	Employee	2	150	Rate	1.00	100%	0%	1.00	0%	100%
					Trips	75	75	0	75	0	75
Battery Storage Workers	50.0	Employee	2	100	Rate	1.00	100%	0%	1.00	0%	100%
					Trips	50	50	0	50	0	50
Equipment Deliveries and Construction Truck Trips (PCE)	4.0	trucks	2.5	10	Rate	0.13	75%	25%	0.13	25%	75%
					Trips	0	0	0	0	0	0
Total				260	Trips	125	125	0	125	0	125

Once construction is completed, the facilities would be remotely operated, controlled and monitored and with no requirement for daily on-site employees.

Trip Distribution and Assignment

Trip distribution and assignment is the process of identifying the probable destinations, directions and traffic routes that project related traffic will likely affect. Trip distribution and assignment information can be estimated from observed traffic patterns, experience or through use of a computerized travel forecast model. Once the proposed developments trips have been estimated, they are assigned to the study area street network. The trip distribution was estimated based on using logical travel paths between the project and local origins.

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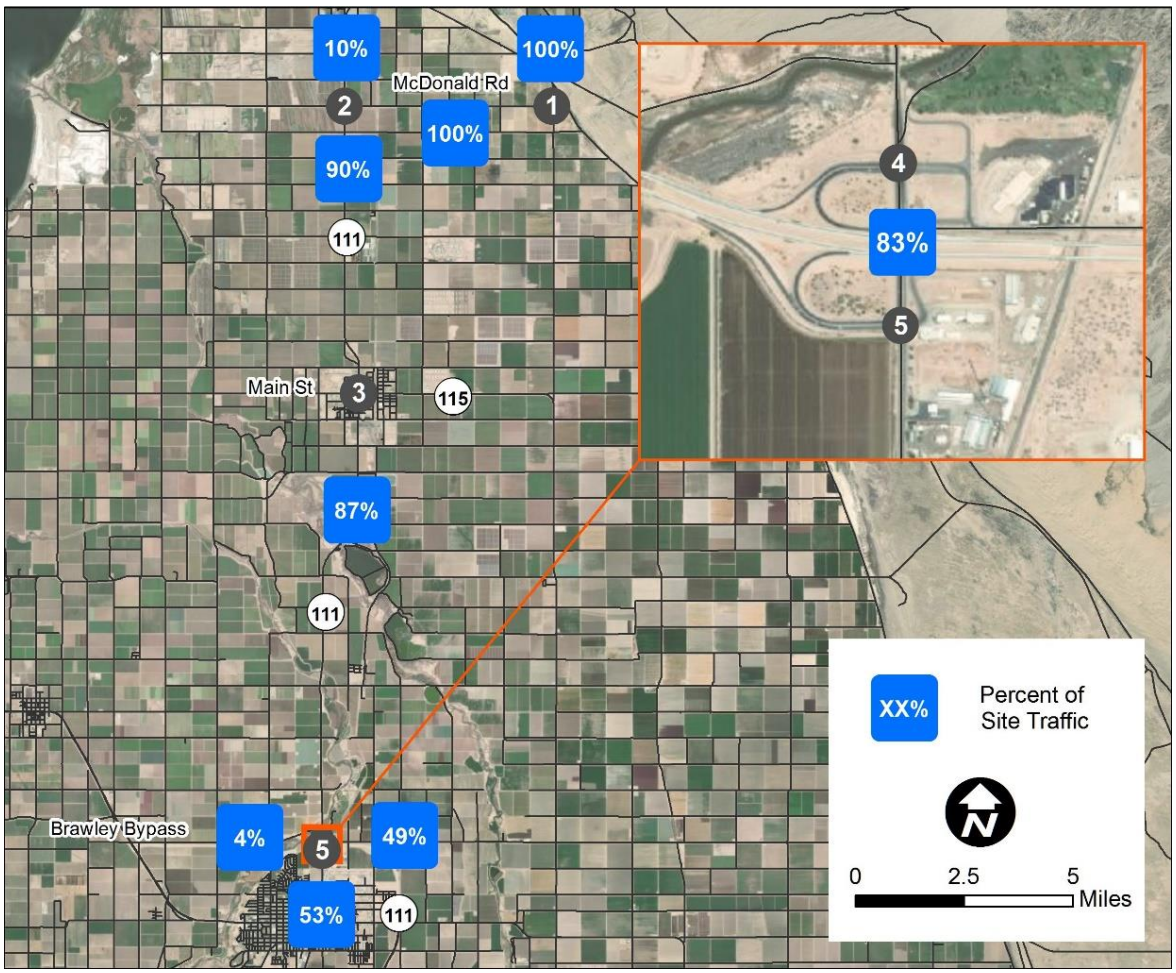
For the VEGA SES 5 project, the construction worker traffic is expected to travel to the site from SR-111, then east on McDonald Road, north to Weist Road and then the project site. Delivery trucks are expected to follow the same travel route as construction workers. An estimated two trucks would arrive at each project site each day during the first few weeks of construction of each solar facility. The trip distribution for the project-related trips is shown in Figure 4.1.

Figure 4.1 Trip Distribution



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5.0 Construction Year Conditions

This section documents the analysis for the Project Completion Year conditions. This scenario considers the traffic conditions at the time that the proposed development is constructed by increasing the existing traffic counts by an ambient growth rate to reflect cumulative projects. Projected project only volumes are then added to create the 2023 Baseline with Project Scenario. It is anticipated that the project construction will begin in 2023. An annual ambient growth of 1.8% was utilized to account for traffic growth between 2020 and 2023.

The growth rate is based on the California Economic Forecast *California County-Level Economic Forecast 2017-2050*, dated September 2017 documents an average annual growth factor of 1.8% from 2020 to 2025 for Imperial County. Year 2021 traffic data was obtained by factoring the 2019 traffic counts by the application of the 1.8% annual growth (5.4 percent for 2020-23). Figure 5.1 illustrates the Project Construction Year background volumes. Figure 5.2 shows the *Construction Year with Project* traffic volumes in the study area.

This section documents the construction year traffic conditions of study area segments and intersections with and without the project.

Segments

Roadway segment analysis was conducted for the study area's specified segments. Using average daily traffic (ADT) counts, KOA determined the opening year level of service for the designated roadway segments. Table 5.1 below displays these levels of service.

Summarized in Table 5.2 are Construction Year and Construction Year plus Project roadway segment average daily traffic volumes and their associated LOS on route segments without and with the project under the near term condition. All roadway segments would operate at LOS B or better with and without the project. Therefore, the project would not result in any significant impacts to any segments within the project study area under the construction year condition.

Table 5.1: Construction Year Roadway Segment Analysis

Roadway Segment	From/ To	Lanes/ Class	LOS E Capacity	Project Volumes	Construction Year			Construction Year + Project			Comparison	
					Volume	V/C	LOS	Volume	V/C	LOS	Δ V/C	Sig?
Mc Donald Rd	Project to SR-111	Local Collector	16,200	260	225	0.01	A	485	0.03	A	0.02	No
SR-111	Mc Donald to Weist Rd	Minor Arterial 2	18,500	26	3,692	0.20	A	3,718	0.20	A	0.00	No
SR-111	Mc Donald to SR-115	Minor Arterial 2	18,500	234	5,697	0.31	A	5,931	0.32	A	0.01	No
SR-111	SR-115 to SR-78 north ramps	Minor Arterial 2	18,500	226	6,013	0.33	A	6,239	0.34	A	0.01	No
SR-111	SR-78 north ramps to So. Ramps	Minor Arterial 2	18,500	129	5,700	0.31	A	5,829	0.32	A	0.01	No

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Intersections

Table 5.2 summarizes the LOS at each intersection during the AM and PM peak hours under the construction year condition in 2022, without and with the project volumes. The estimated change in project delay associated with the project is also reported. All intersections would operate at a LOS C or better during both AM and PM peak hours with and without the project. Therefore, the project would not result in any significant impacts to any intersections within the project study area under the construction year condition. Detailed LOS worksheets are for the Construction Year are included in Appendix C and for the Construction Year plus Project in Appendix D.

Table 5.2: Construction Year Peak Hour Intersection Analysis

No.	Intersection	Control	Construction Year		Construction Year + Project		Change Delay	Significant
			Delay	LOS	Delay	LOS		
AM Peak Hour between 7:00 to 9:00 a.m.								
1	McDonald Road and Weist Road	SB Stop	n/a	A	6.7	A	n/a	N
2	McDonald Road and SR-111	SB Stop	9.2	A	9.7	A	0.5	N
3	SR-111 and SR-115	AWSC	10.5	B	12.1	B	1.6	N
4	SR-111 and north ramps with SR-78	EB/WB Stop	11.2	B	11.6	B	0.4	N
5	SR-111 and south ramps with SR-78	EB Stop	10.5	B	12.7	B	2.2	N
PM Peak Hour between 4:00 to 6:00 p.m.								
1	McDonald Road and Weist Road	SB Stop	n/a	A	9	A	n/a	N
2	McDonald Road and SR-111	EB/WB Stop	9.2	A	10	B	0.8	N
3	SR-111 and SR-115	AWSC	8.1	A	8.5	A	0.4	N
4	SR-111 and north ramps with SR-78	Sig	9.6	A	14.1	B	4.5	N
5	SR-111 and south ramps with SR-78	Sig	10.0	B	15.1	B	5.1	N

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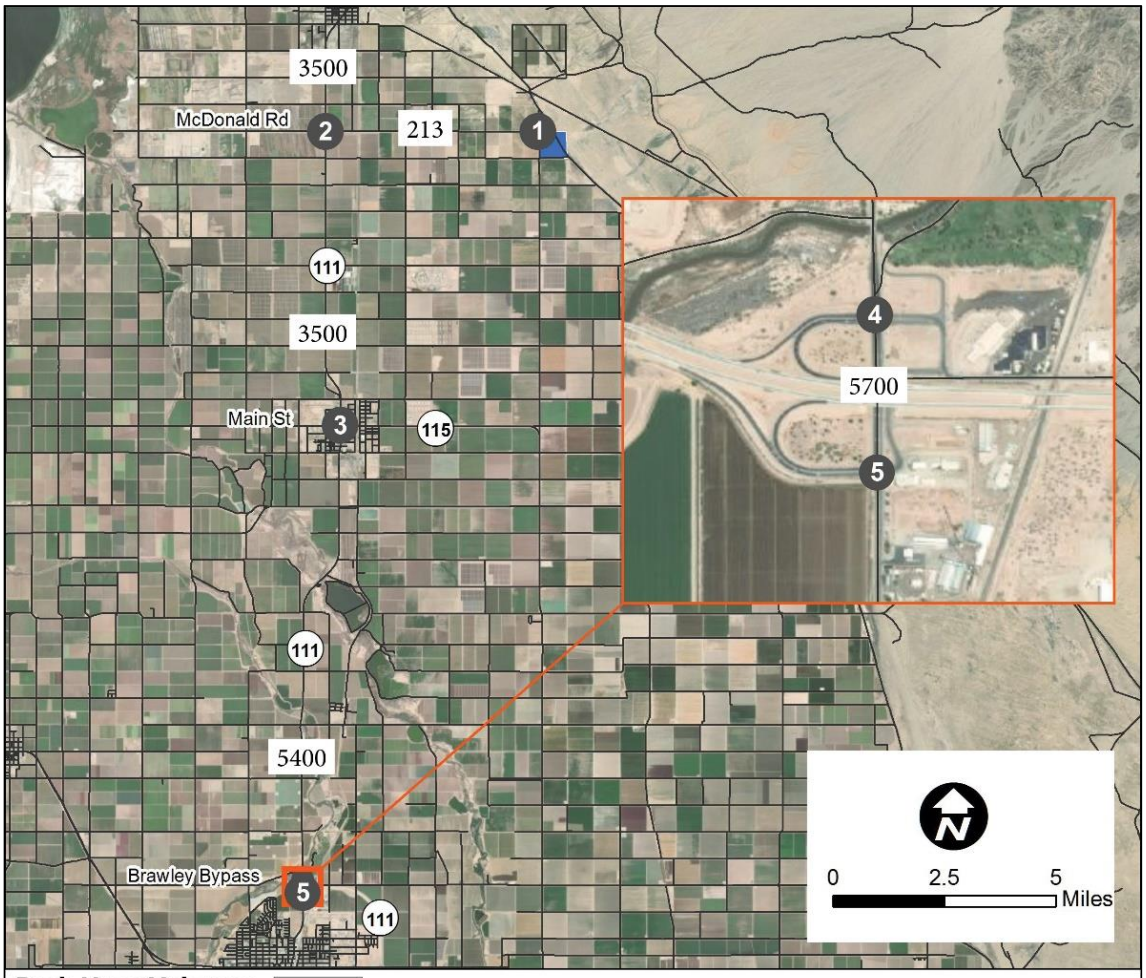
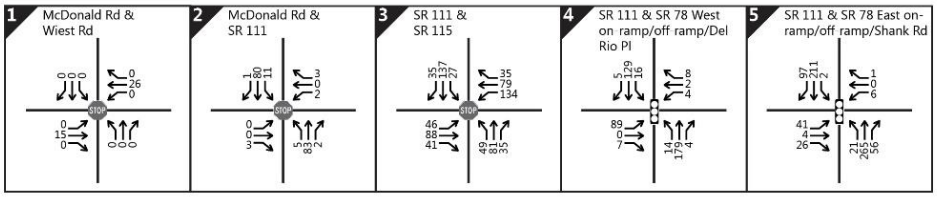
Figure 5.1 Construction Year Volumes



Peak Hour Volumes XXXX Daily Traffic

AM



PM

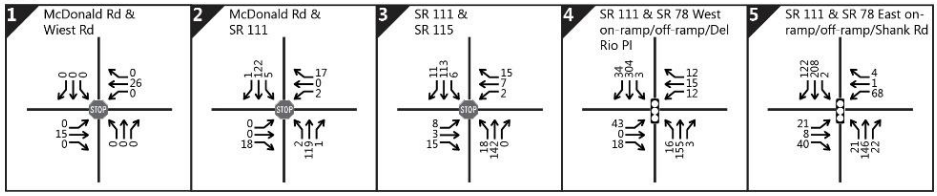


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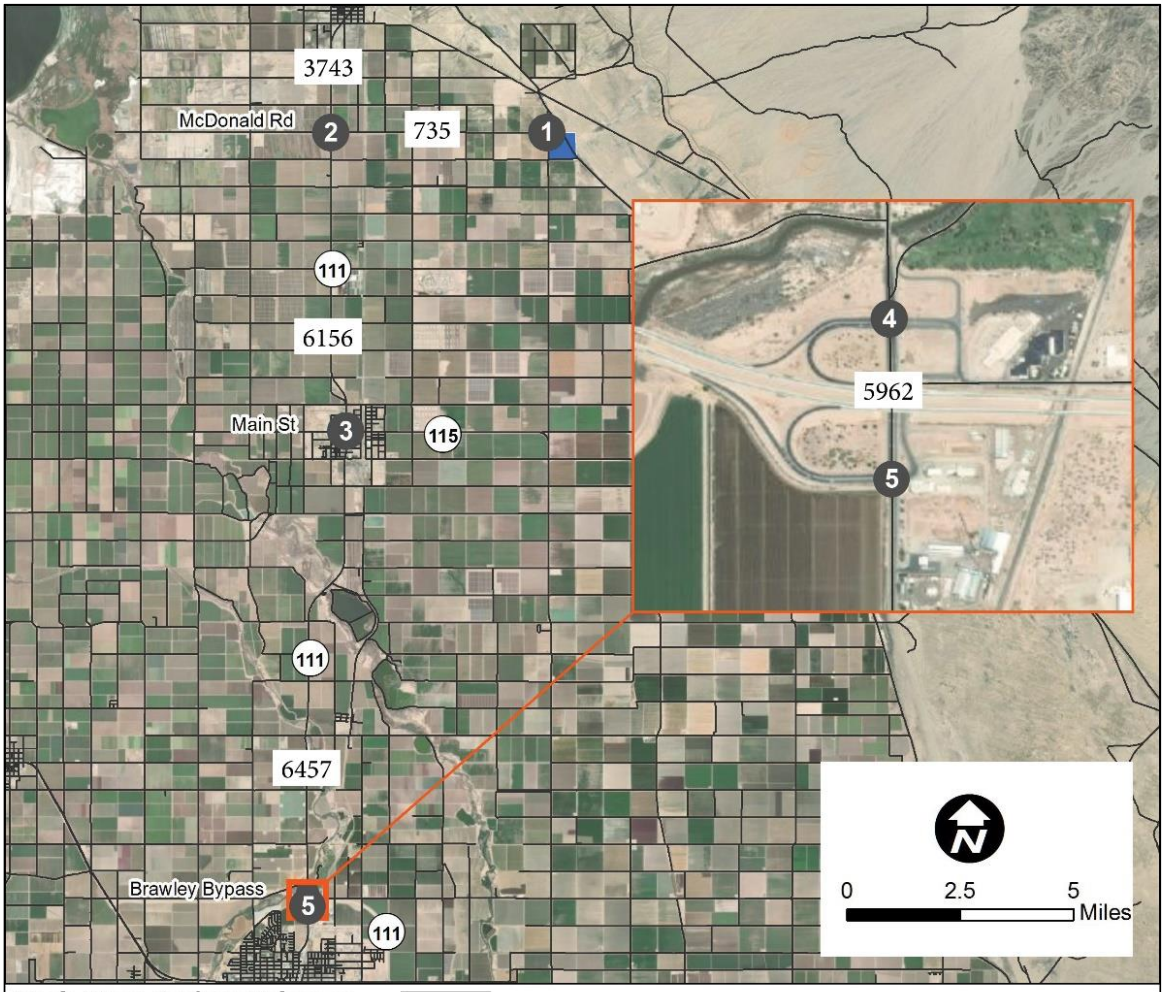
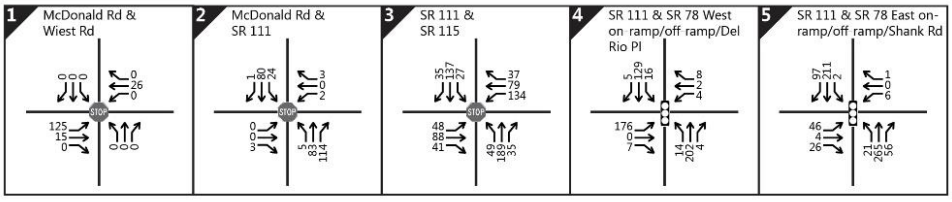
Figure 5.2 Construction Year Plus Project Year Volumes

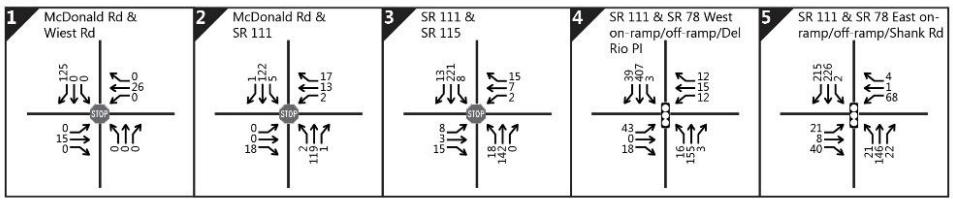


Peak Hour Project Volumes XXXX Daily Traffic

AM



PM



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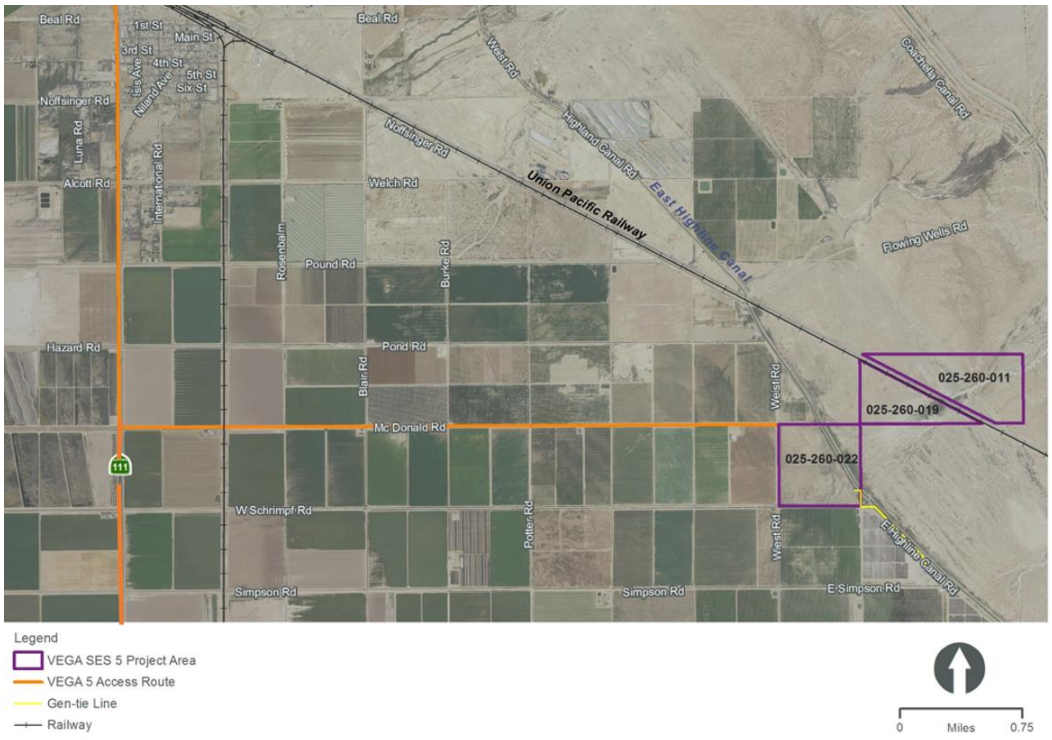
6.0 Circulation

The following section discusses the proposed project's access and circulation characteristics.

Project Access and Circulation

The project site is adjacent to the Highland Canal at McDonald Road and Weist Road. Access to and from the site will be from SR-111 along McDonald Road (see Figure 6.1). A portion of the site construction traffic will travel to the east side of the channel, by using Weist Road and Noffsinger Road. To access the portion of the site east of the UP Railroad tracks, access across the tracks will be made at Flowing Wells Road, and access to the property will be made via an easement that will be acquired. The easement will be a direct vertical south from Flowing Wells Road at the western boundary of AP 025-260-011.

Figure 6.1 Primary Vega 5 Access Route



Parking

The existing parking demand for up to vehicles and for construction equipment associated with site construction will be provided on site.

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7.0 Impacts and Mitigation

This traffic impact analysis (TIA) has been prepared to identify the potential traffic impacts associated with constructing a solar photovoltaic (PV) energy generation project and utility-scale battery energy storage system (BESS) at the Vega SES 5 site.

The construction of the project is estimated to take up to 12 months and would begin in late 2023. During the construction phase, at peak construction, the project is anticipated to generate a net total of 260 trips per day with 126 AM peak hour trips and 126 PM peak hour trips. When constructed, the project will not generate any additional trips. The project opening is anticipated to be in 2024.

The project is not expected to create significant impacts at study intersections or study segments, therefore no mitigation measures are required. All study intersections and segments were found to operate at LOS C or better for all of the traffic scenarios analyzed.

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APPENDIX A: TRAFFIC COUNT DATA

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

County of Imperial
N/S: SR-111
E/W: McDonald Road
Weather: Clear

File Name : 06_CIM_SR-111_McDonald AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				McDonald Road Westbound				SR-111 Northbound				McDonald Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	16	0	17	1	0	1	2	0	21	0	21	0	0	0	0	40
07:15 AM	2	18	0	20	0	0	0	0	2	23	0	25	0	0	0	0	45
07:30 AM	2	14	0	16	1	0	2	3	1	23	1	25	0	0	0	0	44
07:45 AM	3	23	1	27	0	0	1	1	2	16	1	19	0	0	1	1	48
Total	8	71	1	80	2	0	4	6	5	83	2	90	0	0	1	1	177
08:00 AM	3	21	0	24	1	0	0	1	0	17	0	17	0	0	2	2	44
08:15 AM	1	18	0	19	1	0	1	2	1	10	1	12	0	0	0	0	33
08:30 AM	3	19	0	22	1	0	0	1	0	14	0	14	0	1	0	1	38
08:45 AM	1	28	1	30	0	0	2	2	1	7	0	8	0	0	0	0	40
Total	8	86	1	95	3	0	3	6	2	48	1	51	0	1	2	3	155
Grand Total	16	157	2	175	5	0	7	12	7	131	3	141	0	1	3	4	332
Apprch %	9.1	89.7	1.1		41.7	0	58.3		5	92.9	2.1		0	25	75		
Total %	4.8	47.3	0.6	52.7	1.5	0	2.1	3.6	2.1	39.5	0.9	42.5	0	0.3	0.9	1.2	

	SR-111 Southbound				McDonald Road Westbound				SR-111 Northbound				McDonald Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	2	18	0	20	0	0	0	0	**2**	**23**	0	**25**	0	0	0	0	45
07:30 AM	2	14	0	16	**1**	0	**2**	**3**	1	23	**1**	25	0	0	0	0	44
07:45 AM	**3**	**23**	**1**	**27**	0	0	1	1	2	16	1	19	0	0	1	1	**48**
08:00 AM	3	21	0	24	1	0	0	1	0	17	0	17	0	0	**2**	**2**	44
Total Volume	10	76	1	87	2	0	3	5	5	79	2	86	0	0	3	3	181
% App. Total	11.5	87.4	1.1		40	0	60		5.8	91.9	2.3		0	0	100		
PHF	.833	.826	.250	.806	.500	.000	.375	.417	.625	.859	.500	.860	.000	.000	.375	.375	.943

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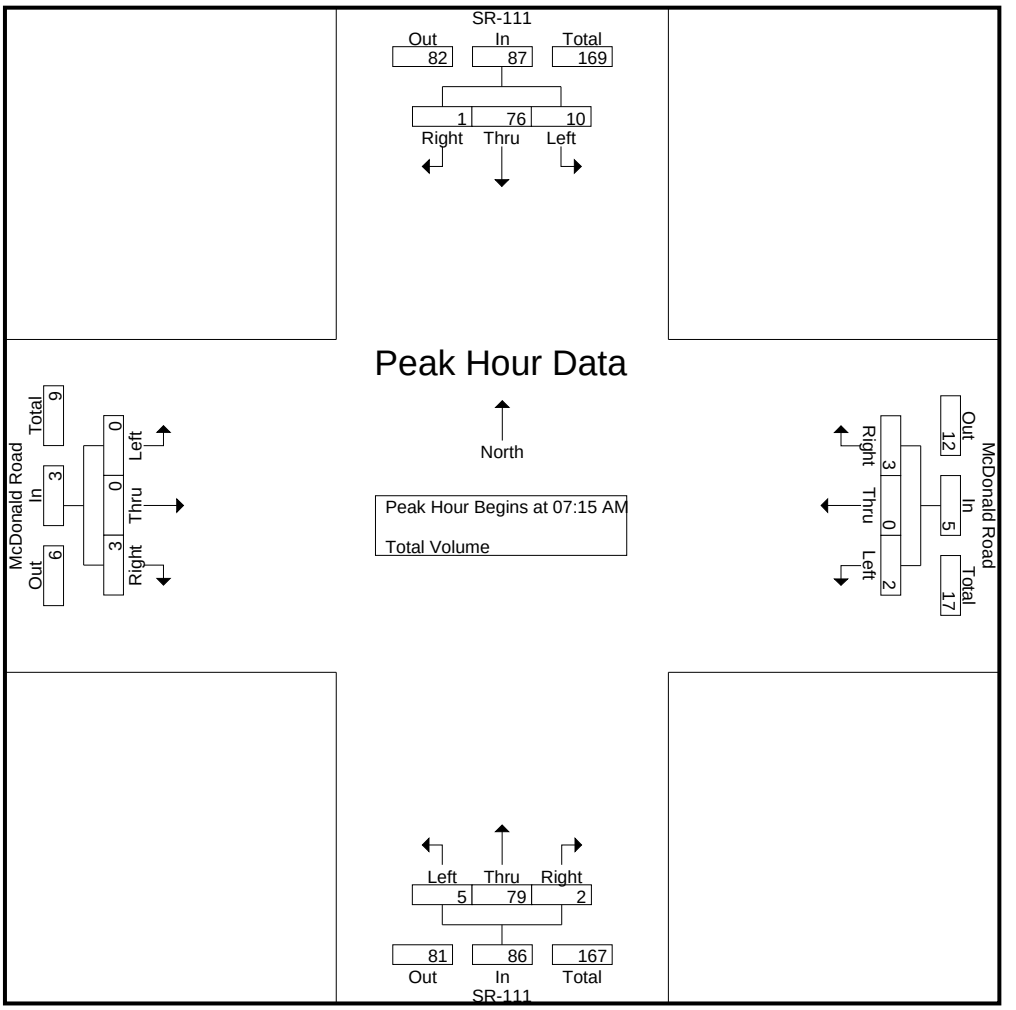
County of Imperial
N/S: SR-111
E/W: McDonald Road
Weather: Clear

File Name : 06_CIM_SR-111_McDonald AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				07:00 AM				07:45 AM			
+0 mins.	**3**	21	0	24	**1**	0	**2**	**3**	0	21	0	21	0	0	1	1
+15 mins.	1	18	0	19	0	0	1	1	**2**	**23**	0	**25**	0	0	**2**	**2**
+30 mins.	3	19	0	22	1	0	0	1	1	23	**1**	25	0	0	0	0
+45 mins.	1	**28**	**1**	**30**	1	0	1	2	2	16	1	19	0	**1**	0	1
Total Volume	8	86	1	95	3	0	4	7	5	83	2	90	0	1	3	4
% App. Total	8.4	90.5	1.1		42.9	0	57.1		5.6	92.2	2.2		0	25	75	
PHF	.667	.768	.250	.792	.750	.000	.500	.583	.625	.902	.500	.900	.000	.250	.375	.500

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County of Imperial
N/S: SR-111
E/W: McDonald Road
Weather: Clear

File Name : 06_CIM_SR-111_McDonald PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				McDonald Road Westbound				SR-111 Northbound				McDonald Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	49	0	50	1	0	6	7	0	25	0	25	0	0	12	12	94
04:15 PM	1	21	0	22	0	0	2	2	1	27	1	29	0	0	2	2	55
04:30 PM	2	21	1	24	0	0	6	6	1	32	0	33	0	0	2	2	65
04:45 PM	1	25	0	26	1	0	2	3	0	29	0	29	0	0	1	1	59
Total	5	116	1	122	2	0	16	18	2	113	1	116	0	0	17	17	273
05:00 PM	1	17	0	18	1	0	1	2	2	22	0	24	0	0	0	0	44
05:15 PM	0	18	0	18	0	0	1	1	1	26	0	27	0	0	1	1	47
05:30 PM	0	5	0	5	1	0	1	2	1	21	0	22	0	0	1	1	30
05:45 PM	0	8	0	8	0	0	0	0	0	14	0	14	0	0	3	3	25
Total	1	48	0	49	2	0	3	5	4	83	0	87	0	0	5	5	146
Grand Total	6	164	1	171	4	0	19	23	6	196	1	203	0	0	22	22	419
Apprch %	3.5	95.9	0.6		17.4	0	82.6		3	96.6	0.5		0	0	100		
Total %	1.4	39.1	0.2	40.8	1	0	4.5	5.5	1.4	46.8	0.2	48.4	0	0	5.3	5.3	

	SR-111 Southbound				McDonald Road Westbound				SR-111 Northbound				McDonald Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	**49**	0	**50**	**1**	0	**6**	**7**	0	25	0	25	0	0	**12**	**12**	**94**
04:15 PM	1	21	0	22	0	0	2	2	**1**	27	**1**	29	0	0	2	2	55
04:30 PM	**2**	21	**1**	24	0	0	6	6	1	**32**	0	**33**	0	0	2	2	65
04:45 PM	1	25	0	26	1	0	2	3	0	29	0	29	0	0	1	1	59
Total Volume	5	116	1	122	2	0	16	18	2	113	1	116	0	0	17	17	273
% App. Total	4.1	95.1	0.8		11.1	0	88.9		1.7	97.4	0.9		0	0	100		
PHF	.625	.592	.250	.610	.500	.000	.667	.643	.500	.883	.250	.879	.000	.000	.354	.354	.726

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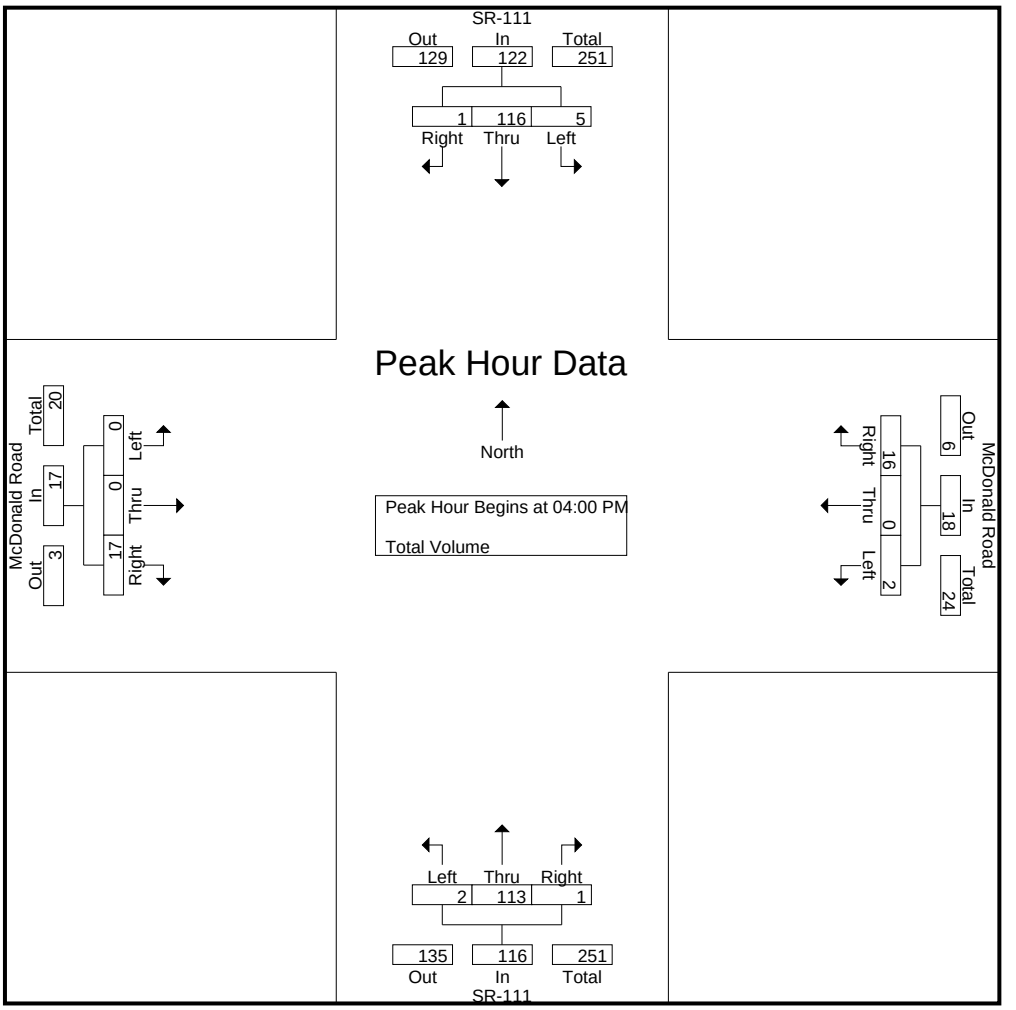
Corona, CA 92878
(951)268-6268

County of Imperial
N/S: SR-111
E/W: McDonald Road
Weather: Clear

File Name : 06_CIM_SR-111_McDonald PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	1	**49**	0	**50**	**1**	0	**6**	**7**	0	25	0	25	0	0	**12**	**12**
+15 mins.	1	21	0	22	0	0	2	2	**1**	27	**1**	29	0	0	2	2
+30 mins.	**2**	21	**1**	24	0	0	6	6	1	**32**	0	**33**	0	0	2	2
+45 mins.	1	25	0	26	1	0	2	3	0	29	0	29	0	0	1	1
Total Volume	5	116	1	122	2	0	16	18	2	113	1	116	0	0	17	17
% App. Total	4.1	95.1	0.8		11.1	0	88.9		1.7	97.4	0.9		0	0	100	
PHF	.625	.592	.250	.610	.500	.000	.667	.643	.500	.883	.250	.879	.000	.000	.354	.354

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
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City of Calipatria
N/S: SR-111
E/W: SR-115 (Main Street)
Weather: Clear

File Name : 07_CPA_SR-111_SR-115 AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				SR-115 Westbound				SR-111 Northbound				SR-115 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	15	2	17	7	6	4	17	9	29	23	61	8	9	2	19	114
07:15 AM	5	10	4	19	7	13	4	24	8	19	23	50	10	13	3	26	119
07:30 AM	3	14	1	18	6	11	2	19	8	24	33	65	3	15	6	24	126
07:45 AM	5	12	5	22	8	8	4	20	6	18	41	65	7	15	3	25	132
Total	13	51	12	76	28	38	14	80	31	90	120	241	28	52	14	94	491
08:00 AM	3	21	2	26	9	7	3	19	12	27	14	53	4	12	7	23	121
08:15 AM	5	13	6	24	9	8	4	21	9	18	11	38	7	4	6	17	100
08:30 AM	5	22	4	31	7	8	1	16	6	15	13	34	10	12	7	29	110
08:45 AM	5	16	4	25	10	5	5	20	7	12	5	24	3	6	2	11	80
Total	18	72	16	106	35	28	13	76	34	72	43	149	24	34	22	80	411
Grand Total	31	123	28	182	63	66	27	156	65	162	163	390	52	86	36	174	902
Apprch %	17	67.6	15.4		40.4	42.3	17.3		16.7	41.5	41.8		29.9	49.4	20.7		
Total %	3.4	13.6	3.1	20.2	7	7.3	3	17.3	7.2	18	18.1	43.2	5.8	9.5	4	19.3	

	SR-111 Southbound				SR-115 Westbound				SR-111 Northbound				SR-115 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**5**	10	4	19	7	**13**	**4**	**24**	8	19	23	50	**10**	13	3	**26**	119
07:30 AM	3	14	1	18	6	11	2	19	8	24	33	**65**	3	**15**	6	24	126
07:45 AM	5	12	**5**	22	8	8	4	20	6	18	**41**	65	7	15	3	25	**132**
08:00 AM	3	**21**	2	**26**	**9**	7	3	19	**12**	**27**	14	53	4	12	**7**	23	121
Total Volume	16	57	12	85	30	39	13	82	34	88	111	233	24	55	19	98	498
% App. Total	18.8	67.1	14.1		36.6	47.6	15.9		14.6	37.8	47.6		24.5	56.1	19.4		
PHF	.800	.679	.600	.817	.833	.750	.813	.854	.708	.815	.677	.896	.600	.917	.679	.942	.943

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
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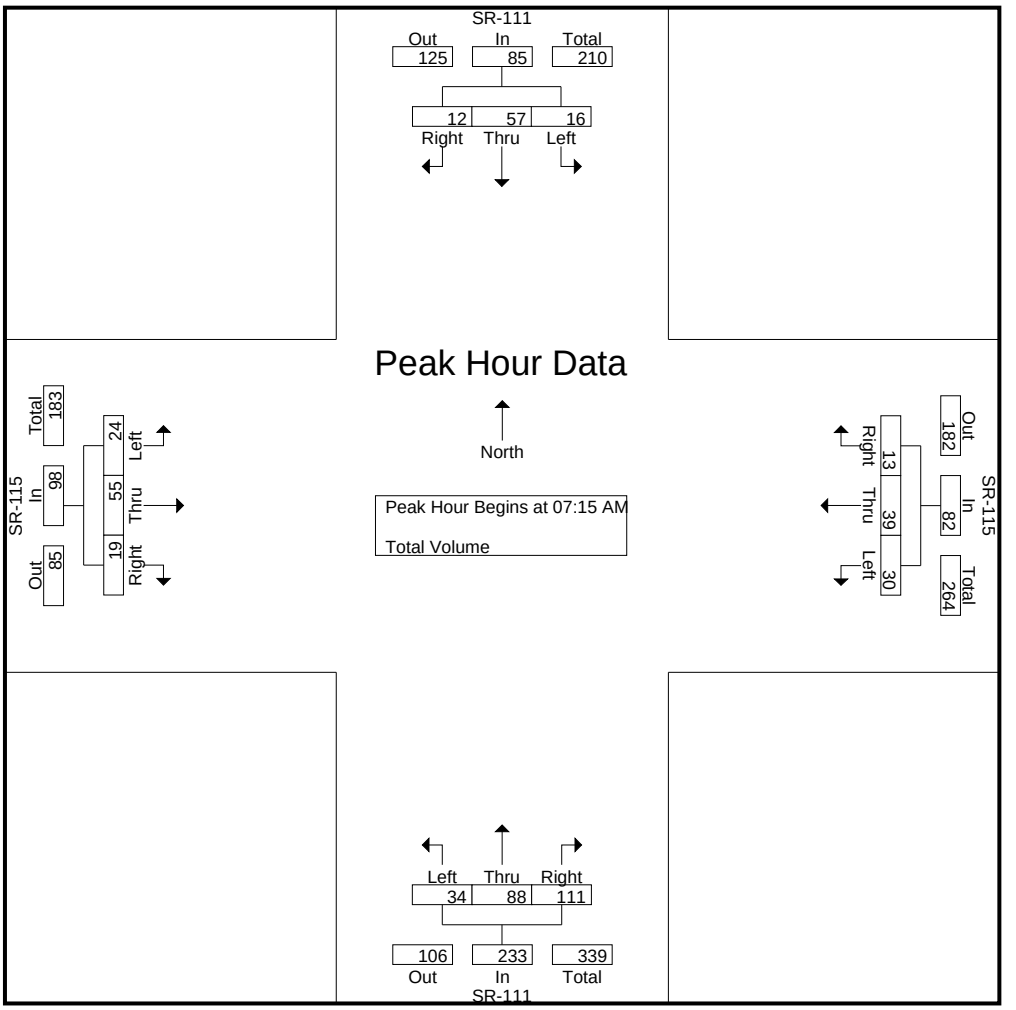
City of Calipatria
N/S: SR-111
E/W: SR-115 (Main Street)
Weather: Clear

File Name : 07_CPA_SR-111_SR-115 AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:15 AM				07:00 AM				07:15 AM			
+0 mins.	3	21	2	26	7	**13**	**4**	**24**	**9**	**29**	23	61	**10**	13	3	**26**
+15 mins.	**5**	13	**6**	24	6	11	2	19	8	19	23	50	3	**15**	6	24
+30 mins.	5	**22**	4	**31**	8	8	4	20	8	24	33	**65**	7	15	3	25
+45 mins.	5	16	4	25	**9**	7	3	19	6	18	**41**	65	4	12	**7**	23
Total Volume	18	72	16	106	30	39	13	82	31	90	120	241	24	55	19	98
% App. Total	17	67.9	15.1		36.6	47.6	15.9		12.9	37.3	49.8		24.5	56.1	19.4	
PHF	.900	.818	.667	.855	.833	.750	.813	.854	.861	.776	.732	.927	.600	.917	.679	.942

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City of Calipatria
N/S: SR-111
E/W: SR-115 (Main Street)
Weather: Clear

File Name : 07_CPA_SR-111_SR-115 PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				SR-115 Westbound				SR-111 Northbound				SR-115 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	10	49	5	64	46	24	9	79	13	18	5	36	16	16	10	42	221
04:15 PM	6	38	8	52	28	22	10	60	11	16	7	34	10	33	12	55	201
04:30 PM	6	24	11	41	26	18	4	48	11	15	14	40	9	18	13	40	169
04:45 PM	4	19	9	32	27	11	10	48	11	28	7	46	9	16	4	29	155
Total	26	130	33	189	127	75	33	235	46	77	33	156	44	83	39	166	746
05:00 PM	7	21	9	37	16	17	10	43	12	15	8	35	17	16	13	46	161
05:15 PM	3	12	3	18	16	13	5	34	12	14	11	37	3	17	4	24	113
05:30 PM	6	13	4	23	7	9	6	22	11	27	14	52	6	14	4	24	121
05:45 PM	5	17	7	29	13	10	6	29	15	13	8	36	7	12	8	27	121
Total	21	63	23	107	52	49	27	128	50	69	41	160	33	59	29	121	516
Grand Total	47	193	56	296	179	124	60	363	96	146	74	316	77	142	68	287	1262
Apprch %	15.9	65.2	18.9		49.3	34.2	16.5		30.4	46.2	23.4		26.8	49.5	23.7		
Total %	3.7	15.3	4.4	23.5	14.2	9.8	4.8	28.8	7.6	11.6	5.9	25	6.1	11.3	5.4	22.7	

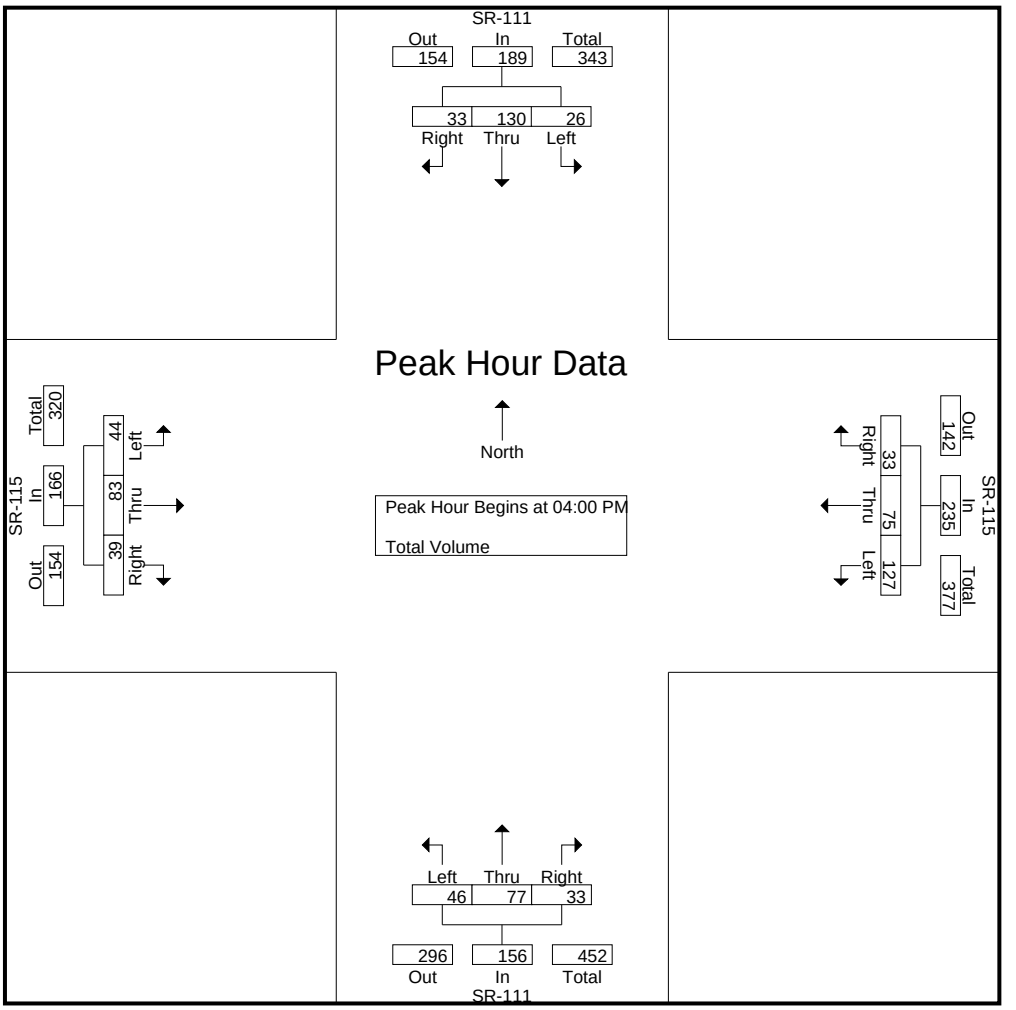
	SR-111 Southbound				SR-115 Westbound				SR-111 Northbound				SR-115 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**10**	**49**	5	**64**	**46**	**24**	9	**79**	**13**	18	5	36	**16**	16	10	42	**221**
04:15 PM	6	38	8	52	28	22	**10**	60	11	16	7	34	10	**33**	12	**55**	201
04:30 PM	6	24	**11**	41	26	18	4	48	11	15	**14**	40	9	18	**13**	40	169
04:45 PM	4	19	9	32	27	11	10	48	11	**28**	7	**46**	9	16	4	29	155
Total Volume	26	130	33	189	127	75	33	235	46	77	33	156	44	83	39	166	746
% App. Total	13.8	68.8	17.5		54	31.9	14		29.5	49.4	21.2		26.5	50	23.5		
PHF	.650	.663	.750	.738	.690	.781	.825	.744	.885	.688	.589	.848	.688	.629	.750	.755	.844

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Calipatria
N/S: SR-111
E/W: SR-115 (Main Street)
Weather: Clear

File Name : 07_CPA_SR-111_SR-115 PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:45 PM				04:15 PM			
+0 mins.	**10**	**49**	5	**64**	**46**	**24**	9	**79**	11	**28**	7	46	10	**33**	12	**55**
+15 mins.	6	38	8	52	28	22	**10**	60	**12**	15	8	35	9	18	**13**	40
+30 mins.	6	24	**11**	41	26	18	4	48	12	14	11	37	9	16	4	29
+45 mins.	4	19	9	32	27	11	10	48	11	27	**14**	**52**	**17**	16	13	46
Total Volume	26	130	33	189	127	75	33	235	46	84	40	170	45	83	42	170
% App. Total	13.8	68.8	17.5		54	31.9	14		27.1	49.4	23.5		26.5	48.8	24.7	
PHF	.650	.663	.750	.738	.690	.781	.825	.744	.958	.750	.714	.817	.662	.629	.808	.773

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Westbound Ramps/Del Rio Place
Weather: Clear

File Name : 08_BWY_SR-111_SR-78W AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				Del Rio Place Westbound				SR-111 Northbound				SR-78 Westbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	31	4	35	1	0	1	2	4	37	0	41	24	0	2	26	104
07:15 AM	1	31	3	35	1	1	3	5	4	50	2	56	24	0	1	25	121
07:30 AM	1	30	4	35	1	0	2	3	3	43	1	47	18	0	2	20	105
07:45 AM	3	30	4	37	1	1	2	4	2	40	1	43	18	0	2	20	104
Total	5	122	15	142	4	2	8	14	13	170	4	187	84	0	7	91	434
08:00 AM	2	24	6	32	1	4	2	7	5	21	1	27	19	0	3	22	88
08:15 AM	2	45	2	49	0	3	1	4	1	26	1	28	9	0	7	16	97
08:30 AM	0	41	4	45	0	2	0	2	3	21	2	26	10	0	4	14	87
08:45 AM	0	36	2	38	0	4	1	5	4	18	1	23	10	2	2	14	80
Total	4	146	14	164	1	13	4	18	13	86	5	104	48	2	16	66	352
Grand Total	9	268	29	306	5	15	12	32	26	256	9	291	132	2	23	157	786
Apprch %	2.9	87.6	9.5		15.6	46.9	37.5		8.9	88	3.1		84.1	1.3	14.6		
Total %	1.1	34.1	3.7	38.9	0.6	1.9	1.5	4.1	3.3	32.6	1.1	37	16.8	0.3	2.9	20	

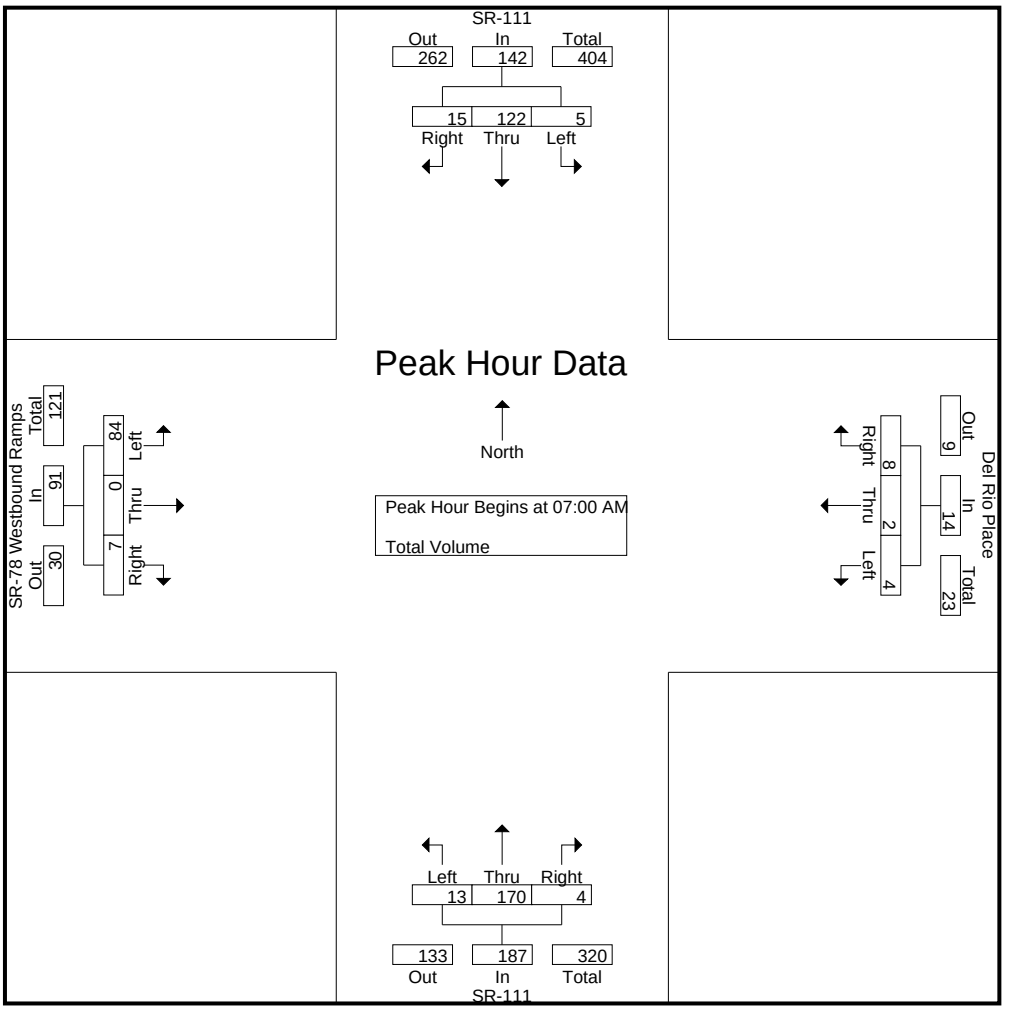
	SR-111 Southbound				Del Rio Place Westbound				SR-111 Northbound				SR-78 Westbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	**31**	**4**	35	**1**	0	1	2	**4**	37	0	41	**24**	0	**2**	**26**	104
07:15 AM	1	31	3	35	1	**1**	**3**	**5**	4	**50**	**2**	**56**	24	0	1	25	**121**
07:30 AM	1	30	4	35	1	0	2	3	3	43	1	47	18	0	2	20	105
07:45 AM	**3**	30	4	**37**	1	1	2	4	2	40	1	43	18	0	2	20	104
Total Volume	5	122	15	142	4	2	8	14	13	170	4	187	84	0	7	91	434
% App. Total	3.5	85.9	10.6		28.6	14.3	57.1		7	90.9	2.1		92.3	0	7.7		
PHF	.417	.984	.938	.959	1.00	.500	.667	.700	.813	.850	.500	.835	.875	.000	.875	.875	.897

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Westbound Ramps/Del Rio Place
Weather: Clear

File Name : 08_BWY_SR-111_SR-78W AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:15 AM				07:00 AM				07:00 AM			
+0 mins.	**2**	24	**6**	32	**1**	1	**3**	5	**4**	37	0	41	**24**	0	**2**	**26**
+15 mins.	2	**45**	2	**49**	1	0	2	3	4	**50**	**2**	**56**	24	0	1	25
+30 mins.	0	41	4	45	1	1	2	4	3	43	1	47	18	0	2	20
+45 mins.	0	36	2	38	1	**4**	2	**7**	2	40	1	43	18	0	2	20
Total Volume	4	146	14	164	4	6	9	19	13	170	4	187	84	0	7	91
% App. Total	2.4	89	8.5		21.1	31.6	47.4		7	90.9	2.1		92.3	0	7.7	
PHF	.500	.811	.583	.837	1.000	.375	.750	.679	.813	.850	.500	.835	.875	.000	.875	.875

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Westbound Ramps/Del Rio Place
Weather: Clear

File Name : 08_BWY_SR-111_SR-78W PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				Del Rio Place Westbound				SR-111 Northbound				SR-78 Westbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	72	7	79	7	8	2	17	4	32	1	37	4	0	3	7	140
04:15 PM	1	82	12	95	2	5	5	12	6	40	0	46	7	0	8	15	168
04:30 PM	1	73	8	82	2	1	4	7	3	43	2	48	18	0	4	22	159
04:45 PM	1	61	5	67	0	0	0	0	2	32	0	34	12	0	2	14	115
Total	3	288	32	323	11	14	11	36	15	147	3	165	41	0	17	58	582
05:00 PM	0	50	5	55	1	3	2	6	5	38	0	43	14	1	5	20	124
05:15 PM	4	48	4	56	0	2	2	4	2	34	0	36	15	0	5	20	116
05:30 PM	1	28	2	31	1	4	0	5	1	34	0	35	16	0	4	20	91
05:45 PM	0	33	7	40	1	1	1	3	2	29	0	31	3	0	0	3	77
Total	5	159	18	182	3	10	5	18	10	135	0	145	48	1	14	63	408
Grand Total	8	447	50	505	14	24	16	54	25	282	3	310	89	1	31	121	990
Apprch %	1.6	88.5	9.9		25.9	44.4	29.6		8.1	91	1		73.6	0.8	25.6		
Total %	0.8	45.2	5.1	51	1.4	2.4	1.6	5.5	2.5	28.5	0.3	31.3	9	0.1	3.1	12.2	

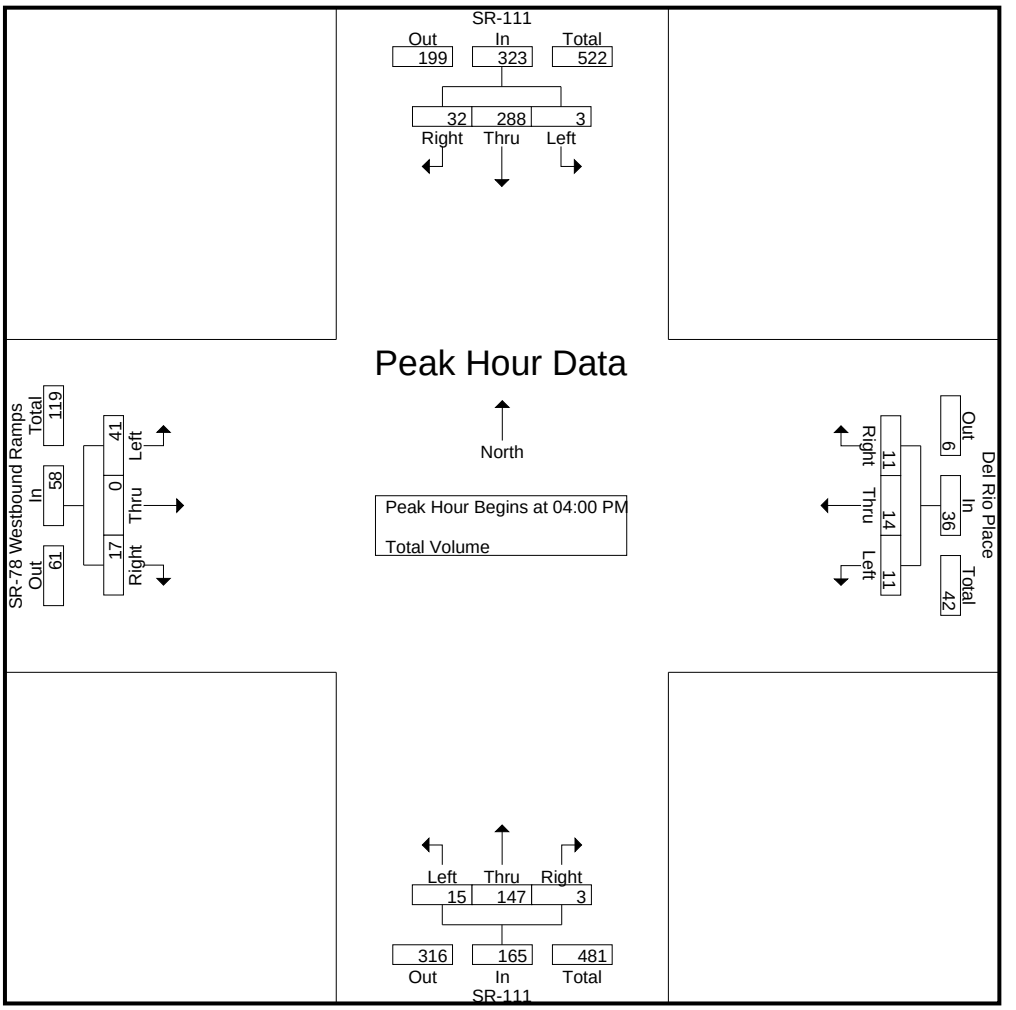
	SR-111 Southbound				Del Rio Place Westbound				SR-111 Northbound				SR-78 Westbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	72	7	79	**7**	**8**	2	**17**	4	32	1	37	4	0	3	7	140
04:15 PM	**1**	**82**	**12**	**95**	2	5	**5**	12	**6**	40	0	46	7	0	**8**	15	**168**
04:30 PM	1	73	8	82	2	1	4	7	3	**43**	**2**	**48**	**18**	0	4	**22**	159
04:45 PM	1	61	5	67	0	0	0	0	2	32	0	34	12	0	2	14	115
Total Volume	3	288	32	323	11	14	11	36	15	147	3	165	41	0	17	58	582
% App. Total	0.9	89.2	9.9		30.6	38.9	30.6		9.1	89.1	1.8		70.7	0	29.3		
PHF	.750	.878	.667	.850	.393	.438	.550	.529	.625	.855	.375	.859	.569	.000	.531	.659	.866

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Westbound Ramps/Del Rio Place
Weather: Clear

File Name : 08_BWY_SR-111_SR-78W PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:15 PM				04:30 PM			
+0 mins.	0	72	7	79	**7**	**8**	2	**17**	**6**	40	0	46	**18**	0	4	**22**
+15 mins.	**1**	**82**	**12**	**95**	2	5	**5**	12	3	**43**	**2**	**48**	12	0	2	14
+30 mins.	1	73	8	82	2	1	4	7	2	32	0	34	14	**1**	**5**	20
+45 mins.	1	61	5	67	0	0	0	0	5	38	0	43	15	0	5	20
Total Volume	3	288	32	323	11	14	11	36	16	153	2	171	59	1	16	76
% App. Total	0.9	89.2	9.9		30.6	38.9	30.6		9.4	89.5	1.2		77.6	1.3	21.1	
PHF	.750	.878	.667	.850	.393	.438	.550	.529	.667	.890	.250	.891	.819	.250	.800	.864

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Eastbound Ramps/Shank Road
Weather: Clear

File Name : 09_BWY_SR-111_SR-78E AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				Shank Road Westbound				SR-111 Northbound				SR-78 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	22	12	35	2	0	0	2	0	37	8	45	5	0	2	7	89
07:15 AM	0	19	10	29	3	0	0	3	7	45	6	58	3	1	0	4	94
07:30 AM	2	17	18	37	2	0	0	2	3	47	5	55	8	0	4	12	106
07:45 AM	1	24	8	33	6	0	1	7	2	34	11	47	9	1	5	15	102
Total	4	82	48	134	13	0	1	14	12	163	30	205	25	2	11	38	391
08:00 AM	0	23	5	28	3	0	0	3	3	26	3	32	2	1	4	7	70
08:15 AM	0	41	12	53	3	0	0	3	0	20	9	29	6	0	4	10	95
08:30 AM	1	31	12	44	4	0	0	4	3	21	9	33	5	1	2	8	89
08:45 AM	1	23	15	39	2	0	1	3	2	21	2	25	1	0	4	5	72
Total	2	118	44	164	12	0	1	13	8	88	23	119	14	2	14	30	326
Grand Total	6	200	92	298	25	0	2	27	20	251	53	324	39	4	25	68	717
Apprch %	2	67.1	30.9		92.6	0	7.4		6.2	77.5	16.4		57.4	5.9	36.8		
Total %	0.8	27.9	12.8	41.6	3.5	0	0.3	3.8	2.8	35	7.4	45.2	5.4	0.6	3.5	9.5	

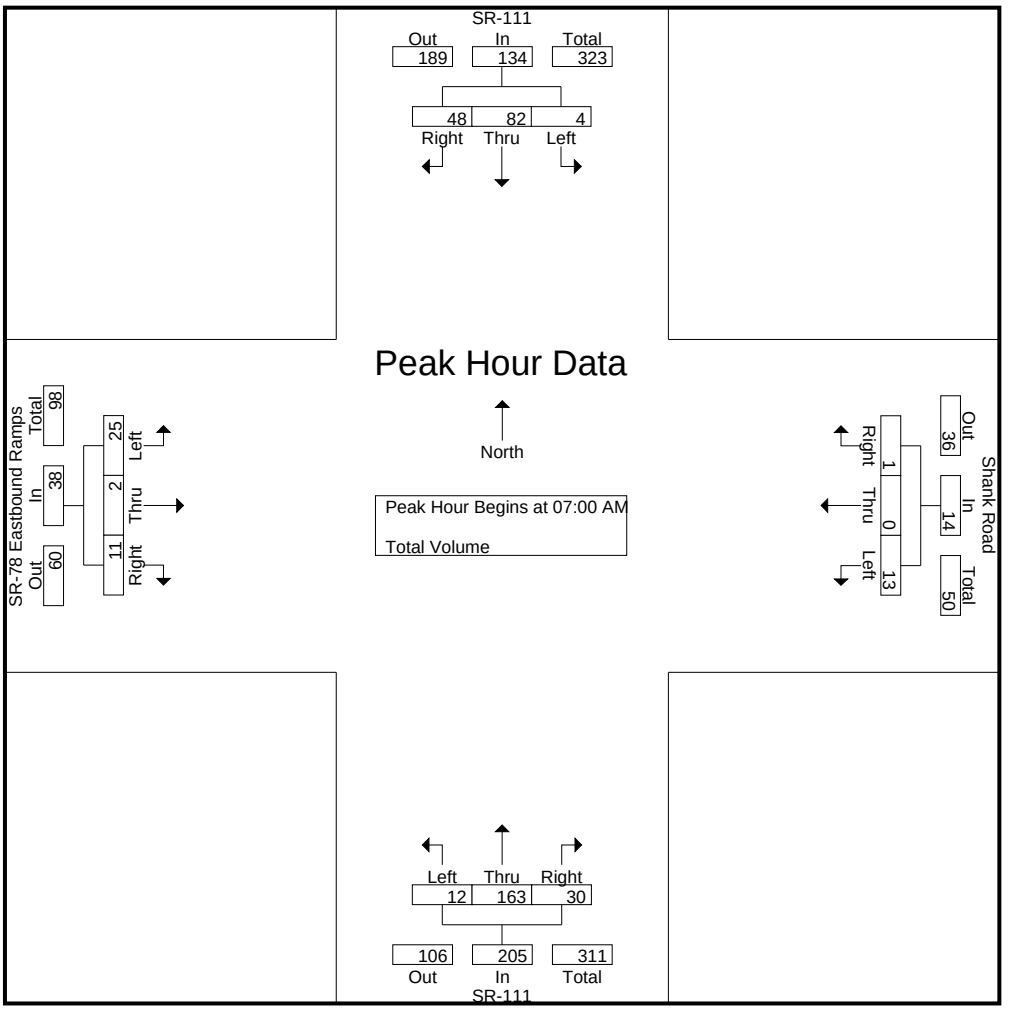
	SR-111 Southbound				Shank Road Westbound				SR-111 Northbound				SR-78 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	22	12	35	2	0	0	2	0	37	8	45	5	0	2	7	89
07:15 AM	0	19	10	29	3	0	0	3	**7**	45	6	**58**	3	**1**	0	4	94
07:30 AM	**2**	17	**18**	**37**	2	0	0	2	3	**47**	5	55	8	0	4	12	**106**
07:45 AM	1	**24**	8	33	**6**	0	**1**	**7**	2	34	**11**	47	**9**	1	**5**	**15**	102
Total Volume	4	82	48	134	13	0	1	14	12	163	30	205	25	2	11	38	391
% App. Total	3	61.2	35.8		92.9	0	7.1		5.9	79.5	14.6		65.8	5.3	28.9		
PHF	.500	.854	.667	.905	.542	.000	.250	.500	.429	.867	.682	.884	.694	.500	.550	.633	.922

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Eastbound Ramps/Shank Road
Weather: Clear

File Name : 09_BWY_SR-111_SR-78E AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

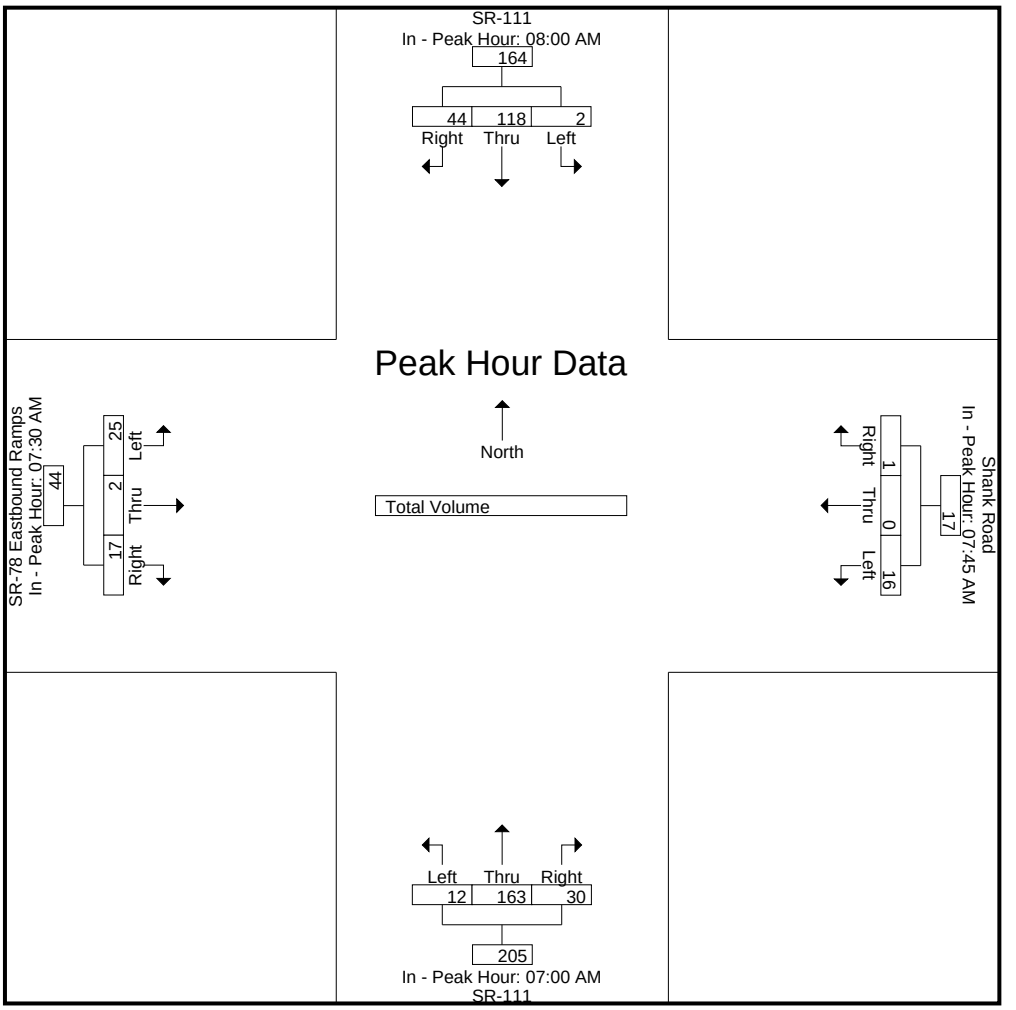
	08:00 AM				07:45 AM				07:00 AM				07:30 AM			
+0 mins.	0	23	5	28	**6**	0	**1**	**7**	0	37	8	45	8	0	4	12
+15 mins.	0	**41**	12	**53**	3	0	0	3	**7**	45	6	**58**	**9**	**1**	**5**	**15**
+30 mins.	**1**	31	12	44	3	0	0	3	3	**47**	5	55	2	1	4	7
+45 mins.	1	23	**15**	39	4	0	0	4	2	34	**11**	47	6	0	4	10
Total Volume	2	118	44	164	16	0	1	17	12	163	30	205	25	2	17	44
% App. Total	1.2	72	26.8		94.1	0	5.9		5.9	79.5	14.6		56.8	4.5	38.6	
PHF	.500	.720	.733	.774	.667	.000	.250	.607	.429	.867	.682	.884	.694	.500	.850	.733

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Eastbound Ramps/Shank Road
Weather: Clear

File Name : 09_BWY_SR-111_SR-78E AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 3



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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Eastbound Ramps/Shank Road
Weather: Clear

File Name : 09_BWY_SR-111_SR-78E PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				Shank Road Westbound				SR-111 Northbound				SR-78 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	52	32	84	17	0	0	17	5	28	3	36	9	2	10	21	158
04:15 PM	1	56	37	94	15	0	0	15	4	38	6	48	5	1	8	14	171
04:30 PM	1	52	24	77	13	0	4	17	7	38	7	52	5	4	11	20	166
04:45 PM	0	37	23	60	19	1	0	20	4	34	5	43	1	1	9	11	134
Total	2	197	116	315	64	1	4	69	20	138	21	179	20	8	38	66	629
05:00 PM	1	39	18	58	17	0	1	18	11	35	3	49	6	1	8	15	140
05:15 PM	0	39	17	56	5	3	0	8	1	34	3	38	2	1	6	9	111
05:30 PM	1	23	8	32	10	0	0	10	2	30	2	34	6	1	3	10	86
05:45 PM	0	28	7	35	7	2	0	9	0	27	3	30	8	1	1	10	84
Total	2	129	50	181	39	5	1	45	14	126	11	151	22	4	18	44	421
Grand Total	4	326	166	496	103	6	5	114	34	264	32	330	42	12	56	110	1050
Apprch %	0.8	65.7	33.5		90.4	5.3	4.4		10.3	80	9.7		38.2	10.9	50.9		
Total %	0.4	31	15.8	47.2	9.8	0.6	0.5	10.9	3.2	25.1	3	31.4	4	1.1	5.3	10.5	

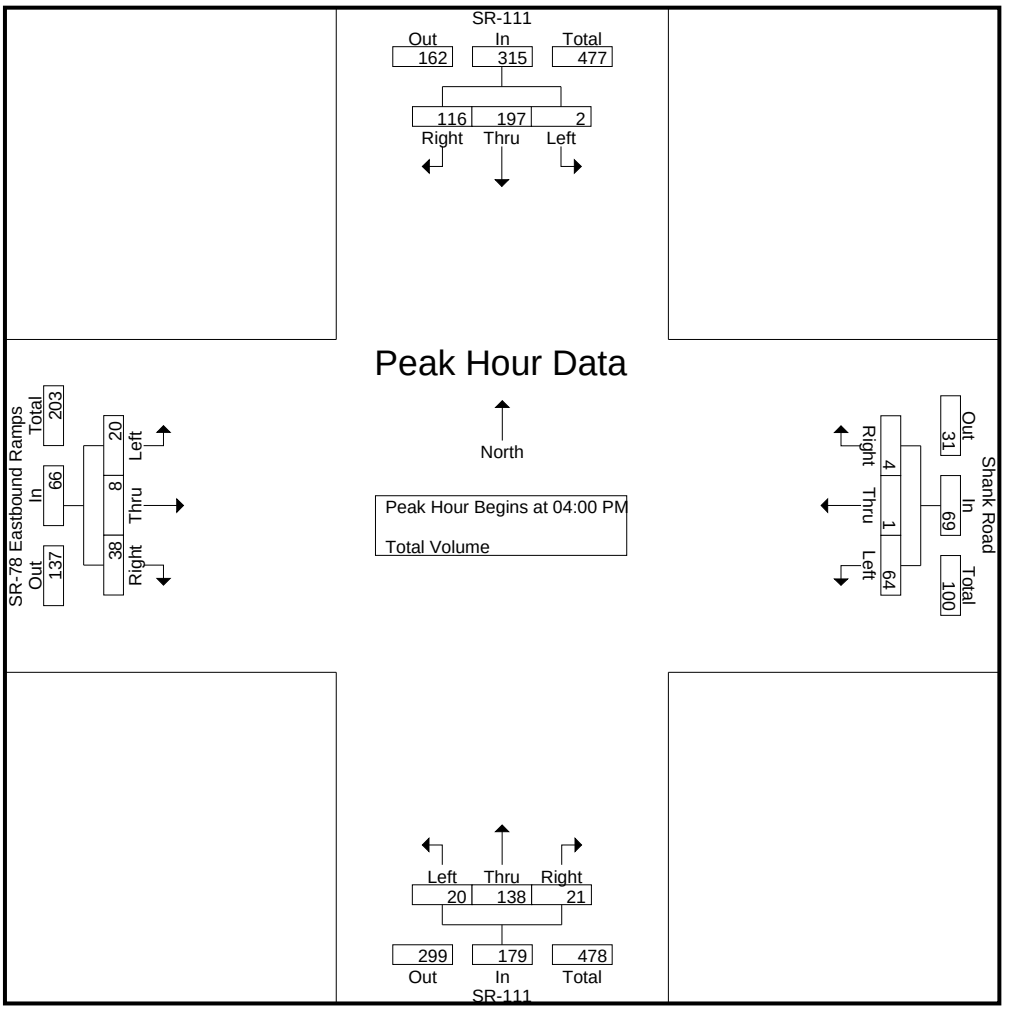
	SR-111 Southbound				Shank Road Westbound				SR-111 Northbound				SR-78 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	52	32	84	17	0	0	17	5	28	3	36	**9**	2	10	**21**	158
04:15 PM	**1**	**56**	**37**	**94**	15	0	0	15	4	**38**	6	48	5	1	8	14	**171**
04:30 PM	1	52	24	77	13	0	**4**	17	**7**	38	**7**	**52**	5	**4**	**11**	20	166
04:45 PM	0	37	23	60	**19**	**1**	0	**20**	4	34	5	43	1	1	9	11	134
Total Volume	2	197	116	315	64	1	4	69	20	138	21	179	20	8	38	66	629
% App. Total	0.6	62.5	36.8		92.8	1.4	5.8		11.2	77.1	11.7		30.3	12.1	57.6		
PHF	.500	.879	.784	.838	.842	.250	.250	.863	.714	.908	.750	.861	.556	.500	.864	.786	.920

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Eastbound Ramps/Shank Road
Weather: Clear

File Name : 09_BWY_SR-111_SR-78E PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM				04:15 PM				04:00 PM			
+0 mins.	0	52	32	84	15	0	0	15	4	**38**	6	48	**9**	2	10	**21**
+15 mins.	**1**	**56**	**37**	**94**	13	0	**4**	17	7	38	**7**	**52**	5	1	8	14
+30 mins.	1	52	24	77	**19**	**1**	0	**20**	4	34	5	43	5	**4**	**11**	20
+45 mins.	0	37	23	60	17	0	1	18	**11**	35	3	49	1	1	9	11
Total Volume	2	197	116	315	64	1	5	70	26	145	21	192	20	8	38	66
% App. Total	0.6	62.5	36.8		91.4	1.4	7.1		13.5	75.5	10.9		30.3	12.1	57.6	
PHF	.500	.879	.784	.838	.842	.250	.313	.875	.591	.954	.750	.923	.556	.500	.864	.786

PC ORIGINAL PKG

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City of Brawley
N/S: SR-111
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Weather: Clear

File Name : 09_BWY_SR-111_SR-78E PM
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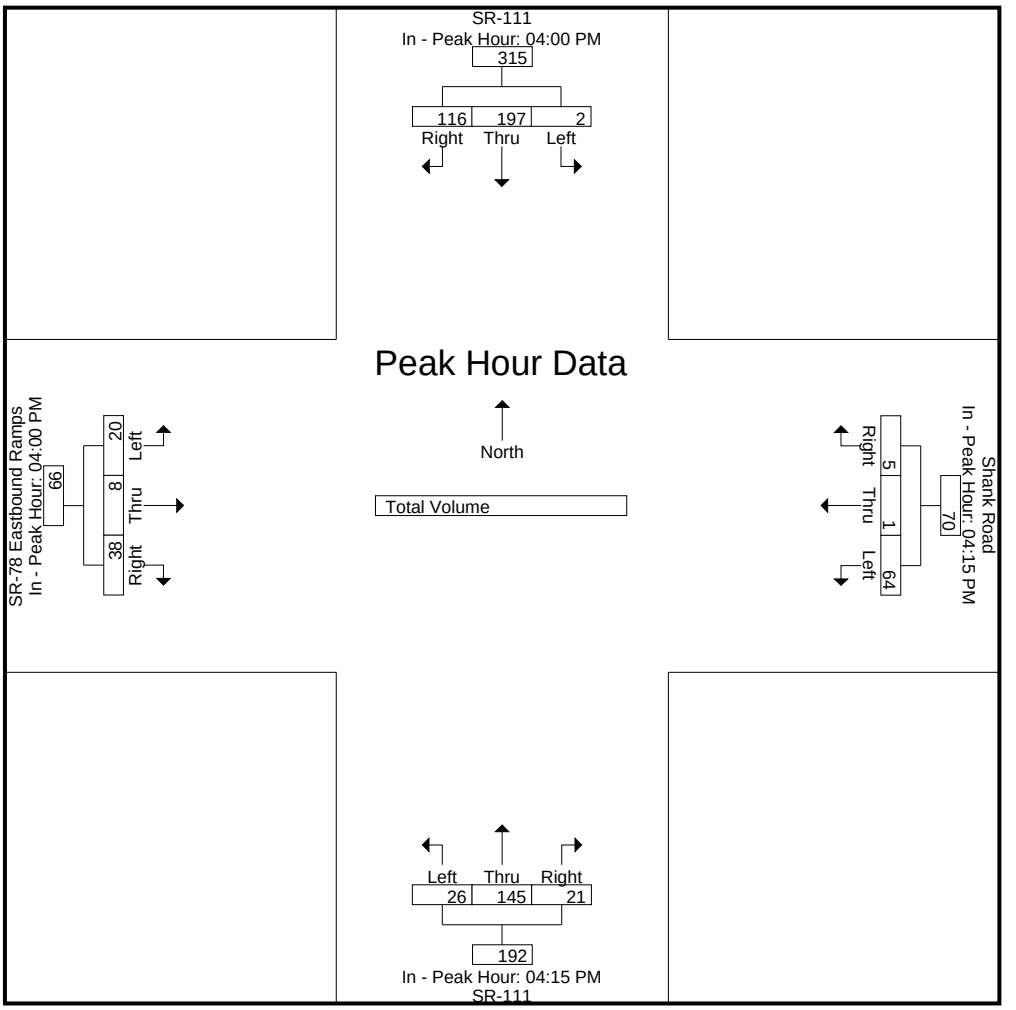
Page No : 3



PC ORIGINAL PKG

APPENDIX B : EXISTING YEAR CONDITIONS ANALYSIS WORKSHEETS

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	14	0	0	25	0	0	0	0	0	0	0
Future Vol, veh/h	0	14	0	0	25	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	15	0	0	27	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	27	0	0	15	0	0	42	42	15	42	42	27
Stage 1	-	-	-	-	-	-	15	15	-	27	27	-
Stage 2	-	-	-	-	-	-	27	27	-	15	15	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1587	-	-	1603	-	-	961	850	1065	961	850	1048
Stage 1	-	-	-	-	-	-	1005	883	-	990	873	-
Stage 2	-	-	-	-	-	-	990	873	-	1005	883	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1587	-	-	1603	-	-	961	850	1065	961	850	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	961	850	-	961	850	-
Stage 1	-	-	-	-	-	-	1005	883	-	990	873	-
Stage 2	-	-	-	-	-	-	990	873	-	1005	883	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1587	-	-	1603	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	14	0	0	25	0	0	0	0	0	0	0
Future Vol, veh/h	0	14	0	0	25	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	15	0	0	27	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	27	0	0	15	0	0	42	42	15	42	42	27
Stage 1	-	-	-	-	-	-	15	15	-	27	27	-
Stage 2	-	-	-	-	-	-	27	27	-	15	15	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1587	-	-	1603	-	-	961	850	1065	961	850	1048
Stage 1	-	-	-	-	-	-	1005	883	-	990	873	-
Stage 2	-	-	-	-	-	-	990	873	-	1005	883	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1587	-	-	1603	-	-	961	850	1065	961	850	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	961	850	-	961	850	-
Stage 1	-	-	-	-	-	-	1005	883	-	990	873	-
Stage 2	-	-	-	-	-	-	990	873	-	1005	883	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1587	-	-	1603	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	3	2	0	3	5	79	2	10	76	1
Future Vol, veh/h	0	0	3	2	0	3	5	79	2	10	76	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	2	0	3	5	86	2	11	83	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	205	204	84	204	203	87	84	0	0	88	0	0
Stage 1	106	106	-	97	97	-	-	-	-	-	-	-
Stage 2	99	98	-	107	106	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	753	692	975	754	693	971	1513	-	-	1508	-	-
Stage 1	900	807	-	910	815	-	-	-	-	-	-	-
Stage 2	907	814	-	898	807	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	744	684	975	745	685	971	1513	-	-	1508	-	-
Mov Cap-2 Maneuver	744	684	-	745	685	-	-	-	-	-	-	-
Stage 1	897	801	-	907	813	-	-	-	-	-	-	-
Stage 2	901	812	-	888	801	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9.2	0.4	0.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1513	-	-	975	866	1508	-	-
HCM Lane V/C Ratio	0.004	-	-	0.003	0.006	0.007	-	-
HCM Control Delay (s)	7.4	0	-	8.7	9.2	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	17	2	0	16	2	113	1	5	116	1
Future Vol, veh/h	0	0	17	2	0	16	2	113	1	5	116	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	18	2	0	17	2	123	1	5	126	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	273	265	127	274	265	124	127	0	0	124	0	0
Stage 1	137	137	-	128	128	-	-	-	-	-	-	-
Stage 2	136	128	-	146	137	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	679	640	923	678	640	927	1459	-	-	1463	-	-
Stage 1	866	783	-	876	790	-	-	-	-	-	-	-
Stage 2	867	790	-	857	783	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	664	637	923	662	637	927	1459	-	-	1463	-	-
Mov Cap-2 Maneuver	664	637	-	662	637	-	-	-	-	-	-	-
Stage 1	865	780	-	875	789	-	-	-	-	-	-	-
Stage 2	850	789	-	836	780	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	9.1	0.1	0.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1459	-	-	923	888	1463	-	-
HCM Lane V/C Ratio	0.001	-	-	0.02	0.022	0.004	-	-
HCM Control Delay (s)	7.5	0	-	9	9.1	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

PC ORIGINAL PKG

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	83	39	127	75	33	46	77	33	26	130	33
Future Vol, veh/h	44	83	39	127	75	33	46	77	33	26	130	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	90	42	138	82	36	50	84	36	28	141	36
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	9.8	11	9.9	10
HCM LOS	A	B	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	54%	0%	51%	0%	77%	0%	29%	0%
Vol Thru, %	46%	54%	49%	52%	23%	53%	71%	66%
Vol Right, %	0%	46%	0%	48%	0%	47%	0%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	85	72	86	81	165	71	91	98
LT Vol	46	0	44	0	127	0	26	0
Through Vol	39	39	42	42	38	38	65	65
RT Vol	0	33	0	39	0	33	0	33
Lane Flow Rate	92	78	93	88	179	77	99	107
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.163	0.125	0.162	0.138	0.312	0.118	0.17	0.172
Departure Headway (Hd)	6.375	5.772	6.262	5.658	6.273	5.552	6.192	5.808
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	563	621	573	634	574	646	580	618
Service Time	4.112	3.509	3.996	3.392	4.005	3.283	3.929	3.545
HCM Lane V/C Ratio	0.163	0.126	0.162	0.139	0.312	0.119	0.171	0.173
HCM Control Delay	10.4	9.3	10.2	9.3	11.8	9	10.2	9.8
HCM Lane LOS	B	A	B	A	B	A	B	A
HCM 95th-tile Q	0.6	0.4	0.6	0.5	1.3	0.4	0.6	0.6

PC ORIGINAL PKG

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	3	14	2	7	14	17	135	0	6	107	10
Future Vol, veh/h	8	3	14	2	7	14	17	135	0	6	107	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	3	15	2	8	15	18	147	0	7	116	11
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	7.8	7.7	8.2	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	27%	0%	84%	0%	36%	0%	10%	0%
Vol Thru, %	73%	100%	16%	10%	64%	20%	90%	84%
Vol Right, %	0%	0%	0%	90%	0%	80%	0%	16%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	90	10	16	6	18	60	64
LT Vol	17	0	8	0	2	0	6	0
Through Vol	45	90	2	2	4	4	54	54
RT Vol	0	0	0	14	0	14	0	10
Lane Flow Rate	67	98	10	17	6	19	65	69
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.09	0.127	0.016	0.022	0.009	0.025	0.085	0.088
Departure Headway (Hd)	4.827	4.69	5.691	4.632	5.454	4.708	4.758	4.597
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	734	755	633	777	660	765	742	768
Service Time	2.613	2.475	3.392	2.333	3.154	2.409	2.553	2.392
HCM Lane V/C Ratio	0.091	0.13	0.016	0.022	0.009	0.025	0.088	0.09
HCM Control Delay	8.1	8.2	8.5	7.4	8.2	7.5	8	7.8
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.4	0	0.1	0	0.1	0.3	0.3

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	0	7	4	2	8	13	170	4	15	122	5
Future Volume (veh/h)	84	0	7	4	2	8	13	170	4	15	122	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	91	0	8	4	2	9	14	185	4	16	133	5
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	718	745	633	721	745	633	629	745	633	530	1392	52
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	9.0	0.0	8.2	8.1	8.1	8.2	12.9	14.3	11.8	10.9	8.7	8.7
Ln Grp LOS	A		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		99			15			203			154	
Approach Delay, s/veh		9.0			8.2			14.1			8.9	
Approach LOS		A			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.1		3.8		5.1		4.1
Max Q Clear (g_c+I1), s		6.0		3.9		6.4		2.2
Green Ext Time (g_e), s		0.8		0.2		0.5		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1246		1398		1189		1402

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3479		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		130		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	14	0	91	0	16	0	4
Grp Sat Flow (s), veh/h/ln	0	1246	0	1398	0	1189	0	1402
Q Serve Time (g_s), s	0.0	0.4	0.0	1.9	0.0	0.4	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	1.5	0.0	1.9	0.0	4.4	0.0	0.1
Perm LT Sat Flow (s_l), veh/h/ln	0	1246	0	1398	0	1189	0	1402
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	16.9	0.0	18.0	0.0	14.0	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.4	0.0	1.9	0.0	0.4	0.0	0.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	629	0	718	0	530	0	721
V/C Ratio (X)	0.00	0.02	0.00	0.13	0.00	0.03	0.00	0.01
Avail Cap (c_a), veh/h	0	629	0	718	0	530	0	721
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	8.7	0.0	10.8	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.4	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.9	0.0	9.0	0.0	10.9	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.7	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.8	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	185	0	0	0	67	0	2
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	4.0	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.0	0.0	0.0	0.0	1.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.25	0.00	0.00	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.5	0.0	0.0	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.3	0.0	0.0	0.0	8.7	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	0.0	0.0	0.5	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.2	0.0	0.0	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	4	0	8	0	71	0	9
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1840	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.07	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	736	0	633
V/C Ratio (X)	0.00	0.01	0.00	0.01	0.00	0.10	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	736	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.1	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.2	0.0	8.7	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.5	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.1
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	0	17	11	14	11	15	147	3	3	288	32
Future Volume (veh/h)	41	0	17	11	14	11	15	147	3	3	288	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	45	0	18	12	15	12	16	160	3	3	313	35
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	704	745	633	716	745	633	504	745	633	554	1285	143
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	8.7	0.0	8.3	8.2	8.2	8.2	14.7	13.9	11.8	10.3	9.8	9.8
Ln Grp LOS	A		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		63			39			179			351	
Approach Delay, s/veh		8.6			8.2			13.9			9.8	
Approach LOS		A			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.2		3.9		5.3		4.4
Max Q Clear (g_c+I1), s		5.6		3.1		5.5		2.2
Green Ext Time (g_e), s		0.7		0.1		1.6		0.1
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1029		1378		1218		1389

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3213		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		357		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	16	0	45	0	3	0	12
Grp Sat Flow (s), veh/h/ln	0	1029	0	1378	0	1218	0	1389
Q Serve Time (g_s), s	0.0	0.6	0.0	0.9	0.0	0.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	1.1	0.0	3.5	0.0	0.2
Perm LT Sat Flow (s_l), veh/h/ln	0	1029	0	1378	0	1218	0	1389
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	15.1	0.0	17.8	0.0	14.5	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.6	0.0	0.9	0.0	0.1	0.0	0.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	504	0	704	0	554	0	716
V/C Ratio (X)	0.00	0.03	0.00	0.06	0.00	0.01	0.00	0.02
Avail Cap (c_a), veh/h	0	504	0	704	0	554	0	716
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.6	0.0	8.5	0.0	10.3	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.7	0.0	8.7	0.0	10.3	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.3	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	160	0	0	0	171	0	15
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	3.5	0.0	0.0	0.0	2.9	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	3.5	0.0	0.0	0.0	2.9	0.0	0.2
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	0.24	0.00	0.02
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.2	0.0	0.0	0.0	9.0	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.9	0.0	0.0	0.0	9.8	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	0.0	0.0	1.4	0.0	0.1

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.9	0.0	0.0	0.0	1.5	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	3	0	18	0	177	0	12
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1800	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.3	0.0	2.9	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.3	0.0	2.9	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.20	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	720	0	633
V/C Ratio (X)	0.00	0.00	0.00	0.03	0.00	0.25	0.00	0.02
Avail Cap (c_a), veh/h	0	633	0	633	0	720	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.2	0.0	9.0	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.8	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.3	0.0	9.8	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	1.4	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	1.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	10.7
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	4	25	6	0	1	20	251	53	2	200	92
Future Volume (veh/h)	39	4	25	6	0	1	20	251	53	2	200	92
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	42	4	27	7	0	1	22	273	58	2	217	100
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	402	32	633	409	0	633	472	745	633	470	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	14.0	0.0	8.4	15.2	0.0	8.1	11.6	10.9	8.7	15.9	14.8	13.3
Ln Grp LOS	B		A	B		A	B	B	A	B	B	B
Approach Vol, veh/h		73			8			353			319	
Approach Delay, s/veh		11.9			14.4			10.6			14.3	
Approach LOS		B			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.0		4.8		4.9		5.2
Max Q Clear (g_c+l1), s		7.4		12.4		6.7		12.0
Green Ext Time (g_e), s		1.4		0.1		1.2		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1058		623		1045		621

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		79		1863		0

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	22	0	46	0	2	0	7
Grp Sat Flow (s), veh/h/ln	0	1058	0	702	0	1045	0	621
Q Serve Time (g_s), s	0.0	0.7	0.0	0.9	0.0	0.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	5.4	0.0	10.4	0.0	4.7	0.0	10.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1058	0	1439	0	1045	0	1400
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.3	0.0	8.5	0.0	13.4	0.0	8.1
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	0.9	0.0	0.1	0.0	0.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.91	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	472	0	434	0	470	0	409
V/C Ratio (X)	0.00	0.05	0.00	0.11	0.00	0.00	0.00	0.02
Avail Cap (c_a), veh/h	0	472	0	434	0	470	0	409
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.4	0.0	13.5	0.0	15.9	0.0	15.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.6	0.0	14.0	0.0	15.9	0.0	15.2
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	273	0	0	0	217	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	4.6	0.0	0.0	0.0	4.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.6	0.0	0.0	0.0	4.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.37	0.00	0.00	0.00	0.29	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.5	0.0	0.0	0.0	13.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.0	0.0	1.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.9	0.0	0.0	0.0	14.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	0.0	0.0	2.4	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.6	0.0	0.0	0.0	2.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	58	0	27	0	100	0	1
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	1.0	0.0	0.5	0.0	2.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.0	0.0	0.5	0.0	2.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.09	0.00	0.04	0.00	0.16	0.00	0.00
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.4	0.0	8.2	0.0	12.8	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.1	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.7	0.0	8.4	0.0	13.3	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	0.2	0.0	1.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.2	0.0	1.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	8	38	64	1	4	20	138	21	2	197	116
Future Volume (veh/h)	20	8	38	64	1	4	20	138	21	2	197	116
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	9	41	70	1	4	22	150	23	2	214	126
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	137	34	633	161	1	633	467	745	633	579	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	13.8	0.0	8.5	30.6	0.0	8.1	11.6	9.4	8.3	13.8	14.7	13.8
Ln Grp LOS	B		A	C		A	B	A	A	B	B	B
Approach Vol, veh/h		72			75			195			342	
Approach Delay, s/veh		10.8			29.4			9.5			14.4	
Approach LOS		B			C			A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.0		4.6		4.8		5.3
Max Q Clear (g_c+l1), s		7.4		20.0		6.7		20.0
Green Ext Time (g_e), s		0.7		0.0		1.2		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1036		1		1207		5

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		85		1863		3

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	22	0	31	0	2	0	71
Grp Sat Flow (s), veh/h/ln	0	1036	0	87	0	1207	0	8
Q Serve Time (g_s), s	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	5.4	0.0	18.0	0.0	2.4	0.0	18.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1036	0	1434	0	1207	0	1376
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.3	0.0	0.0	0.0	15.6	0.0	0.1
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.71	0.00	1.00	0.00	0.99
Lane Grp Cap (c), veh/h	0	467	0	171	0	579	0	162
V/C Ratio (X)	0.00	0.05	0.00	0.18	0.00	0.00	0.00	0.44
Avail Cap (c_a), veh/h	0	467	0	171	0	579	0	162
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.4	0.0	11.5	0.0	13.8	0.0	22.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	2.3	0.0	0.0	0.0	8.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.6	0.0	13.8	0.0	13.8	0.0	30.6
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.3	0.0	0.0	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.42
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	150	0	0	0	214	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	2.4	0.0	0.0	0.0	4.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.4	0.0	0.0	0.0	4.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.20	0.00	0.00	0.00	0.29	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.8	0.0	0.0	0.0	13.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	0.0	1.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.4	0.0	0.0	0.0	14.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	0.0	0.0	2.4	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	0.0	0.0	2.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	41	0	126	0	4
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	0.4	0.0	0.7	0.0	3.2	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	0.4	0.0	0.7	0.0	3.2	0.0	0.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.04	0.00	0.06	0.00	0.20	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.2	0.0	8.3	0.0	13.1	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.3	0.0	8.5	0.0	13.8	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.3	0.0	1.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.3	0.0	1.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	14.3
HCM 2010 LOS	B

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APPENDIX C : CONSTRUCTION YEAR ANALYSIS WORKSHEETS

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	0
Future Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	16	0	0	28	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	16	0	0	44	44	16	44	44	28
Stage 1	-	-	-	-	-	-	16	16	-	28	28	-
Stage 2	-	-	-	-	-	-	28	28	-	16	16	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1602	-	-	958	848	1063	958	848	1047
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	1004	882	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1585	-	-	1602	-	-	958	848	1063	958	848	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	958	848	-	958	848	-
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	1004	882	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1585	-	-	1602	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

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Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	0
Future Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	16	0	0	28	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	16	0	0	44	44	16	44	44	28
Stage 1	-	-	-	-	-	-	16	16	-	28	28	-
Stage 2	-	-	-	-	-	-	28	28	-	16	16	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1602	-	-	958	848	1063	958	848	1047
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	1004	882	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1585	-	-	1602	-	-	958	848	1063	958	848	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	958	848	-	958	848	-
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	1004	882	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1585	-	-	1602	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

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Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	3	2	0	3	5	83	2	11	80	1
Future Vol, veh/h	0	0	3	2	0	3	5	83	2	11	80	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	2	0	3	5	90	2	12	87	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	215	214	88	214	213	91	88	0	0	92	0	0
Stage 1	112	112	-	101	101	-	-	-	-	-	-	-
Stage 2	103	102	-	113	112	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	742	684	970	743	684	967	1508	-	-	1503	-	-
Stage 1	893	803	-	905	811	-	-	-	-	-	-	-
Stage 2	903	811	-	892	803	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	733	676	970	734	676	967	1508	-	-	1503	-	-
Mov Cap-2 Maneuver	733	676	-	734	676	-	-	-	-	-	-	-
Stage 1	890	797	-	902	809	-	-	-	-	-	-	-
Stage 2	897	809	-	882	797	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9.2	0.4	0.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1508	-	-	970	858	1503	-	-
HCM Lane V/C Ratio	0.004	-	-	0.003	0.006	0.008	-	-
HCM Control Delay (s)	7.4	0	-	8.7	9.2	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

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Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	18	2	0	17	2	119	1	5	122	1
Future Vol, veh/h	0	0	18	2	0	17	2	119	1	5	122	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	20	2	0	18	2	129	1	5	133	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	287	278	134	288	278	130	134	0	0	130	0	0
Stage 1	144	144	-	134	134	-	-	-	-	-	-	-
Stage 2	143	134	-	154	144	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	665	630	915	664	630	920	1451	-	-	1455	-	-
Stage 1	859	778	-	869	785	-	-	-	-	-	-	-
Stage 2	860	785	-	848	778	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	649	627	915	647	627	920	1451	-	-	1455	-	-
Mov Cap-2 Maneuver	649	627	-	647	627	-	-	-	-	-	-	-
Stage 1	858	775	-	868	784	-	-	-	-	-	-	-
Stage 2	842	784	-	827	775	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	9.2	0.1	0.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1451	-	-	915	881	1455	-	-
HCM Lane V/C Ratio	0.001	-	-	0.021	0.023	0.004	-	-
HCM Control Delay (s)	7.5	0	-	9	9.2	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

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Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	88	41	134	79	35	49	81	35	27	137	35
Future Vol, veh/h	46	88	41	134	79	35	49	81	35	27	137	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	96	45	146	86	38	53	88	38	29	149	38
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	10	11.4	10.1	10.2
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	55%	0%	51%	0%	77%	0%	28%	0%
Vol Thru, %	45%	54%	49%	52%	23%	53%	72%	66%
Vol Right, %	0%	46%	0%	48%	0%	47%	0%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	76	90	85	174	75	96	104
LT Vol	49	0	46	0	134	0	27	0
Through Vol	41	41	44	44	40	40	69	69
RT Vol	0	35	0	41	0	35	0	35
Lane Flow Rate	97	82	98	92	189	81	104	112
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.175	0.134	0.173	0.148	0.333	0.127	0.182	0.185
Departure Headway (Hd)	6.485	5.878	6.363	5.762	6.365	5.642	6.295	5.912
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	554	610	563	622	566	635	570	606
Service Time	4.225	3.618	4.104	3.503	4.104	3.38	4.033	3.65
HCM Lane V/C Ratio	0.175	0.134	0.174	0.148	0.334	0.128	0.182	0.185
HCM Control Delay	10.6	9.5	10.4	9.5	12.3	9.2	10.4	10
HCM Lane LOS	B	A	B	A	B	A	B	A
HCM 95th-tile Q	0.6	0.5	0.6	0.5	1.5	0.4	0.7	0.7

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Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	3	15	2	7	15	18	142	0	6	113	11
Future Vol, veh/h	8	3	15	2	7	15	18	142	0	6	113	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	3	16	2	8	16	20	154	0	7	123	12
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	7.9	7.7	8.2	8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	28%	0%	84%	0%	36%	0%	10%	0%
Vol Thru, %	72%	100%	16%	9%	64%	19%	90%	84%
Vol Right, %	0%	0%	0%	91%	0%	81%	0%	16%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	95	10	17	6	19	63	68
LT Vol	18	0	8	0	2	0	6	0
Through Vol	47	95	2	2	4	4	57	57
RT Vol	0	0	0	15	0	15	0	11
Lane Flow Rate	71	103	10	18	6	20	68	73
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.095	0.134	0.016	0.023	0.009	0.026	0.092	0.094
Departure Headway (Hd)	4.836	4.698	5.731	4.668	5.494	4.741	4.863	4.601
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	732	753	628	771	655	759	741	767
Service Time	2.626	2.488	3.435	2.372	3.198	2.445	2.563	2.4
HCM Lane V/C Ratio	0.097	0.137	0.016	0.023	0.009	0.026	0.092	0.095
HCM Control Delay	8.1	8.2	8.5	7.5	8.2	7.6	8.1	7.9
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0	0.1	0	0.1	0.3	0.3

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	0	7	4	2	8	14	179	4	16	129	5
Future Volume (veh/h)	89	0	7	4	2	8	14	179	4	16	129	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	97	0	8	4	2	9	15	195	4	17	140	5
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	718	745	633	721	745	633	624	745	633	521	1395	50
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	9.1	0.0	8.2	8.1	8.1	8.2	13.0	14.4	11.8	11.1	8.7	8.7
Ln Grp LOS	A		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		105			15			214			162	
Approach Delay, s/veh		9.0			8.2			14.3			9.0	
Approach LOS		A			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.1		3.8		5.1		4.1
Max Q Clear (g_c+I1), s		6.2		4.0		6.7		2.2
Green Ext Time (g_e), s		0.8		0.2		0.5		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1238		1398		1179		1402

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3486		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		124		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	15	0	97	0	17	0	4
Grp Sat Flow (s), veh/h/ln	0	1238	0	1398	0	1179	0	1402
Q Serve Time (g_s), s	0.0	0.5	0.0	2.0	0.0	0.5	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	1.6	0.0	2.0	0.0	4.7	0.0	0.1
Perm LT Sat Flow (s_l), veh/h/ln	0	1238	0	1398	0	1179	0	1402
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	16.9	0.0	18.0	0.0	13.8	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.5	0.0	2.0	0.0	0.5	0.0	0.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	624	0	718	0	521	0	721
V/C Ratio (X)	0.00	0.02	0.00	0.14	0.00	0.03	0.00	0.01
Avail Cap (c_a), veh/h	0	624	0	718	0	521	0	721
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	8.7	0.0	11.0	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.4	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.0	0.0	9.1	0.0	11.1	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.8	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.9	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	195	0	0	0	71	0	2
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	4.2	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.2	0.0	0.0	0.0	1.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.26	0.00	0.00	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.6	0.0	0.0	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.4	0.0	0.0	0.0	8.7	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	0.0	0.0	0.6	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.4	0.0	0.0	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	4	0	8	0	74	0	9
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1841	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.07	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	736	0	633
V/C Ratio (X)	0.00	0.01	0.00	0.01	0.00	0.10	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	736	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.1	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.2	0.0	8.7	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.2
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	0	18	12	15	12	16	155	3	3	304	34
Future Volume (veh/h)	43	0	18	12	15	12	16	155	3	3	304	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	47	0	20	13	16	13	17	168	3	3	330	37
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	703	745	633	715	745	633	494	745	633	546	1285	143
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	8.7	0.0	8.3	8.2	8.2	8.2	14.9	14.0	11.8	10.5	9.9	9.9
Ln Grp LOS	A		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		67			42			188			370	
Approach Delay, s/veh		8.6			8.2			14.0			9.9	
Approach LOS		A			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.2		3.9		5.3		4.4
Max Q Clear (g_c+I1), s		5.8		3.2		5.7		2.3
Green Ext Time (g_e), s		0.7		0.1		1.7		0.1
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1011		1375		1209		1386

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3212		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		358		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	17	0	47	0	3	0	13
Grp Sat Flow (s), veh/h/ln	0	1011	0	1375	0	1209	0	1386
Q Serve Time (g_s), s	0.0	0.7	0.0	1.0	0.0	0.1	0.0	0.3
Cycle Q Clear Time (g_c), s	0.0	3.8	0.0	1.2	0.0	3.7	0.0	0.3
Perm LT Sat Flow (s_l), veh/h/ln	0	1011	0	1375	0	1209	0	1386
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	14.9	0.0	17.8	0.0	14.4	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	1.0	0.0	0.1	0.0	0.3
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	494	0	703	0	546	0	715
V/C Ratio (X)	0.00	0.03	0.00	0.07	0.00	0.01	0.00	0.02
Avail Cap (c_a), veh/h	0	494	0	703	0	546	0	715
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.8	0.0	8.5	0.0	10.5	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.9	0.0	8.7	0.0	10.5	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	168	0	0	0	181	0	16
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	3.6	0.0	0.0	0.0	3.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	0.0	0.0	3.1	0.0	0.2
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.23	0.00	0.00	0.00	0.26	0.00	0.02
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.3	0.0	0.0	0.0	9.0	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.9	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.0	0.0	0.0	0.0	9.9	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	0.0	0.0	1.5	0.0	0.1

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.0	0.0	0.0	0.0	1.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	3	0	20	0	186	0	13
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1800	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.3	0.0	3.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.3	0.0	3.1	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.20	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	720	0	633
V/C Ratio (X)	0.00	0.00	0.00	0.03	0.00	0.26	0.00	0.02
Avail Cap (c_a), veh/h	0	633	0	633	0	720	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.2	0.0	9.0	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.9	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.3	0.0	9.9	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	1.6	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.2	0.0	1.7	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	4	26	6	0	1	21	265	56	2	211	97
Future Volume (veh/h)	41	4	26	6	0	1	21	265	56	2	211	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	45	4	28	7	0	1	23	288	61	2	229	105
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	378	27	633	379	0	633	461	745	633	458	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	15.0	0.0	8.4	16.1	0.0	8.1	11.8	11.1	8.7	16.1	15.0	13.4
Ln Grp LOS	B		A	B		A	B	B	A	B	B	B
Approach Vol, veh/h		77			8			372			336	
Approach Delay, s/veh		12.6			15.1			10.8			14.5	
Approach LOS		B			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.0		4.8		4.9		5.2
Max Q Clear (g_c+l1), s		7.7		13.4		7.0		13.0
Green Ext Time (g_e), s		1.4		0.1		1.2		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1042		560		1028		548

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		68		1863		0

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	49	0	2	0	7
Grp Sat Flow (s), veh/h/ln	0	1042	0	628	0	1028	0	548
Q Serve Time (g_s), s	0.0	0.7	0.0	1.1	0.0	0.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	5.7	0.0	11.4	0.0	5.0	0.0	11.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1042	0	1439	0	1028	0	1399
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.0	0.0	7.6	0.0	13.1	0.0	7.2
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	1.1	0.0	0.1	0.0	0.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.92	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	461	0	405	0	458	0	379
V/C Ratio (X)	0.00	0.05	0.00	0.12	0.00	0.00	0.00	0.02
Avail Cap (c_a), veh/h	0	461	0	405	0	458	0	379
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.6	0.0	14.3	0.0	16.1	0.0	16.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.6	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	15.0	0.0	16.1	0.0	16.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.6	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	288	0	0	0	229	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	4.9	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.9	0.0	0.0	0.0	5.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.39	0.00	0.00	0.00	0.31	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.6	0.0	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.0	1.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.1	0.0	0.0	0.0	15.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.0	0.0	2.6	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.8	0.0	0.0	0.0	2.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	61	0	28	0	105	0	1
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	1.1	0.0	0.5	0.0	2.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	0.5	0.0	2.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.10	0.00	0.04	0.00	0.17	0.00	0.00
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.4	0.0	8.2	0.0	12.9	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.1	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.7	0.0	8.4	0.0	13.4	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	0.2	0.0	1.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.2	0.0	1.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	8	40	68	1	4	21	146	22	2	208	122
Future Volume (veh/h)	21	8	40	68	1	4	21	146	22	2	208	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	23	9	43	74	1	4	23	159	24	2	226	133
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	138	32	633	160	1	633	456	745	633	571	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	14.0	0.0	8.5	31.7	0.0	8.1	11.8	9.5	8.3	14.0	14.9	13.9
Ln Grp LOS	B		A	C		A	B	A	A	B	B	B
Approach Vol, veh/h		75			79			206			361	
Approach Delay, s/veh		10.9			30.5			9.6			14.5	
Approach LOS		B			C			A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.1		4.6		4.8		5.3
Max Q Clear (g_c+l1), s		7.7		20.0		6.9		20.0
Green Ext Time (g_e), s		0.7		0.0		1.3		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1018		0		1196		1

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		81		1863		3

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	32	0	2	0	75
Grp Sat Flow (s), veh/h/ln	0	1018	0	82	0	1196	0	4
Q Serve Time (g_s), s	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.7	0.0	18.0	0.0	2.6	0.0	18.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1018	0	1434	0	1196	0	1374
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.1	0.0	0.0	0.0	15.5	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.72	0.00	1.00	0.00	0.99
Lane Grp Cap (c), veh/h	0	456	0	170	0	571	0	161
V/C Ratio (X)	0.00	0.05	0.00	0.19	0.00	0.00	0.00	0.47
Avail Cap (c_a), veh/h	0	456	0	170	0	571	0	161
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.6	0.0	11.5	0.0	14.0	0.0	22.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	2.4	0.0	0.0	0.0	9.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	14.0	0.0	14.0	0.0	31.7
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.45
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	159	0	0	0	226	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	2.5	0.0	0.0	0.0	4.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.5	0.0	0.0	0.0	4.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	0.30	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.9	0.0	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	1.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.5	0.0	0.0	0.0	14.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	0.0	0.0	2.5	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.4	0.0	0.0	0.0	2.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	24	0	43	0	133	0	4
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	0.4	0.0	0.8	0.0	3.4	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	0.4	0.0	0.8	0.0	3.4	0.0	0.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.04	0.00	0.07	0.00	0.21	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.2	0.0	8.3	0.0	13.2	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.3	0.0	8.5	0.0	13.9	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.3	0.0	1.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	1.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	14.5
HCM 2010 LOS	B

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APPENDIX D : CONSTRUCTION YEAR PLUS PROJECT ANALYSIS WORKSHEETS

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	125	15	0	0	26	0	0	0	0	0	0	0
Future Vol, veh/h	125	15	0	0	26	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	136	16	0	0	28	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	16	0	0	316	316	16	316	316	28
Stage 1	-	-	-	-	-	-	288	288	-	28	28	-
Stage 2	-	-	-	-	-	-	28	28	-	288	288	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1602	-	-	637	600	1063	637	600	1047
Stage 1	-	-	-	-	-	-	720	674	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	720	674	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1585	-	-	1602	-	-	594	548	1063	594	548	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	594	548	-	594	548	-
Stage 1	-	-	-	-	-	-	657	615	-	903	872	-
Stage 2	-	-	-	-	-	-	989	872	-	657	615	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.7	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1585	-	-	1602	-	-	-
HCM Lane V/C Ratio	-	0.086	-	-	-	-	-	-
HCM Control Delay (s)	0	7.5	0	-	0	-	-	0
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0.3	-	-	0	-	-	-

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	3	2	0	3	5	83	114	24	80	1
Future Vol, veh/h	0	0	3	2	0	3	5	83	114	24	80	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	2	0	3	5	90	124	26	87	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	304	364	88	303	302	152	88	0	0	214	0	0
Stage 1	140	140	-	162	162	-	-	-	-	-	-	-
Stage 2	164	224	-	141	140	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	648	564	970	649	611	894	1508	-	-	1356	-	-
Stage 1	863	781	-	840	764	-	-	-	-	-	-	-
Stage 2	838	718	-	862	781	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	634	550	970	635	596	894	1508	-	-	1356	-	-
Mov Cap-2 Maneuver	634	550	-	635	596	-	-	-	-	-	-	-
Stage 1	860	765	-	837	761	-	-	-	-	-	-	-
Stage 2	832	715	-	842	765	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9.7	0.2	1.8
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1508	-	-	970	769	1356	-	-
HCM Lane V/C Ratio	0.004	-	-	0.003	0.007	0.019	-	-
HCM Control Delay (s)	7.4	0	-	8.7	9.7	7.7	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.1	-	-

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Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	88	41	134	79	37	49	189	35	27	137	35
Future Vol, veh/h	48	88	41	134	79	37	49	189	35	27	137	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	96	45	146	86	40	53	205	38	29	149	38
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	10.6	12.1	11.3	10.6
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	34%	0%	52%	0%	77%	0%	28%	0%
Vol Thru, %	66%	73%	48%	52%	23%	52%	72%	66%
Vol Right, %	0%	27%	0%	48%	0%	48%	0%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	144	130	92	85	174	77	96	104
LT Vol	49	0	48	0	134	0	27	0
Through Vol	95	95	44	44	40	40	69	69
RT Vol	0	35	0	41	0	37	0	35
Lane Flow Rate	156	141	100	92	189	83	104	112
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.281	0.239	0.188	0.158	0.353	0.139	0.19	0.193
Departure Headway (Hd)	6.474	6.109	6.764	6.155	6.742	6.007	6.574	6.19
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	554	586	529	580	532	595	544	577
Service Time	4.231	3.866	4.527	3.918	4.501	3.765	4.337	3.953
HCM Lane V/C Ratio	0.282	0.241	0.189	0.159	0.355	0.139	0.191	0.194
HCM Control Delay	11.8	10.8	11.1	10.1	13.2	9.7	10.9	10.4
HCM Lane LOS	B	B	B	B	B	A	B	B
HCM 95th-tile Q	1.1	0.9	0.7	0.6	1.6	0.5	0.7	0.7

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	0	7	4	2	8	14	202	4	16	129	5
Future Volume (veh/h)	176	0	7	4	2	8	14	202	4	16	129	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	191	0	8	4	2	9	15	220	4	17	140	5
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	718	745	633	721	745	633	624	745	633	498	1395	50
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	10.3	0.0	8.2	8.1	8.1	8.2	13.0	14.8	11.8	11.5	8.7	8.7
Ln Grp LOS	B		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		199			15			239			162	
Approach Delay, s/veh		10.2			8.2			14.6			9.0	
Approach LOS		B			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.2		3.8		5.2		4.1
Max Q Clear (g_c+I1), s		6.8		6.3		7.3		2.2
Green Ext Time (g_e), s		0.9		0.4		0.5		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1238		1398		1152		1402

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3486		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		124		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	15	0	191	0	17	0	4
Grp Sat Flow (s), veh/h/ln	0	1238	0	1398	0	1152	0	1402
Q Serve Time (g_s), s	0.0	0.5	0.0	4.3	0.0	0.5	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	1.6	0.0	4.3	0.0	5.3	0.0	0.1
Perm LT Sat Flow (s_l), veh/h/ln	0	1238	0	1398	0	1152	0	1402
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	16.9	0.0	18.0	0.0	13.2	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.5	0.0	4.3	0.0	0.5	0.0	0.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	624	0	718	0	498	0	721
V/C Ratio (X)	0.00	0.02	0.00	0.27	0.00	0.03	0.00	0.01
Avail Cap (c_a), veh/h	0	624	0	718	0	498	0	721
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	9.4	0.0	11.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.9	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.0	0.0	10.3	0.0	11.5	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	1.6	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	1.8	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	220	0	0	0	71	0	2
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	4.8	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.8	0.0	0.0	0.0	1.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.30	0.00	0.00	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.8	0.0	0.0	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.8	0.0	0.0	0.0	8.7	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.0	0.0	0.6	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.7	0.0	0.0	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	4	0	8	0	74	0	9
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1841	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.07	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	736	0	633
V/C Ratio (X)	0.00	0.01	0.00	0.01	0.00	0.10	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	736	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.1	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.2	0.0	8.7	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.6
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	4	26	6	0	1	21	265	56	2	211	97
Future Volume (veh/h)	46	4	26	6	0	1	21	265	56	2	211	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	50	4	28	7	0	1	23	288	61	2	229	105
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	336	21	633	331	0	633	461	745	633	458	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	16.7	0.0	8.4	17.5	0.0	8.1	11.8	11.1	8.7	16.1	15.0	13.4
Ln Grp LOS	B		A	B		A	B	B	A	B	B	B
Approach Vol, veh/h		82			8			372			336	
Approach Delay, s/veh		13.9			16.3			10.8			14.5	
Approach LOS		B			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.0		4.8		4.9		5.2
Max Q Clear (g_c+l1), s		7.7		15.2		7.0		14.6
Green Ext Time (g_e), s		1.4		0.1		1.2		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1042		454		1028		427

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		53		1863		0

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	54	0	2	0	7
Grp Sat Flow (s), veh/h/ln	0	1042	0	507	0	1028	0	427
Q Serve Time (g_s), s	0.0	0.7	0.0	1.3	0.0	0.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	5.7	0.0	13.2	0.0	5.0	0.0	12.6
Perm LT Sat Flow (s_l), veh/h/ln	0	1042	0	1439	0	1028	0	1399
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.0	0.0	6.1	0.0	13.1	0.0	5.6
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	1.3	0.0	0.1	0.0	0.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.93	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	461	0	357	0	458	0	331
V/C Ratio (X)	0.00	0.05	0.00	0.15	0.00	0.00	0.00	0.02
Avail Cap (c_a), veh/h	0	461	0	357	0	458	0	331
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.6	0.0	15.8	0.0	16.1	0.0	17.3
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.9	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	16.7	0.0	16.1	0.0	17.5
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.6	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.7	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	288	0	0	0	229	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	4.9	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.9	0.0	0.0	0.0	5.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.39	0.00	0.00	0.00	0.31	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.6	0.0	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.0	1.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.1	0.0	0.0	0.0	15.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.0	0.0	2.6	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.8	0.0	0.0	0.0	2.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	61	0	28	0	105	0	1
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	1.1	0.0	0.5	0.0	2.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	0.5	0.0	2.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.10	0.00	0.04	0.00	0.17	0.00	0.00
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.4	0.0	8.2	0.0	12.9	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.1	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.7	0.0	8.4	0.0	13.4	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	0.2	0.0	1.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.2	0.0	1.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B

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Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	125
Future Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	125
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	16	0	0	28	0	0	0	0	0	0	136

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	16	0	0	112	44	16	44	44	28
Stage 1	-	-	-	-	-	-	16	16	-	28	28	-
Stage 2	-	-	-	-	-	-	96	28	-	16	16	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1602	-	-	866	848	1063	958	848	1047
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	911	872	-	1004	882	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1585	-	-	1602	-	-	753	848	1063	958	848	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	753	848	-	958	848	-
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	793	872	-	1004	882	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1585	-	-	1602	-	-	1047
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.13
HCM Control Delay (s)	0	0	-	-	0	-	-	9
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.4

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Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	18	2	13	17	2	119	1	5	122	1
Future Vol, veh/h	0	0	18	2	13	17	2	119	1	5	122	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	20	2	14	18	2	129	1	5	133	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	294	278	134	288	278	130	134	0	0	130	0	0
Stage 1	144	144	-	134	134	-	-	-	-	-	-	-
Stage 2	150	134	-	154	144	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	658	630	915	664	630	920	1451	-	-	1455	-	-
Stage 1	859	778	-	869	785	-	-	-	-	-	-	-
Stage 2	853	785	-	848	778	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	631	627	915	647	627	920	1451	-	-	1455	-	-
Mov Cap-2 Maneuver	631	627	-	647	627	-	-	-	-	-	-	-
Stage 1	858	775	-	868	784	-	-	-	-	-	-	-
Stage 2	820	784	-	827	775	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	10	0.1	0.3
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1451	-	-	915	756	1455	-	-
HCM Lane V/C Ratio	0.001	-	-	0.021	0.046	0.004	-	-
HCM Control Delay (s)	7.5	0	-	9	10	7.5	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

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Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	3	15	2	7	15	18	142	0	8	221	13
Future Vol, veh/h	8	3	15	2	7	15	18	142	0	8	221	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	3	16	2	8	16	20	154	0	9	240	14
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.2	8	8.4	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	28%	0%	84%	0%	36%	0%	7%	0%
Vol Thru, %	72%	100%	16%	9%	64%	19%	93%	89%
Vol Right, %	0%	0%	0%	91%	0%	81%	0%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	95	10	17	6	19	119	124
LT Vol	18	0	8	0	2	0	8	0
Through Vol	47	95	2	2	4	4	111	111
RT Vol	0	0	0	15	0	15	0	13
Lane Flow Rate	71	103	10	18	6	20	129	134
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.099	0.14	0.017	0.025	0.01	0.028	0.174	0.177
Departure Headway (Hd)	5.028	4.89	6.003	4.938	5.766	5.011	4.851	4.743
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	714	735	597	726	622	715	742	758
Service Time	2.746	2.608	3.729	2.663	3.491	2.736	2.567	2.459
HCM Lane V/C Ratio	0.099	0.14	0.017	0.025	0.01	0.028	0.174	0.177
HCM Control Delay	8.3	8.4	8.8	7.8	8.5	7.9	8.6	8.5
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0.1	0.1	0	0.1	0.6	0.6

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	0	18	12	15	12	16	155	3	3	407	39
Future Volume (veh/h)	43	0	18	12	15	12	16	155	3	3	407	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	47	0	20	13	16	13	17	168	3	3	442	42
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	703	745	633	715	745	633	438	745	633	546	1307	124
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	8.7	0.0	8.3	8.2	8.2	8.2	16.0	14.0	11.8	10.5	10.6	10.6
Ln Grp LOS	A		A	A	A	A	B	B	B	B	B	B
Approach Vol, veh/h		67			42			188			487	
Approach Delay, s/veh		8.6			8.2			14.1			10.6	
Approach LOS		A			A			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.2		3.9		5.3		4.4
Max Q Clear (g_c+I1), s		7.0		3.2		6.2		2.3
Green Ext Time (g_e), s		0.7		0.1		2.3		0.1
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		908		1375		1209		1386

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3268		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		309		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	17	0	47	0	3	0	13
Grp Sat Flow (s), veh/h/ln	0	908	0	1375	0	1209	0	1386
Q Serve Time (g_s), s	0.0	0.8	0.0	1.0	0.0	0.1	0.0	0.3
Cycle Q Clear Time (g_c), s	0.0	5.0	0.0	1.2	0.0	3.7	0.0	0.3
Perm LT Sat Flow (s_l), veh/h/ln	0	908	0	1375	0	1209	0	1386
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.8	0.0	17.8	0.0	14.4	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.8	0.0	1.0	0.0	0.1	0.0	0.3
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	438	0	703	0	546	0	715
V/C Ratio (X)	0.00	0.04	0.00	0.07	0.00	0.01	0.00	0.02
Avail Cap (c_a), veh/h	0	438	0	703	0	546	0	715
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.8	0.0	8.5	0.0	10.5	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.0	0.0	8.7	0.0	10.5	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	168	0	0	0	238	0	16
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	3.6	0.0	0.0	0.0	4.2	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	0.0	0.0	4.2	0.0	0.2
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.23	0.00	0.00	0.00	0.34	0.00	0.02
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.3	0.0	0.0	0.0	9.4	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	1.3	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.0	0.0	0.0	0.0	10.6	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	0.0	0.0	2.1	0.0	0.1

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.0	0.0	0.0	0.0	2.3	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.02	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	3	0	20	0	246	0	13
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1808	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.3	0.0	4.2	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.3	0.0	4.2	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.17	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	723	0	633
V/C Ratio (X)	0.00	0.00	0.00	0.03	0.00	0.34	0.00	0.02
Avail Cap (c_a), veh/h	0	633	0	633	0	723	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.2	0.0	9.4	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.3	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.3	0.0	10.6	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	2.1	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.2	0.0	2.4	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.2
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	8	40	68	1	4	21	146	22	2	226	215
Future Volume (veh/h)	21	8	40	68	1	4	21	146	22	2	226	215
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	23	9	43	74	1	4	23	159	24	2	246	234
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	138	32	633	160	1	633	415	745	633	571	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	14.0	0.0	8.5	31.7	0.0	8.1	12.2	9.5	8.3	14.0	15.2	16.0
Ln Grp LOS	B		A	C		A	B	A	A	B	B	B
Approach Vol, veh/h		75			79			206			482	
Approach Delay, s/veh		10.9			30.5			9.7			15.6	
Approach LOS		B			C			A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.1		4.6		4.7		5.3
Max Q Clear (g_c+I1), s		8.2		20.0		8.1		20.0
Green Ext Time (g_e), s		0.7		0.0		1.6		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		911		0		1196		1

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		81		1863		3

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	32	0	2	0	75
Grp Sat Flow (s), veh/h/ln	0	911	0	82	0	1196	0	4
Q Serve Time (g_s), s	0.0	0.8	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.2	0.0	18.0	0.0	2.6	0.0	18.0
Perm LT Sat Flow (s_l), veh/h/ln	0	911	0	1434	0	1196	0	1374
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	12.6	0.0	0.0	0.0	15.5	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.8	0.0	0.0	0.0	0.1	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.72	0.00	1.00	0.00	0.99
Lane Grp Cap (c), veh/h	0	415	0	170	0	571	0	161
V/C Ratio (X)	0.00	0.06	0.00	0.19	0.00	0.00	0.00	0.47
Avail Cap (c_a), veh/h	0	415	0	170	0	571	0	161
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.0	0.0	11.5	0.0	14.0	0.0	22.2
Incr Delay (d2), s/veh	0.0	0.3	0.0	2.4	0.0	0.0	0.0	9.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.2	0.0	14.0	0.0	14.0	0.0	31.7
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.45
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	159	0	0	0	246	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	2.5	0.0	0.0	0.0	5.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.5	0.0	0.0	0.0	5.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	0.33	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.9	0.0	0.0	0.0	14.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	1.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.5	0.0	0.0	0.0	15.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	0.0	0.0	2.8	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.4	0.0	0.0	0.0	3.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	24	0	43	0	234	0	4
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	0.4	0.0	0.8	0.0	6.1	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	0.4	0.0	0.8	0.0	6.1	0.0	0.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.04	0.00	0.07	0.00	0.37	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.2	0.0	8.3	0.0	14.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	1.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.3	0.0	8.5	0.0	16.0	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.3	0.0	2.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	3.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.06	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	15.1
HCM 2010 LOS	B

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Revised
Water Supply Assessment
For the ZGlobal
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Solar Energy Projects
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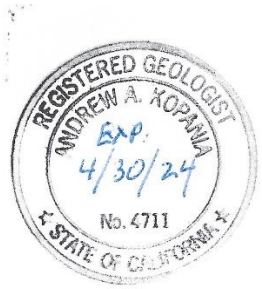

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Revised
Water Supply Assessment
For the ZGlobal
Vega SES 2, LLC and Vega SES 3, LLC
Solar Energy Projects
Imperial County, California

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1.0 INTRODUCTION

EMKO Environmental, Inc. (EMKO) has prepared this Water Supply Assessment (WSA) as a subconsultant to ECORP Consulting, Inc. for the proposed ZGlobal Vega SES 2, LLC and Vega SES 3, LLC Solar Energy Projects (Project or Projects) in Imperial County, California at the location indicated on Figure 1. Project water use includes dust control and soil conditioning requirements during construction and routine maintenance, primarily panel washing, during operation. This WSA has been revised to include water demand factors that are consistent with other photovoltaic projects in Imperial County, as described in Section 5.0.

Water Code Sections 10910 through 10915 were amended by Senate Bill 610 (SB 610) in 2002. SB 610 requires that under specific circumstances, as detailed below, an assessment of available water supplies must be conducted. The purpose of the assessment is to determine if available water supplies are sufficient to serve the demand generated by the Project, as well as the reasonably foreseeable demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. Water Code Section 10910 was further amended by SB 1262 on September 24, 2016 to require a Water Supply Assessment to include additional information regarding the groundwater basin designation and adjacent water systems. This report provides the information required for a Water Supply Assessment (WSA), as described in the October 2003 *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001 to Assist Water Suppliers, Cities, and Counties in Integrating Water and Land Use Planning*, published by the California Department of Water Resources (DWR Guidebook) along with the additional information required by SB 1262.

2.0 PROJECT DESCRIPTION

Vega SES 2, LLC and Vega SES 3, LLC are proposing to construct and operate solar energy generation and storage facilities on private lands in the Imperial Valley in Imperial County**.** The Project sites are located approximately four miles southeast of the community of Niland and 16 miles northeast of the City of Brawley (see Figure 1).

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Vega SES 2 would cover approximately 1,323 acres in Sections 9, 15 and 17 of Township 11 South, Range 15 East of the San Bernardino Base and Meridian (SBB&M) within the "Iris" 7.5-minute U.S. Geologic Survey (USGS) quadrangle. The Project site includes all or part of Imperial County Assessor's Parcel Numbers (APNs) 025-260-011 (approximately 288 acres), APN 025-270-023 (approximately 625 acres) and APN 025-010-006 (approximately 410 acres). The site is located east of the East Highline Canal and partially straddles the Coachella Canal (see Figure 2). Vega SES 2 would include a 240-megawatt solar photovoltaic system and integrated 480-megawatt battery energy storage system along with related substations and transmission lines. Figure 3 is a Site Plan showing the Project layout and ancillary facilities.

Vega SES 3 would cover approximately 230 acres in Section 9 of Township 11 South, Range 15 East of the SBB&M within the "Iris" 7.5-minute USGS quadrangle. The Project site includes part of APN 025-010-006. The site is located east of the Coachella Canal (see Figure 2). Vega SES 3 would include a 60-megawatt solar photovoltaic system and integrated 120-megawatt battery energy storage system along with related substations and transmission lines. Figure 3 is a Site Plan showing the Project layout and ancillary facilities.

All parcels are located within the Imperial County Renewable Energy Overlay Zone, requiring projects to be permitted through the issuance of a Conditional Use Permit (CUP), which is a discretionary action by the County requiring compliance with the California Environmental Quality Act (CEQA). This Water Supply Assessment is intended to support and be a part of the CEQA analysis.

Domestic water and sanitation facilities would be required during construction. These would be provided through bottled water and portable facilities. A domestic/potable water connection would not be required.

Construction is anticipated to require 12 to 18 months to complete. Anticipated operational Project life is 25 to 30 years.

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Figure 1. Regional Location Map

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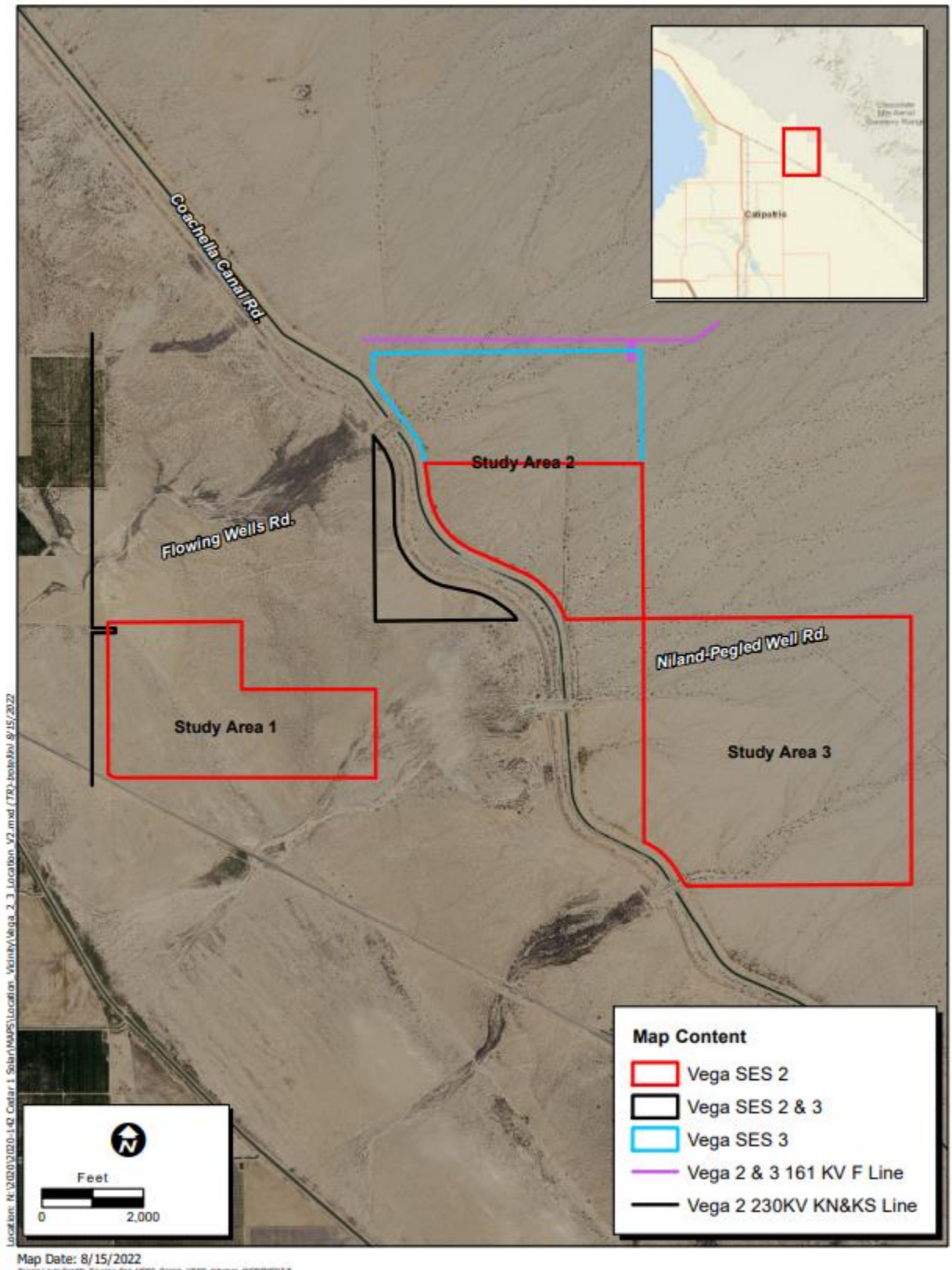

Figure 2. Project Location

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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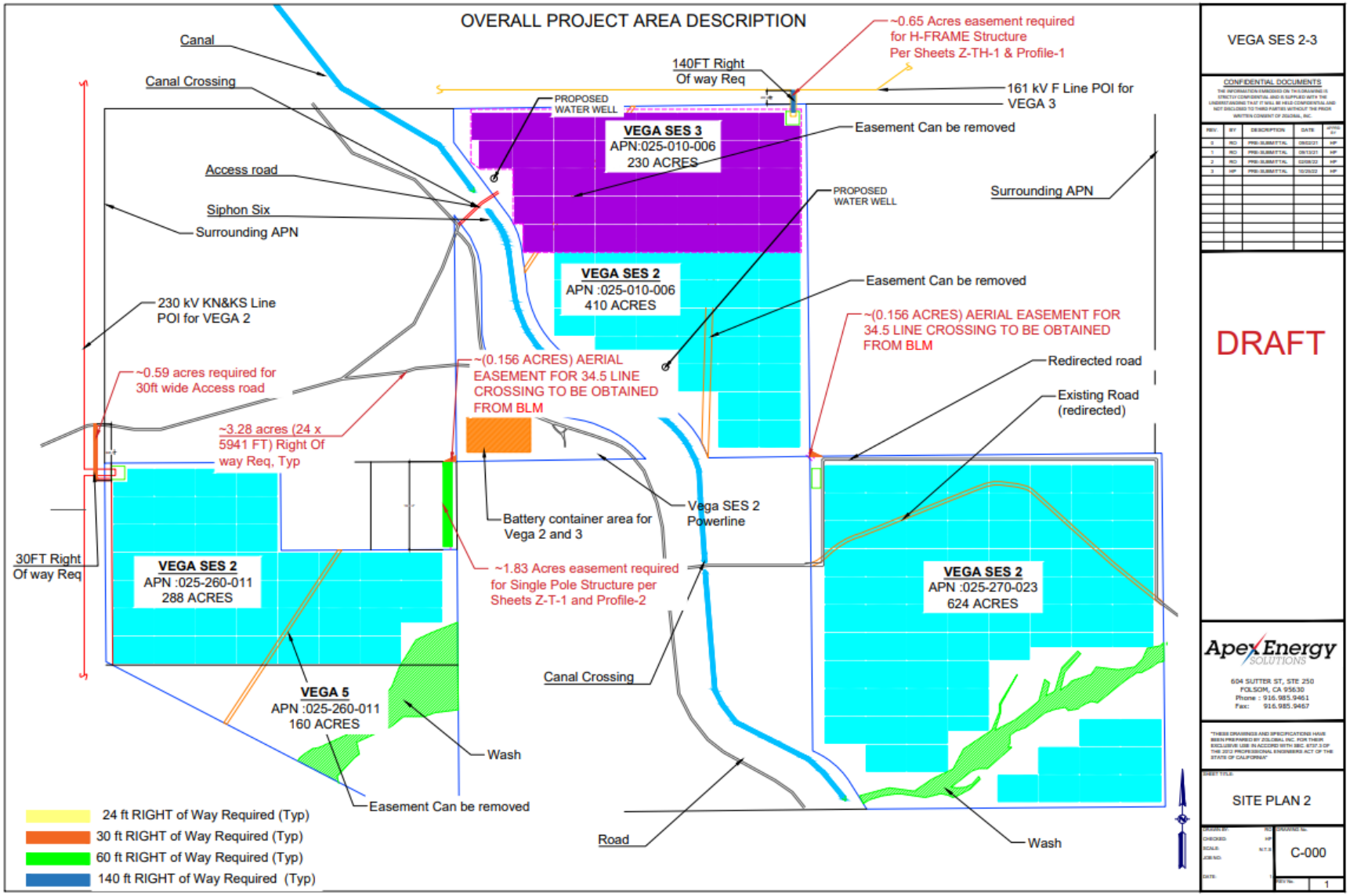
FIGURE 3. Site Plan



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3.0 WATER SUPPLY PLANNING UNDER SB 610 and SB 1262

SB 610, effective January 1, 2002, amends Sections 10910 through 10915 of the Water Code by requiring preparation of a WSA for development projects subject to CEQA and other criteria, as discussed below. SB 610 also amends Section 10631 of the Water Code, which relates to Urban Water Management Plans (UWMPs). The WSA process under SB 610 is designed to rely on the information typically contained in UWMPs, where available.

On September 24, 2016, SB 1262 further amended Section 10910 of the Water Code to require additional information related to adjacent public water systems and the status of the groundwater basin. These amendments provide additional consistency with the Sustainable Groundwater Management Act of 2014, as discussed further in Section 4.4.

The first steps in the WSA process are to determine whether SB 610 applies to the proposed Project. If so, then documentation of available water supplies, anticipated Project demand, and the sufficiency of supplies must be conducted. These issues are summarized by the following questions, as outlined in the DWR Guidebook:

1. Is the proposed Project subject to CEQA?
2. Is the proposed Project a "Project" under SB 610?
3. Is there a public water system that will service the proposed Project?
4. Is there a current UWMP that accounts for the project demand?
5. Is groundwater a component of the supplies for the Project?
6. Are there sufficient supplies to serve the Project over the next twenty years?

Each of these issues are discussed in the following sections as they relate to the proposed Project.

3.1 Is the Proposed Project Subject to CEQA?

The first step in the SB 610 process is to determine whether the proposed project is subject to CEQA. Water Code Section 10910(a) states that any city or county that determines that an application meets the definition of "project", per Water Code Section 10912 (see Section 3.2, below), and is subject to CEQA, shall prepare a water supply assessment for the project. CEQA applies to projects requiring issuance of a discretionary permit by a public agency, projects undertaken by a public agency, or projects funded by a public agency. As noted in Section 2.0, the proposed Project is within the Imperial County Renewable Energy Overlay Zone, which requires discretionary approval of a CUP by Imperial County, a public agency. Therefore, the Project is subject

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to CEQA. This WSA has been prepared to support the environmental review that will be conducted by Imperial County under CEQA.

3.2 Is the Proposed Project a "Project" Under SB 610?

The second step in the SB 610 process is to determine if the proposed Project meets the definition of "project" under Water Code Section 10912(a). Under Section 10912(a) a "project" is defined as meeting any of the following criteria:

1. a proposed residential development of more than 500 dwelling units;
2. a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
3. a proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
4. a proposed hotel or motel, or both, having more than 500 rooms;
5. a proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
6. a mixed-use project that includes one or more of the projects defined above; or
7. a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The Vega SES 2 site is 1,323 acres and the Vega SES 3 site is 230 acres. As a result, the Project will include an industrial site that is larger than 40 acres and thus this WSA is being prepared in accordance with criterion 5, above.

3.3 Is There a Public Water System That Will Service the Proposed Project?

Section 10912(c) of the Water Code identifies a public water system as a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections. The Project site is approximately four miles southeast of the community of Niland and 16 miles northeast of the City of Brawley. APN 025-260-011 and parts of APN 025-010-006 and APN 025-270-023 are located within IID's East Mesa Unit (https://mygis.iid.com/portal/apps/webappviewer/index.html?id=a33cfeb3714f4eb8a1c85320613a2d1b) but do not have water service from IID. Thus, there is not a public water system that will serve the Project. The water supply will be provided by new onsite groundwater supply wells to be drilled and installed as part of the Project.

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3.4 Is There a Current Urban Water Management Plan That Accounts for the Project Demand?

The Water Code requires that all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet per year, must prepare an UWMP. The DWR Guidebook (page iii) states that SB 610 repeatedly refers to the UWMP as a planning document that can be used to meet the standards set forth in the statute, and that UWMPs act as a foundation to fulfill the requirements of the statute. As noted in Section 3.3, above, there is no public water system that will serve the Project and, therefore, there is not an UWMP that addresses the Project area or Project demand. Since there is not an UWMP that accounts for the Project demand, this WSA is based upon available and relevant information from DWR, the U.S. Geological Survey (USGS), and other publicly available data. As this WSA has been prepared for use by the CEQA lead agency, this document includes an evaluation of whether the total projected water supplies, determined to be available during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed Project, in addition to existing and planned future uses, including agricultural and manufacturing uses, in accordance with Water Code § 10910(c)(4).

3.5 Is Groundwater a Component of the Supplies for the Project?

Water Code Section 10910(f), paragraphs 1 through 5, must be addressed if groundwater is a source of supply for the proposed Project. As described in Section 3.3, the water supply will be provided by new groundwater supply wells that will be drilled and installed as part of the Project. The proposed locations for two new groundwater supply wells are shown on Figure 3. Therefore, an assessment of groundwater conditions is included in this document.

Water Code Section 10910(f) paragraphs 1 through 5, as modified by SB 1262, state:

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

> (1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.
>
> (2) (A) A description of any groundwater basin or basins from which the proposed project will be supplied. (B) For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. (C) For a basin that has not been adjudicated that is a

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basin designated as high- or medium priority pursuant to Section 10722.4, information regarding the following: (i) Whether the department has identified the basin as being subject to critical conditions of overdraft pursuant to Section 12924; and (ii) If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative, a copy of that alternative or plan. (D) For a basin that has not been adjudicated that is a basin designated as low- or very-low priority pursuant to Section 10722.4, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

Paragraphs 1 through 4, above, are addressed in Section 4.0, below, including a description of the groundwater basin, groundwater conditions, and available supply. Section 5.0 presents available information regarding water demand for the Project.

The Paragraph 5 requirement to provide an analysis of the sufficiency of the groundwater basin to meet the projected water demand associated with the proposed project is addressed in Section 6.0, below.

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3.6 Are There Sufficient Supplies to Serve the Project Over the Next Twenty Years?

Water Code Section 10910(c)(4) requires the WSA to "*include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and future planned uses, including agricultural and manufacturing uses.*"

The sufficiency of water supply for the proposed Project is addressed in Sections 6.0 and 7.0, below.

4.0 PROJECT WATER SUPPLY

As stated in Section 3.3, above, water for the Project will be provided by new wells to be drilled at the proposed locations shown on Figure 3. As such, groundwater will be the sole water supply for both the construction and operational water needs. Because there are no public water systems or other significant users of groundwater in the groundwater basin, there are no Urban Water Management Plans or other planning documents available. Thus, limited information is available regarding groundwater conditions in the Project vicinity.

Overall conditions within the groundwater basin are described in Section 4.1. Groundwater recharge and available supply are discussed in Section 4.2. Groundwater level trends and the status of the basin relative to the Sustainable Groundwater Management Act of 2014 (SGMA) is provided in Section 4.3, as required by SB 1262.

4.1 Groundwater Basin

The Project is located within the western part of the East Salton Sea Groundwater Basin (Basin), designated as basin number 7-033, as defined by DWR (2022a). The Basin is bounded on the northeast by the Chocolate Mountains and on the southwest by the San Andreas and Banning Mission Creek fault zones (DWR, 2003). The northwest and southeast edges of the groundwater basin are approximately defined by transitions between major surface drainages coming off of the Chocolate Mountains. The groundwater basin has an area of approximately 196,000 acres, or 306 square miles (DWR, 2003). The Basin has not been adjudicated (DWR, 2022b). Figure 4 shows the groundwater basin boundary and the approximate location of the Project.

Groundwater occurs within unconsolidated to semi-consolidated coarse sediment eroded from the Chocolate Mountains (DWR, 2003). The sediment generally occurs within large alluvial fans that originate at drainages and canyons within the bedrock

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formations in the mountains and spread out as they decrease in elevation toward the floor of the Imperial Valley or the Salton Sea. The alluvial fan sediments range in age from Tertiary to Quaternary. DWR (2003) reports that the alluvium is at least 400 feet thick.

4.2 Groundwater Supply and Recharge

DWR (2022c) reports that the population in the East Salton Sea Groundwater Basin in 2010 was approximately 1,093 persons and that the population is expected to decrease 10 percent by 2030. There are no public water supply wells in the Basin and 11 total wells present. Only 4,906 acres of the 196,000-acre Basin, or 2.54 percent, are irrigated (DWR, 2022c). The total groundwater storage capacity of the groundwater basin is estimated to be 360,000 acre-feet (DWR, 2003).

The average annual rainfall is very low, as discussed further in Section 6.0 below, and typically does not provide a sufficient quantity of moisture to percolate deep into the alluvial sediments. As a result, recharge of groundwater occurs primarily due to runoff from the Chocolate Mountains during major storm events, which may not occur every year. The average annual recharge is estimated to be 200 acre-feet per year (DWR, 2003). That estimate is from a 1975 version of DWR Bulletin 118. No changes to basin conditions are reported in the most recent updates to DWR Bulletin 118 (DWR, 2021 and 2022a).

DWR's California Data Exchange Center website (https://cdec.water.ca.gov) and the U.S. Geological Survey's (USGS's) National Water Information System mapping application (https://maps.waterdata.usgs.gov/mapper/index.html) show only one active groundwater monitoring location within the Basin at the time this report was prepared. That well is located approximately 3,600 feet southeast of the southeast corner of the Project site and 950 feet northeast of the Coachella Canal. The well has USGS identification number 331144115231501, which identifies the latitude and longitude of the well (i.e., 33°11'44" latitude, -115°23'15" longitude), and California state well number 011S015E23M001, which indicates the township, range, and quarter-quarter section (i.e., northwest quarter or the southwest quarter of township 11S, range 15E, San Bernardino Base and Meridian). The ground surface elevation at the well location is reported to be 120 feet above mean sea level (ft msl) while the borehole in which the well was installed is reported to have been drilled to a depth of 550 feet below ground surface (ft bgs) (USGS, 2022).

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FIGURE 4. East Salton Sea Groundwater Basin

(Source: DWR, 2022b)

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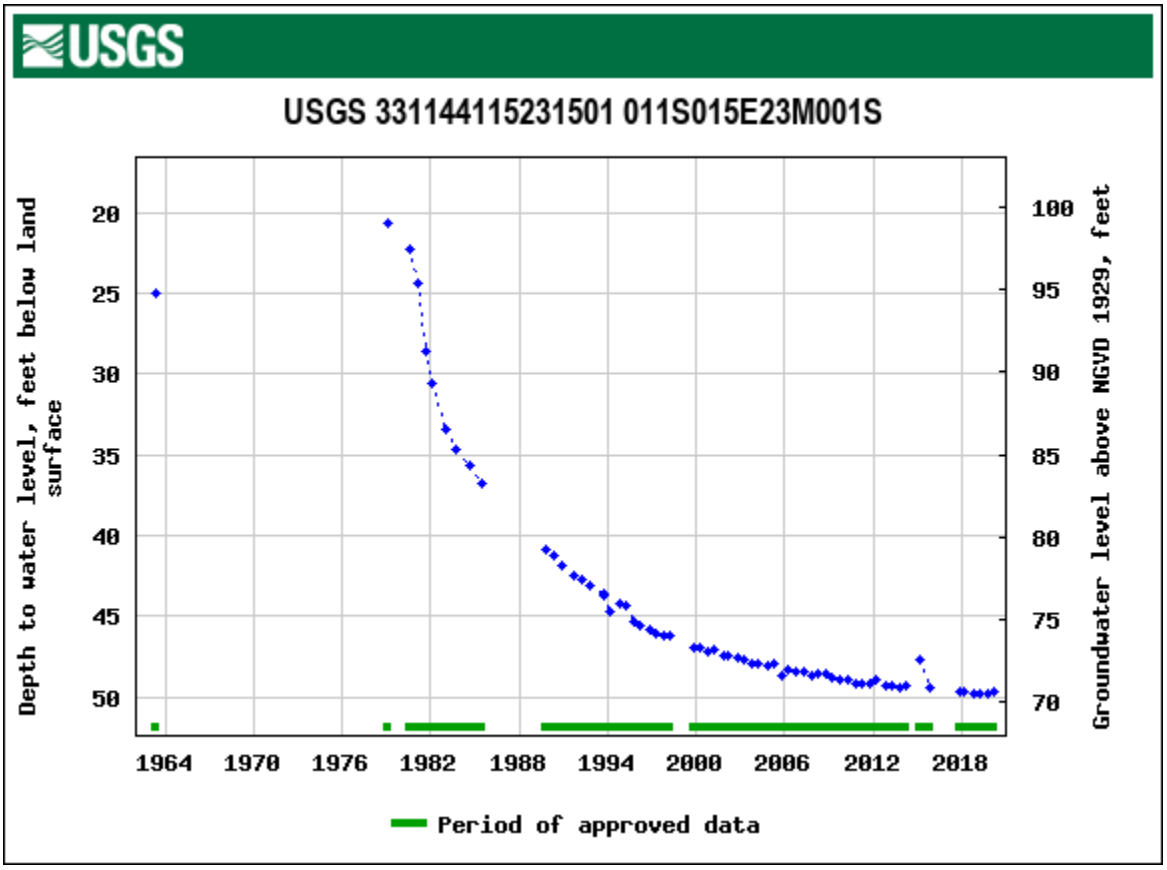
Figure 5 is a hydrograph from USGS (2022) showing the groundwater level and groundwater elevation measured since 1963 in the sole active monitoring well in the Basin. As indicated on Figure 5, the groundwater level decreased at a relatively rapid rate from 1979 to approximately 2000, with the depth to water dropping from approximately 21 ft bgs to approximately 47 ft bgs over that period. Since 2000, the groundwater level has continued to decrease, but at a slower rate, with the level in March 2020 (the last date with a reported measurement by USGS) being approximately 50 ft bgs. While the groundwater level has decreased by almost 30 feet since 1979, it has changed by less than one foot over the past decade. Based on the depth to groundwater and the borehole depth for the monitoring well, the potential loss of aquifer volume since 1979 is only six percent of the total available storage reported by DWR (2003).

FIGURE 5. USGS Groundwater Level Hydrograph



Water quality samples were collected and analyzed from the monitoring well within the Basin in June and September 1963 (USGS, 2022). Table 1 shows the water quality results from June 1963. The September results were comparable. The groundwater sampled from the monitoring well has a normal pH but the levels of sodium, chloride, and sulfate are elevated compared to what would be expected from percolation of locak

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rainfall. The dissolved soids concentration of 2,190 milligrams per liter (mg/L) is more than twice the value of the high end of the range of the secondary maximum contaminant level (MCL) for drinking water of 1,000 mg/L. The high dissolved solids concentration renders the water unsuitable for potable or agricultural uses without treatment. The existing water quality is suitable for use for construction and maintenance purposes, though.

TABLE 1. USGS Water Quality Data (June 13, 1963)

Parameter	Units	Result
Temperature	Degrees Celsius (° C)	26.9
Specific Conductance	MicroSiemens per centimeter at 25° C	3630
pH	Standard units	7.4
Carbon Dioxide	Milligrams per liter (mg/L)	14
Acid Neutralizing Capacity	mg/L as calcium carbonate ($CaCO_3$)	174
Bicarbonate	mg/L	212
Carbonate	mg/L	0.0
Hardness	mg/L as $CaCO_3$	700
Non-carbonate hardness	mg/L as $CaCO_3$	530
Calcium	mg/L	106
Magnesium	mg/L	107
Sodium + Potassium	mg/L	500
Chloride	mg/L	635
Sulfate	mg/L	700
Fluoride	mg/L	1.6
Silica	mg/L as silica dioxide (SiO_2)	33
Dissolved Solids	mg/L	2190

Source:
https://nwis.waterdata.usgs.gov/nwis/qwdata?site_no=331144115231501&agency_cd=USGS&inventory_output=0&rdb_inventory_output=file&TZoutput=0&pm_cd_compare=Greater%20than&radio_parm_cds=all_parm_cds&format=html_table&qw_attributes=0&qw_sample_wide=wide&rdb_qw_attributes=0&date_format=YYYY-MM-DD&rdb_compression=file&submitted_form=brief_list

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4.3 Groundwater Sustainability

A series of three bills passed by the California legislature and were signed by Governor Brown on September 16, 2014. These three bills, Assembly Bill (AB) 1739, SB 1168, and SB 1319, together comprise the Sustainable Groundwater Management Act of 2014 (SGMA). SGMA provides a structure under which local agencies are to develop a sustainable groundwater management program. SGMA focuses on basins or subbasins designated by DWR as high or medium priority basins, and those with critical conditions of overdraft.

According to DWR (2022b), the Basin is a very low priority basin. DWR has not identified the Basin as overdrafted nor has it projected that the basin will become overdrafted if present management conditions continue (DWR, 2021 and 2022c). Thus, the Basin is not subject to the current requirements of SGMA, including the formation of a groundwater sustainability agency (GSA) and preparation of a groundwater sustainability plan (GSP).

5.0 PROJECT WATER DEMAND

Water demand varies depending on the Project phase. During construction, water will be needed for dust control and soil conditioning during installation of the photovoltaic panels, battery storage units, and related infrastructure. During the operational phase of the project, water will be needed for routine maintenance activities, which primarily consists of washing the photovoltaic panels to maintain generation efficiency.

Table 2. Project Water Demand

Site	Area (acres)	Output (megawatts)	Construction Water (acre-feet)	Operational Water (acre-feet per year)
Vega SES 2	1323	240	775 (total combined)	24
Vega SES 3	230	60		6

Table 2 provides a summary of Project parameters that affect water demand and the estimated water needs for construction and operation. The construction water demand is primarily for dust control. Thus, the water needs are proportional to the size of the disturbed area and the local climate. Based on experience at numerous photovoltaic solar projects in Imperial County and other areas of California with similar climatic conditions, the construction water needs are typically in the range of 0.5 acre-feet of water per project acre. Construction of the Vega SES 2 and Vega SES 3 sites is expected to occur simultaneously and the combined construction water demand is approximately 775 acre-feet. Construction is anticipated to require 12 to 18 months to

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complete. Thus, the monthly water demand during that period may range from 43 acre-feet to 65 acre-feet, on average.

The operational water demand for panel washing and other maintenance needs is based primarily on the number of panels, which relates to the energy production or output, in megawatts alternating current (MW-AC). Based on experience at numerous photovoltaic solar projects in Imperial County and other areas of California with similar climatic conditions, the operational water needs are typically in the range of 0.1 acre-feet of water per MW-AC. The operational water demand is anticipated to range from 24 acre-feet per year for Vega SES 2 to six acre-feet per year for Vega SES 3. The maintenance activities for each system are anticipated to be conducted up to twice a year over a one-to-two-week period each event, so the maintenance water demand is intermittent and not spread throughout the year. The operational water demand will occur throughout the life of the Project.

6.0 DRY YEAR SUPPLY

The volume and sustainability of dry-year water supply for the Project is addressed by comparing annual rainfall with changes in groundwater levels in the Basin. This comparison is made for a normal or average water year[1], for single dry year, and for multiple dry water years. Local rainfall data were obtained from the Western Region Climate Center (WRCC, 2022) for Niland, California, located approximately four miles northwest of the Project location (see Figure 1).

Figure 6 shows the annual water year rainfall for Niland, California from 1943 through 2017. The average water year rainfall during this period is 2.58 inches. The driest year was 1956, when no precipitation was recorded. The driest year during the period of available groundwater elevation data (see Figure 5) was 1996, with only 0.2 inch of rainfall reported. The wettest year was 1983, when 8.23 inches of rain was measured. As indicated on Figure 6, a relatively wet period occurred from 1976 to 1986, with 10 of 11 water years exceeding the average annual rainfall. In comparison, the period from 1996 to 2016 was relatively dry, with 18 of 21 water years having below normal rainfall.

The historic rainfall data on Figure 6 can be compared with the groundwater levels shown on Figure 5 to assess the effects of wet and dry periods on groundwater supply in the

[1] In California, a water year is defined as the period from October 1 of a calendar year through September 30 of the subsequent calendar year. A water year is designated by the year in which it ends. For example, the period from October 1, 2006 through September 30, 2007 is referred to as the 2007 water year. Due to the nature of weather patterns in the state, a water year better represents hydrologic conditions related to wet and dry periods than does a calendar year.

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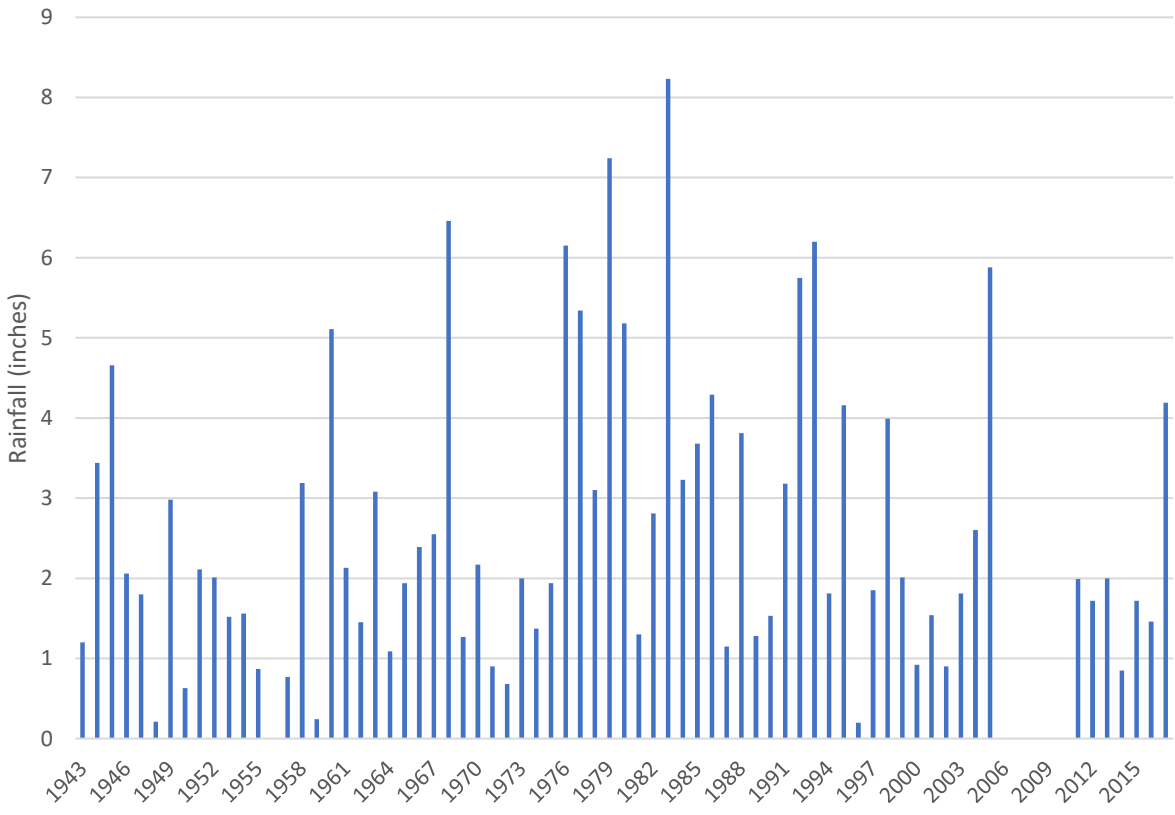
Basin. The wettest year recorded, 1983, and the relatively wet period from 1976 to 1986, correspond to a period when groundwater levels were dropping rapidly. In contrast, the dry period from 1996 to 2016 corresponds to a period when the rate of decline of the groundwater elevation was attenuating rapidly and beginning to stabilize. Thus, the available groundwater level and rainfall data do not indicate any relationship between wet, normal, single dry year, or multiple dry years and available groundwater supply. As noted above in Section 4.2, recharge of groundwater occurs primarily due to runoff from the mountains during individual major storm events (DWR, 2003). Such storm events typically occur infrequently and there may be many years between events that produce enough runoff to provide appreciable recharge.

Figure 6. Water Year Rainfall at Niland



The total groundwater storage capacity of the Basin is estimated to be 360,000 acre-feet (DWR, 2003) and the groundwater level decline from 1979 to 2018 decreased groundwater storage by approximately six percent (see Section 4.2). Thus, the current storage in the Basin may be in the range of 335,000 to 340,000 acre-feet. The single year combined construction water demand of 775 acre-feet and the annual combined operational water needs of 30 acre-feet are miniscule (0.25 percent and 0.009 percent, respectively) compared to the available groundwater in storage. Furthermore, the long

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term annual operational water needs are much less than the estimated annual recharge of 200 acre-feet per year. Overall, there is adequate water available to supply the Project water needs during single dry, and multiple dry year periods.

7.0 FINDINGS and DISCUSSION

This WSA has been prepared in accordance with SB 610 and SB 1262 to support the CEQA environmental review for the proposed Project and provides an assessment of water supply adequacy for the Project in accordance with Water Code Sections 10910 through 10915. As stated in Section 1.0, the purpose of the assessment is to determine if available water supplies are sufficient to serve the demand generated by the Project, as well as the reasonably foreseeable demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. As noted in Section 4.2, above, while groundwater levels in the Basin had been declining during the period from the late 1970s to the early 2000s, over the past decade they have stabilized, indicating that current water demands are in balance with recharge and replenishment. The population, and presumably the related water demand, are anticipated to decrease over the next decade. Therefore, the Basin has adequate resources for current and anticipated future existing water needs.

The water demand for the proposed Project will consist of water needed during construction and water needed for maintenance once the Project is operational. The construction water demand is anticipated to be a combined total of 775 acre-feet over 12 to 18 months, primarily for dust control. The operational demand is anticipated to be a combined total of 30 acre-feet per year for panel washing and other maintenance activities. The operational demand will exist for the life of the Project, which is anticipated to be 25 to 30 years.

The construction water demand exceeds the reported average annual recharge to the Basin of 200 acre-feet per year (DWR, 2003). However, the construction water needs are short-term and temporary. This temporary water use is not anticipated to cause persistent and long-term lowering of groundwater levels. Therefore, the construction water demand will not cause or contribute to overdraft, exhaustion of water supplies, lowering of groundwater levels to depths that would be uneconomic for pumping, land subsidence, or significant alteration of groundwater quality.

The annual operational water needs are equivalent to 15 percent of the average annual recharge and 0.009 percent of the estimated current storage volume of the Basin. Therefore, the long-term operation and maintenance of the Project would not have any measurable effect or impact on groundwater resources in the Basin.

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Based on the analysis presented in this WSA, there will be sufficient water available for existing water uses in the Basin and the Project water demand during normal, single dry year, and multiple dry year periods for the anticipated life of the Project, which is anticipated to be greater than 20 years.

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Revised
Water Supply Assessment
For the ZGlobal
Vega SES 5, LLC
Solar Energy Project
Imperial County, California

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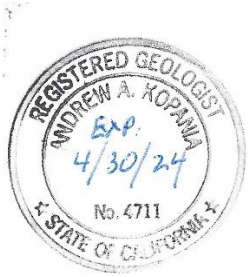

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Revised
Water Supply Assessment
For the ZGlobal
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1.0 INTRODUCTION

EMKO Environmental, Inc. (EMKO) has prepared this Water Supply Assessment (WSA) as a subconsultant to ECORP Consulting, Inc. for the proposed ZGlobal Vega SES 5, LLC Solar Energy Project (Project) in Imperial County, California at the location indicated on Figure 1. Project water use includes dust control and soil conditioning requirements during construction and routine maintenance, primarily panel washing, during operation. This WSA has been revised to include water demand factors that are consistent with other photovoltaic projects in Imperial County, as described in Section 5.0.

Water Code Sections 10910 through 10915 were amended by Senate Bill 610 (SB 610) in 2002. SB 610 requires that under specific circumstances, as detailed below, an assessment of available water supplies must be conducted. The purpose of the assessment is to determine if available water supplies are sufficient to serve the demand generated by the Project, as well as the reasonably foreseeable demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. Water Code Section 10910 was further amended by SB 1262 on September 24, 2016 to require a Water Supply Assessment to include additional information regarding the groundwater basin designation and adjacent water systems. This report provides the information required for a Water Supply Assessment (WSA), as described in the October 2003 *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001 to Assist Water Suppliers, Cities, and Counties in Integrating Water and Land Use Planning*, published by the California Department of Water Resources (DWR Guidebook) along with the additional information required by SB 1262.

2.0 PROJECT DESCRIPTION

Vega SES 5, LLC is proposing to construct and operate solar energy generation and storage facilities on private lands in the Imperial Valley in Imperial County**.** The Project site is located approximately four miles southeast of the community of Niland and 16 miles northeast of the City of Brawley (see Figure 1).

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Vega SES 5 would cover approximately 410 acres in Sections 17 and 19 of Township 11 South, Range 15 East of the San Bernardino Base and Meridian (SBB&M) within the "Iris" 7.5-minute U.S. Geologic Survey (USGS) quadrangle. The Project site includes all or part of Imperial County Assessor's Parcel Numbers (APNs) 025-260-011 (approximately 160 acres), APN 025-260-019 (approximately 90 acres) and APN 025-260-022 (approximately 160 acres). The East Highline Canal runs diagonally through APN 025-260-022 (see Figure 2). The other two parcels are located east of the East Highline Canal. Vega SES 5 would include a 50-megawatt solar photovoltaic system and integrated 100-megawatt battery energy storage system along with related substations and transmission lines. Figure 3 is a Site Plan showing the Project layout and ancillary facilities.

All parcels are located within the Imperial County Renewable Energy Overlay Zone, requiring projects to be permitted through the issuance of a Conditional Use Permit (CUP), which is a discretionary action by the County requiring compliance with the California Environmental Quality Act (CEQA). This Water Supply Assessment is intended to support and be a part of the CEQA analysis.

Domestic water and sanitation facilities would be required during construction. These would be provided through bottled water and portable facilities. A domestic/potable water connection would not be required.

Construction is anticipated to require 12 months to complete. Anticipated operational Project life is 25 to 30 years.

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Figure 1. Regional Location Map

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Figure 2. Project Location

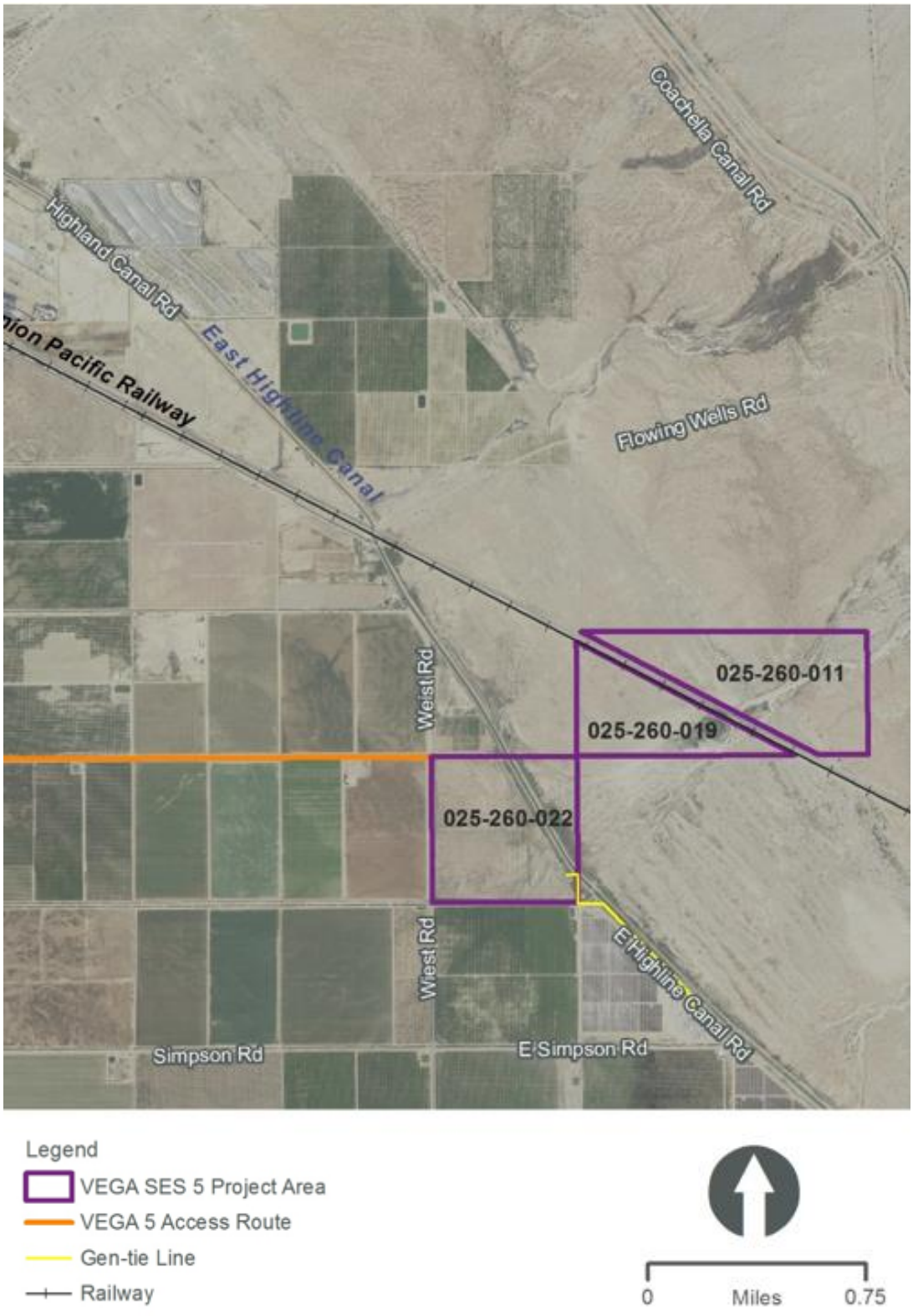

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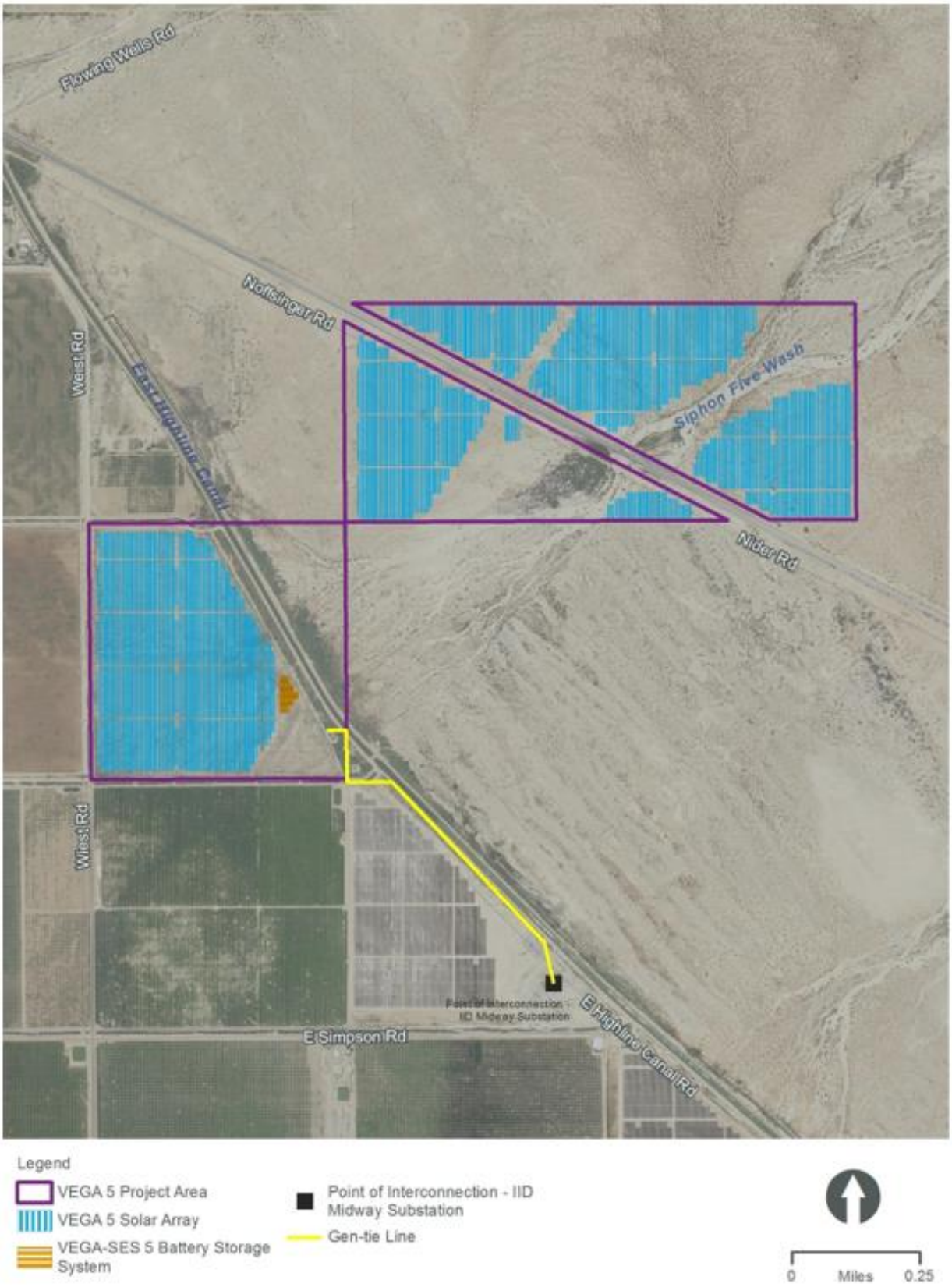
FIGURE 3. Site Plan



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3.0 WATER SUPPLY PLANNING UNDER SB 610 and SB 1262

SB 610, effective January 1, 2002, amends Sections 10910 through 10915 of the Water Code by requiring preparation of a WSA for development projects subject to CEQA and other criteria, as discussed below. SB 610 also amends Section 10631 of the Water Code, which relates to Urban Water Management Plans (UWMPs). The WSA process under SB 610 is designed to rely on the information typically contained in UWMPs, where available.

On September 24, 2016, SB 1262 further amended Section 10910 of the Water Code to require additional information related to adjacent public water systems and the status of the groundwater basin. These amendments provide additional consistency with the Sustainable Groundwater Management Act of 2014, as discussed further in Section 4.4.

The first steps in the WSA process are to determine whether SB 610 applies to the proposed Project. If so, then documentation of available water supplies, anticipated Project demand, and the sufficiency of supplies must be conducted. These issues are summarized by the following questions, as outlined in the DWR Guidebook:

1. Is the proposed Project subject to CEQA?
2. Is the proposed Project a "Project" under SB 610?
3. Is there a public water system that will service the proposed Project?
4. Is there a current UWMP that accounts for the project demand?
5. Is groundwater a component of the supplies for the Project?
6. Are there sufficient supplies to serve the Project over the next twenty years?

Each of these issues are discussed in the following sections as they relate to the proposed Project.

3.1 Is the Proposed Project Subject to CEQA?

The first step in the SB 610 process is to determine whether the proposed project is subject to CEQA. Water Code Section 10910(a) states that any city or county that determines that an application meets the definition of "project", per Water Code Section 10912 (see Section 3.2, below), and is subject to CEQA, shall prepare a water supply assessment for the project. CEQA applies to projects requiring issuance of a discretionary permit by a public agency, projects undertaken by a public agency, or projects funded by a public agency. As noted in Section 2.0, the proposed Project is within the Imperial County Renewable Energy Overlay Zone, which requires discretionary approval of a CUP by Imperial County, a public agency. Therefore, the Project is subject

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to CEQA. This WSA has been prepared to support the environmental review that will be conducted by Imperial County under CEQA.

3.2 Is the Proposed Project a "Project" Under SB 610?

The second step in the SB 610 process is to determine if the proposed Project meets the definition of "project" under Water Code Section 10912(a). Under Section 10912(a) a "project" is defined as meeting any of the following criteria:

1. a proposed residential development of more than 500 dwelling units;
2. a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
3. a proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
4. a proposed hotel or motel, or both, having more than 500 rooms;
5. a proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
6. a mixed-use project that includes one or more of the projects defined above; or
7. a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The Project encompasses 410 acres. As a result, the Project will include an industrial site that is larger than 40 acres and thus this WSA is being prepared in accordance with criterion 5, above.

3.3 Is There a Public Water System That Will Service the Proposed Project?

Section 10912(c) of the Water Code identifies a public water system as a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections. The Project site is approximately four miles southeast of the community of Niland and 16 miles northeast of the City of Brawley. APN 025-260-011, APN 025-260-019, and the area of APN 025-260-022 east of the East Highline Canal are located within Imperial Irrigation District's (IID's) East Mesa Unit, while 114.4 acres of the area of APN 025-260-022 west of the East Highline Canal is within IID's Imperial Unit (IID, 2022). The Project parcel areas in the East Mesa Unit do not currently have water service from IID. Although water service from IID is currently available for the area of APN 025-260-022 within the Imperial Unit, Vega SES 5, LLC does not plan to use surface water from IID to supply any area of the Project. Thus, there are no public water systems that will serve the Project. The water supply will be provided by new onsite groundwater supply wells to be drilled and installed as part of the Project.

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3.4 Is There a Current Urban Water Management Plan That Accounts for the Project Demand?

The Water Code requires that all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet per year, must prepare an UWMP. The DWR Guidebook (page iii) states that SB 610 repeatedly refers to the UWMP as a planning document that can be used to meet the standards set forth in the statute, and that UWMPs act as a foundation to fulfill the requirements of the statute. As noted in Section 3.3, above, there are no public water systems that will serve the Project and, therefore, there is not an UWMP that addresses the Project area or Project demand. Since there is not an UWMP that accounts for the Project demand, this WSA is based upon available and relevant information from DWR, the USGS, and other publicly available data. As this WSA has been prepared for use by the CEQA lead agency, this document includes an evaluation of whether the total projected water supplies, determined to be available during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed Project, in addition to existing and planned future uses, including agricultural and manufacturing uses, in accordance with Water Code § 10910(c)(4).

3.5 Is Groundwater a Component of the Supplies for the Project?

Water Code Section 10910(f), paragraphs 1 through 5, must be addressed if groundwater is a source of supply for the proposed Project. As described in Section 3.3, the water supply will be provided by new groundwater supply wells that will be drilled and installed as part of the Project. One groundwater supply well is proposed to be drilled on APN 025-260-022. Additional water may be supplied from two wells to be installed as part of the ZGlobal Vega SES 2, LLC and Vega SES 3, LLC projects, located to the northeast of the Vega SES 5, LLC project area. Evaluation of available water supply from those two wells to the northeast has been conducted as part of a separate WSA for the adjacent Vega SES projects (EMKO, 2022). However, a separate assessment of groundwater conditions and availability for the Vega SES 5, LLC project is included in this document.

Water Code Section 10910(f) paragraphs 1 through 5, as modified by SB 1262, state:

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

> (1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.
>
> (2) (A) A description of any groundwater basin or basins from which the proposed project will be supplied. (B) For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to

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comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. (C) For a basin that has not been adjudicated that is a basin designated as high- or medium priority pursuant to Section 10722.4, information regarding the following: (i) Whether the department has identified the basin as being subject to critical conditions of overdraft pursuant to Section 12924; and (ii) If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative, a copy of that alternative or plan. (D) For a basin that has not been adjudicated that is a basin designated as low- or very-low priority pursuant to Section 10722.4, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

Paragraphs 1 through 4, above, are addressed in Section 4.0, below, including a description of the groundwater basin, groundwater conditions, and available supply. Section 5.0 presents available information regarding water demand for the Project.

The Paragraph 5 requirement to provide an analysis of the sufficiency of the groundwater basin to meet the projected water demand associated with the proposed project is addressed in Section 6.0, below.

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3.6 Are There Sufficient Supplies to Serve the Project Over the Next Twenty Years?

Water Code Section 10910(c)(4) requires the WSA to "*include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and future planned uses, including agricultural and manufacturing uses.*"

The sufficiency of water supply for the proposed Project is addressed in Sections 6.0 and 7.0, below.

4.0 PROJECT WATER SUPPLY

As stated in Section 3.3, above, water for the Project will be provided by new wells to be drilled for this and adjacent solar energy projects. As such, groundwater will be the sole water supply for both the construction and operational water needs. Because there are no public water systems or other significant users of groundwater in the groundwater basin, there are no Urban Water Management Plans or other planning documents that can be relied upon for this WSA. Thus, limited information is available regarding groundwater conditions in the Project vicinity.

Overall conditions within the groundwater basin are described in Section 4.1. Groundwater recharge and available supply are discussed in Section 4.2. Groundwater level trends and the status of the basin relative to the Sustainable Groundwater Management Act of 2014 (SGMA) is provided in Section 4.3, as required by SB 1262.

4.1 Groundwater Basin

Most of the Project is located within the western part of the East Salton Sea Groundwater Basin, designated as basin number 7-033, as defined by DWR (2022a) (see Figure 4). However, approximately 20 acres in the southwest corner of APN 025-260-022 overlies the adjacent Imperial Valley Groundwater Basin, designated as basin number 7-030 (DWR, 2022a). The inset on the left side of Figure 4 shows the area of the Project within the Imperial Valley Groundwater Basin. As discussed further below, all groundwater for the Project will be sourced from the East Salton Sea Groundwater Basin (Basin). Therefore, except for additional limited information provided in Section 4.3, below, the Imperial Valley Groundwater Basin is not addressed further in this WSA.

The Basin is bounded on the northeast by the Chocolate Mountains and on the southwest by the San Andreas and Banning Mission Creek fault zones (DWR, 2003). DWR (2003) reports that these faults zones may act as barriers to groundwater movement between basins. The northwest and southeast edges of the groundwater

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basin are approximately defined by transitions between major surface drainages coming off of the Chocolate Mountains. The groundwater basin has an area of approximately 196,000 acres, or 306 square miles (DWR, 2003). The Basin has not been adjudicated (DWR, 2022b). Figure 4 shows the groundwater basin boundary and the approximate location of the Project.

Groundwater occurs within unconsolidated to semi-consolidated coarse sediment eroded from the Chocolate Mountains (DWR, 2003). The sediment generally occurs within large alluvial fans that originate at drainages and canyons within the bedrock formations in the mountains and spread out as they decrease in elevation toward the floor of the Imperial Valley or the Salton Sea. The alluvial fan sediments range in age from Tertiary to Quaternary. DWR (2003) reports that the alluvium is at least 400 feet thick.

4.2 Groundwater Supply and Recharge

DWR (2022c) reports that the population in the Basin in 2010 was approximately 1,093 persons and that the population is expected to decrease 10 percent by 2030. There are no public water supply wells in the Basin and 11 total wells present. Only 4,906 acres of the 196,000-acre Basin, or 2.54 percent, are irrigated (DWR, 2022c). The total groundwater storage capacity of the groundwater basin is estimated to be 360,000 acre-feet (DWR, 2003).

The average annual rainfall is very low, as discussed further in Section 6.0 below, and typically does not provide a sufficient quantity of moisture to percolate deep into the alluvial sediments. As a result, recharge of groundwater occurs primarily due to runoff from the Chocolate Mountains during major storm events, which may not occur every year. The average annual recharge is estimated to be 200 acre-feet per year (DWR, 2003). That estimate is from a 1975 version of DWR Bulletin 118. No changes to basin conditions are reported in the most recent updates to DWR Bulletin 118 (DWR, 2021 and 2022a).

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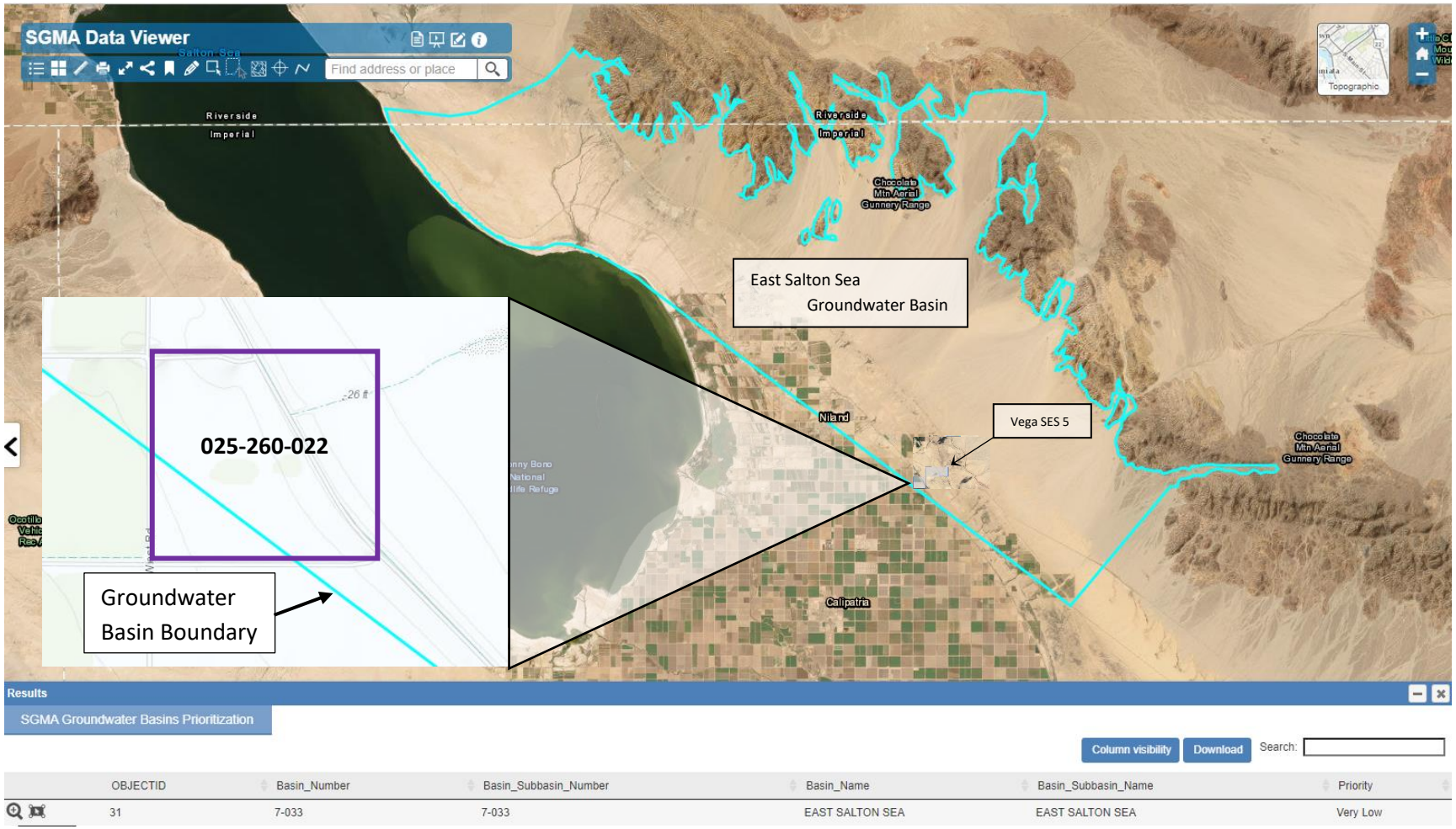
FIGURE 4. East Salton Sea Groundwater Basin



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DWR's California Data Exchange Center website (https://cdec.water.ca.gov) and the USGS's National Water Information System mapping application (https://maps.waterdata.usgs.gov/mapper/index.html) show only one active groundwater monitoring location within the Basin at the time this report was prepared. That well is located approximately 3,600 feet southeast of the southeast corner of the Project site and 950 feet northeast of the Coachella Canal. The well has USGS identification number 331144115231501, which identifies the latitude and longitude of the well (i.e., 33°11'44" latitude, -115°23'15" longitude), and California state well number 011S015E23M001, which indicates the township, range, and quarter-quarter section (i.e., northwest quarter or the southwest quarter of township 11S, range 15E, San Bernardino Base and Meridian). The ground surface elevation at the well location is reported to be 120 feet above mean sea level (ft msl) while the borehole in which the well was installed is reported to have been drilled to a depth of 550 feet below ground surface (ft bgs) (USGS, 2022).

FIGURE 5. USGS Groundwater Level Hydrograph

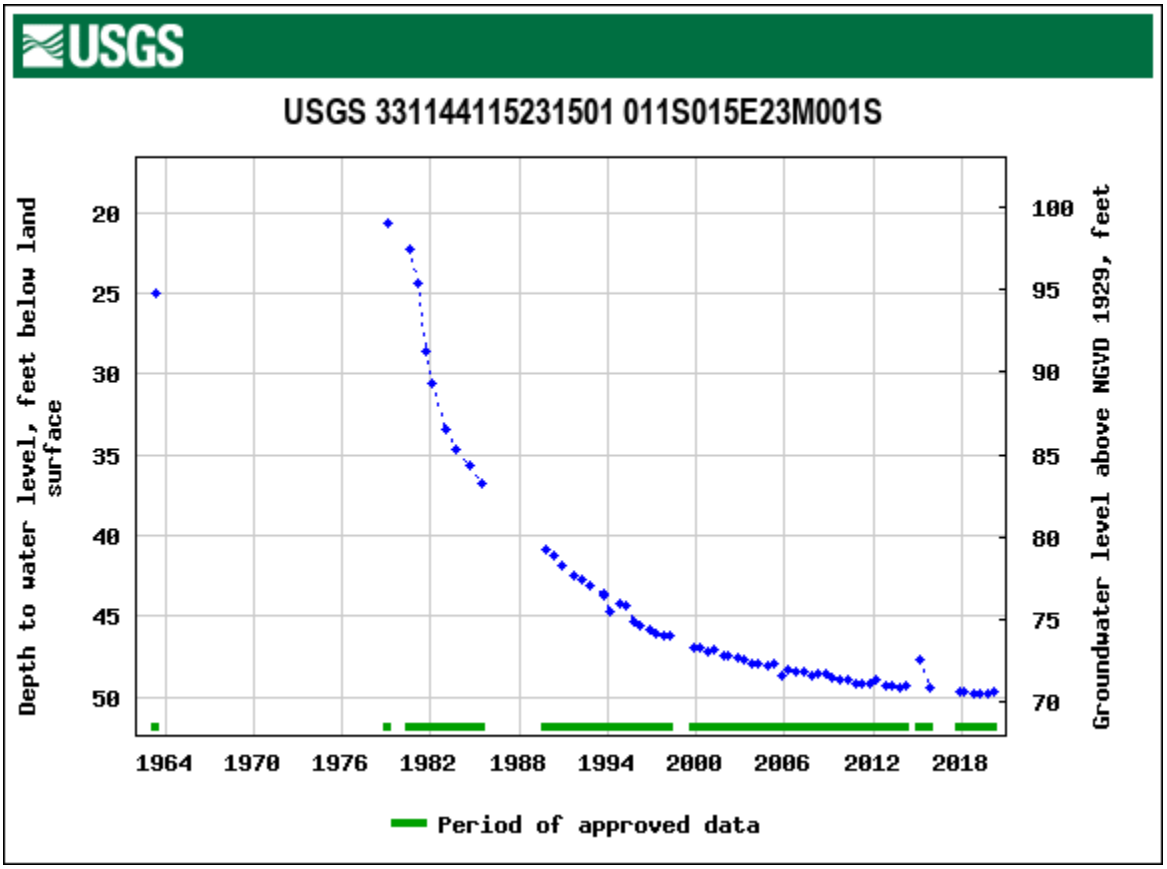

Figure 5 is a hydrograph from USGS (2022) showing the groundwater level and groundwater elevation measured since 1963 in the sole active monitoring well in the Basin. As indicated on Figure 5, the groundwater level decreased at a relatively rapid

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rate from 1979 to approximately 2000, with the depth to water dropping from approximately 21 ft bgs to approximately 47 ft bgs over that period. Since 2000, the groundwater level has continued to decrease, but at a slower rate, with the level in March 2020 (the last date with a reported measurement by USGS) being approximately 50 ft bgs. While the groundwater level has decreased by almost 30 feet since 1979, it has changed by less than one foot over the past decade. Based on the depth to groundwater and the borehole depth for the monitoring well, the potential loss of aquifer volume since 1979 is only six percent of the total available storage reported by DWR (2003).

TABLE 1. USGS Water Quality Data (June 13, 1963)

Parameter	Units	Result
Temperature	Degrees Celsius (° C)	26.9
Specific Conductance	MicroSiemens per centimeter at 25° C	3630
pH	Standard units	7.4
Carbon Dioxide	Milligrams per liter (mg/L)	14
Acid Neutralizing Capacity	mg/L as calcium carbonate ($CaCO_3$)	174
Bicarbonate	mg/L	212
Carbonate	mg/L	0.0
Hardness	mg/L as $CaCO_3$	700
Non-carbonate hardness	mg/L as $CaCO_3$	530
Calcium	mg/L	106
Magnesium	mg/L	107
Sodium + Potassium	mg/L	500
Chloride	mg/L	635
Sulfate	mg/L	700
Fluoride	mg/L	1.6
Silica	mg/L as silica dioxide (SiO_2)	33
Dissolved Solids	mg/L	2190

Source:
https://nwis.waterdata.usgs.gov/nwis/qwdata?site_no=331144115231501&agency_cd=USGS&inventory_output=0&rdb_inventory_output=file&TZoutput=0&pm_cd_compare=Greater%20than&radio_parm_cds=all_parm_cds&format=html_table&qw_attributes=0&qw_sample_wide=wide&rdb_qw_attributes=0&date_format=YYYY-MM-DD&rdb_compression=file&submitted_form=brief_list

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Water quality samples were collected and analyzed from the monitoring well within the Basin in June and September 1963 (USGS, 2022). Table 1 shows the water quality results from June 1963. The September results were comparable. The groundwater sampled from the monitoring well has a normal pH but the levels of sodium, chloride, and sulfate are elevated compared to what would be expected from percolation of local rainfall. The dissolved solids concentration of 2,190 milligrams per liter (mg/L) is more than twice the value of the high end of the range of the secondary maximum contaminant level (MCL) for drinking water of 1,000 mg/L. The high dissolved solids concentration renders the water unsuitable for potable or agricultural uses without treatment. The existing water quality is suitable for use for construction and maintenance purposes, though.

4.3 Groundwater Sustainability

A series of three bills passed by the California legislature and were signed by Governor Brown on September 16, 2014. These three bills, Assembly Bill (AB) 1739, SB 1168, and SB 1319, together comprise the Sustainable Groundwater Management Act of 2014 (SGMA). SGMA provides a structure under which local agencies are to develop a sustainable groundwater management program. SGMA focuses on basins or subbasins designated by DWR as high or medium priority basins, and those with critical conditions of overdraft.

According to DWR (2022b), the both the East Salton Sea Groundwater Basin and the Imperial Valley Groundwater Basin are very low priority basins. DWR has not identified these two basins as being overdrafted nor has it projected that these basins will become overdrafted if present management conditions continue (DWR, 2021 and 2022c). Thus, neither groundwater basin is subject to the current requirements of SGMA, including the formation of a groundwater sustainability agency (GSA) and preparation of a groundwater sustainability plan (GSP).

5.0 PROJECT WATER DEMAND

Water demand varies depending on the Project phase. During construction, water will be needed for dust control and soil conditioning during installation of the photovoltaic panels, battery storage units, and related infrastructure. During the operational phase of the project, water will be needed for routine maintenance activities, which primarily consists of washing the photovoltaic panels to maintain generation efficiency.

Table 2 provides a summary of Project parameters that affect water demand and the estimated water needs for construction and operation. The construction water demand is primarily for dust control. Thus, the water needs are proportional to the size of the disturbed area and the local climate. Based on experience at numerous photovoltaic

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solar projects in Imperial County and other areas of California with similar climatic conditions, the construction water needs are typically in the range of 0.5 acre-feet of water per project acre. Therefore, construction water demand is approximately 205 acre-feet. Construction is anticipated to require 12 months to complete. Thus, the monthly water demand during that period will average about 17 acre-feet.

Table 2. Project Water Demand

Site	Area (acres)	Output (megawatts)	Construction Water (acre-feet)	Operational Water (acre-feet per year)
Vega SES 5	410	50	205	5

The operational water demand for panel washing and other maintenance needs is based primarily on the number of panels, which relates to the energy production or output, in megawatts alternating current (MW-AC). Based on experience at numerous photovoltaic solar projects in Imperial County and other areas of California with similar climatic conditions, the operational water needs are typically in the range of 0.1 acre-feet of water per MW-AC. The operational water demand is anticipated to be five acre-feet per year. The maintenance activities are anticipated to be conducted up to twice a year over a one-to-two-week period each event, so the maintenance water demand is intermittent and not spread throughout the year. The operational water demand will occur throughout the life of the Project.

For the purpose of evaluating cumulative impacts, it should be noted that the evaluations in this WSA assume that Project construction will not occur simultaneously with construction of the adjacent Vega SES 2, LLC and Vega SES 3, LLC solar energy projects. However, operational water use for all three projects will occur over the same approximate timeframe during the next 25 to 30 years.

6.0 DRY YEAR SUPPLY

The volume and sustainability of dry-year water supply for the Project is addressed by comparing annual rainfall with changes in groundwater levels in the Basin. This comparison is made for a normal or average water year[1], for single dry year, and for multiple dry water years. Local rainfall data were obtained from the Western Region

[1] In California, a water year is defined as the period from October 1 of a calendar year through September 30 of the subsequent calendar year. A water year is designated by the year in which it ends. For example, the period from October 1, 2006 through September 30, 2007 is referred to as the 2007 water year. Due to the nature of weather patterns in the state, a water year better represents hydrologic conditions related to wet and dry periods than does a calendar year.

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Climate Center (WRCC, 2022) for Niland, California, located approximately four miles northwest of the Project location (see Figure 1).

Figure 6 shows the annual water year rainfall for Niland, California from 1943 through 2017. The average water year rainfall during this period is 2.58 inches. The driest year was 1956, when no precipitation was recorded. The driest year during the period of available groundwater elevation data (see Figure 5) was 1996, with only 0.2 inch of rainfall reported. The wettest year was 1983, when 8.23 inches of rain was measured. As indicated on Figure 6, a relatively wet period occurred from 1976 to 1986, with 10 of 11 water years exceeding the average annual rainfall. In comparison, the period from 1996 to 2016 was relatively dry, with 18 of 21 water years having below normal rainfall.

The historic rainfall data on Figure 6 can be compared with the groundwater levels shown on Figure 5 to assess the effects of wet and dry periods on groundwater supply in the Basin. The wettest year recorded, 1983, and the relatively wet period from 1976 to 1986, correspond to a period when groundwater levels were dropping rapidly. In contrast, the dry period from 1996 to 2016 corresponds to a period when the rate of decline of the groundwater elevation was attenuating rapidly and beginning to stabilize. Thus, the available groundwater level and rainfall data do not indicate any relationship between wet, normal, single dry year, or multiple dry years and available groundwater supply. As noted above in Section 4.2, recharge of groundwater occurs primarily due to runoff from the mountains during individual major storm events (DWR, 2003). Such storm events typically occur infrequently and there may be many years between events that produce enough runoff to provide appreciable recharge.

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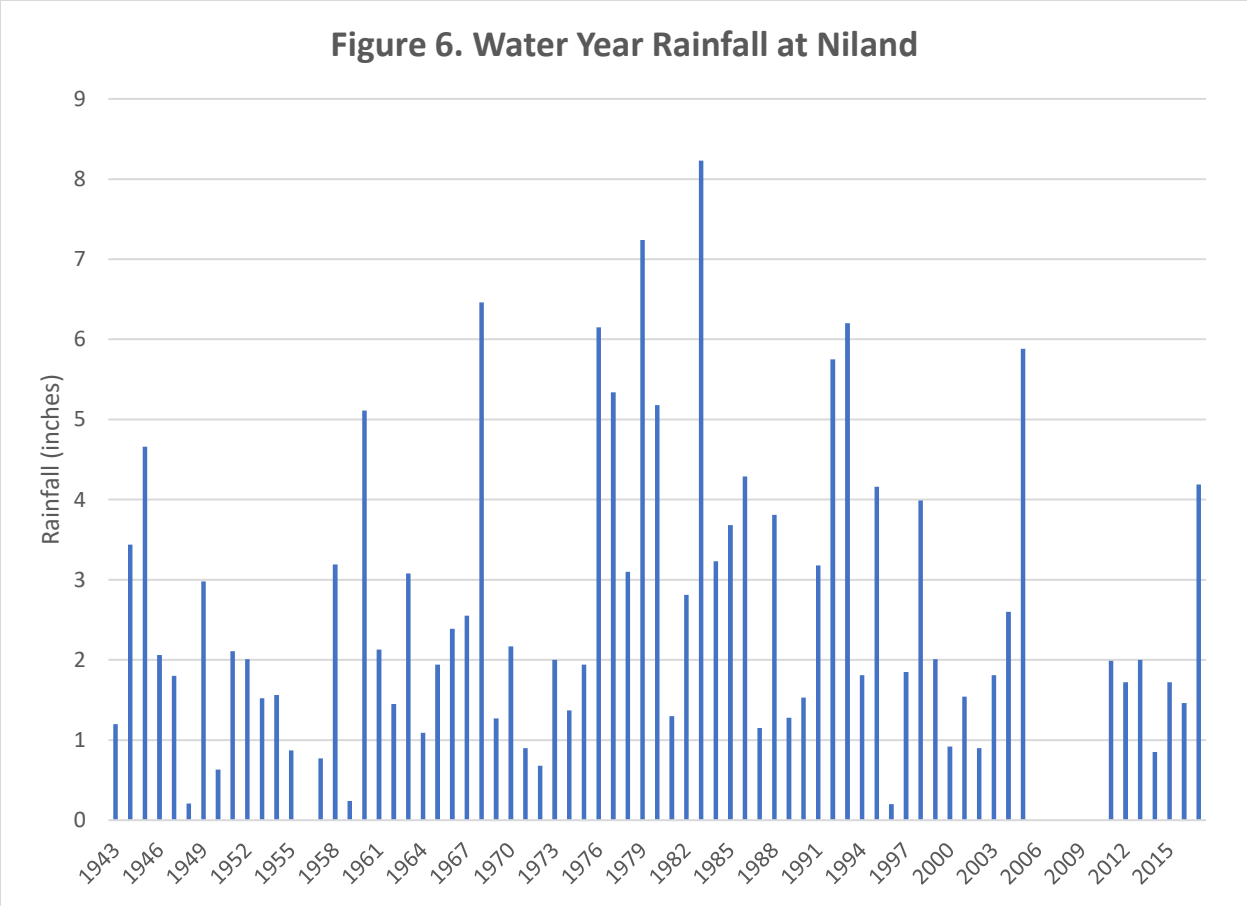

The total groundwater storage capacity of the Basin is estimated to be 360,000 acre-feet (DWR, 2003) and the groundwater level decline from 1979 to 2018 decreased groundwater storage by approximately six percent (see Section 4.2). Thus, the current storage in the Basin may be in the range of 335,000 to 340,000 acre-feet. The single year construction water demand of 205 acre-feet and the annual combined operational water needs of five acre-feet are miniscule (0.06 percent and 0.0015 percent, respectively) compared to the available groundwater in storage. Furthermore, the long term annual operational water needs are much less than the estimated annual recharge of 200 acre-feet per year. Overall, there is adequate water available to supply the Project water needs during single dry, and multiple dry year periods.

On a cumulative basis, the construction water demand for the Project and the adjacent Vega SES 2, LLC and Vega SES 3, LLC solar energy projects is equivalent to 0.3 percent of the available groundwater in storage. The annual cumulative operational water needs for all three solar energy projects is equivalent to 0.01 percent of the available groundwater in storage in the Basin. Thus, the cumulative effect on groundwater availability in the Basin would also be miniscule such that there would be adequate water

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available to supply the water needs of all three solar projects during single dry, and multiple dry year periods.

7.0 FINDINGS and DISCUSSION

This WSA has been prepared in accordance with SB 610 and SB 1262 to support the CEQA environmental review for the proposed Project and provides an assessment of water supply adequacy for the Project in accordance with Water Code Sections 10910 through 10915. As stated in Section 1.0, the purpose of the assessment is to determine if available water supplies are sufficient to serve the demand generated by the Project, as well as the reasonably foreseeable demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. As noted in Section 4.2, above, while groundwater levels in the Basin had been declining during the period from the late 1970s to the early 2000s, over the past decade they have stabilized, indicating that current water demands are in balance with recharge and replenishment. The population, and presumably the related water demand, are anticipated to decrease over the next decade. Therefore, the Basin has adequate resources for current and anticipated future existing water needs.

The water demand for the proposed Project will consist of water needed during construction and water needed for maintenance once the Project is operational. The construction water demand is anticipated to be a combined total of 205 acre-feet over 12 months, primarily for dust control. The operational demand is anticipated to be five acre-feet per year for panel washing and other maintenance activities. The operational demand will exist for the life of the Project, which is anticipated to be 25 to 30 years.

The construction water demand exceeds the reported average annual recharge to the Basin of 200 acre-feet per year (DWR, 2003). However, the construction water needs are short-term and temporary. This temporary water use is not anticipated to cause persistent and long-term lowering of groundwater levels. Therefore, the construction water demand will not cause or contribute to overdraft, exhaustion of water supplies, lowering of groundwater levels to depths that would be uneconomic for pumping, land subsidence, or significant alteration of groundwater quality. As discussed in Section 6.0, above, cumulative construction water demand from the Project and the adjacent Vega SES 2, LLC and Vegs SES 3, LLC solar energy projects would also not cause persistent and long-term lowering of groundwater levels.

The annual operational water needs are equivalent to 2.5 percent of the average annual recharge and 0.0015 percent of the estimated current storage volume of the Basin. Therefore, the long-term operation and maintenance of the Project would not have any measurable effect or impact on groundwater resources in the Basin. As discussed in Section 6.0, above, cumulative operational water demand from the Project and the

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adjacent Vega SES 2, LLC and Vegs SES 3, LLC solar energy projects would also not cause any measurable effect or impact on groundwater resources in the Basin.

Based on the analysis presented in this WSA, there will be sufficient water available for existing water uses in the Basin, along with the Project water demand and the water demands for the adjacent solar energy projects during normal, single dry year, and multiple dry year periods for the anticipated life of the Project, which is anticipated to be greater than 20 years.

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Energy Impact Assessment

Vega SES Complex Solar Energy Storage Project

County of Imperial, California

Prepared For:

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December 2022

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Attachment A - Energy Consumption Modeling Output

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LIST OF ACRONYMS AND ABBREVIATIONS

APNs	Assessor's Parcel Numbers
CalEEMod	California Emissions Estimator Model
CAISO	California Independent System Operator
CARB	California Air Resources Board
CEC	California Energy Commission
EPS	Emissions Performance Standard
HSAT	Horizontal Single-Axis Tracker
IID	Imperial Irrigation District
kWh	Kilowatt-Hours
MW	Megawatt
mWh	Megawatt Hour
PV	Photovoltaic
Project	Vega SES Complex Solar Energy Storage Project
RPS	Renewables Portfolio Standard

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1.0 INTRODUCTION

This report documents the results of an Energy Impact Assessment completed for the Vega SES Complex Solar Energy Storage Project (Project), which includes the construction of up to a nominal 240-megawatt (MW) alternating current solar photovoltaic (PV) energy generation system with an integrated 240 MW battery storage system (known as Vega 2), a nominal 60 MW alternating current PV energy generation system with an integrated 60 MW battery storage system (known as Vega 3), and a nominal 50 MW alternating current solar PV energy generation system with an integrated 50 MW battery storage system (known as Vega 5), all spanning approximately 1,962.76 acres of land in the County of Imperial, California. This report was prepared to analyze the potential direct and indirect environmental impacts associated with the Project energy consumption, including the depletion of nonrenewable resources (oil, natural gas, coal, etc.) during the construction and operational phases. The impact analysis focuses on the four sources of energy that are relevant to the proposed Project: electricity, natural gas, the equipment-fuel necessary for Project construction, and the automotive fuel necessary for Project operations.

1.1 Project Overview

The Project proposes to construct a cluster of alternating current solar PV energy generation systems totaling 350 Megawatts (MWs) with accompanying battery storage. The Project consists of three individual site locations which make up the Vega SES Complex. Vega 2 is located on three non-contiguous parcels totaling 1,323 acres, Vega 3 is located on a 640-acre parcel but only compromising 230 acres, and Vague 5 is located on three parcels totaling 410 acres. It is proposed that Vega 2 & 3 will be constructed together beginning in early 2023 with Vega 5 being constructed in 2024.

All systems would be utilizing either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The individual PV systems would be arranged in large arrays by placing them in columns spaced approximately ten feet apart to maximize operational performance and to allow access for panel cleaning and maintenance.

1.2 Project Location and Description

The total combined Project Site area spans approximately 1,963 acres and is located 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City (see Figure 1. Project Vicinity). The Site is transected by the Coachella and East Highline Canals and the Union Pacific Railway in northcentral Imperial County, California.

1.3 Applicable Land Use Regulations

All Project parcels for Vega 2 & 3 parcels are designated as "Recreation/Open Space" in the Imperial County General Plan and are zoned S-2-RE (Open Space/Preservation with a Renewable Energy overlay). Pursuant to Section 91703.02 (*Conditional Use Permits*), Renewable Energy Projects must be located within the Renewable Energy Overlay Zone and may be permitted only through the issuance of a Conditional Use Permit (CUP) as approved by the Approving Authority unless otherwise allowed by applicable law. All Project parcels in Vega 5 are designated as "Recreation/Open Space" in the Imperial County General Plan.

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Two of the Vega 5 properties are zoned S-2-RE (areas with intent to preserve the cultural, biological, and open spaces that are rich and natural as well as cultural resources). The third Vega 5 property is zoned A-2-RE (areas that are suitable and intended primarily for agricultural uses [limited] and agricultural related compatible uses), A-3-RE (areas that are suitable for agricultural land uses; to prevent the encroachment of incompatible uses onto and within agricultural lands; and to prohibit the premature conversion of such lands to non-agricultural uses) and S-2-RE (see above). At present, all portions of the proposed Project (Vega 2 & 3, and 5) are located within the Renewable Energy Zone.

1.4 Project Site Access

The Project Area would be accessible from McDonald Road, a paved road off State Route 111. The Vega 5 Project Site is located at the eastern end of McDonald Road. Access to the Vega 2 and 3 Project Site would require an additional 1.65 miles of travel on Wiest Road and Flowing Wells Road. Both of which are unpaved.

1.5 Project Construction

Construction activities would involve demolition and grubbing, grading of the Project Site to establish access roads and pads for electrical equipment (inverters and step–up transformers), trenching for underground electrical collection lines, and the installation of solar equipment and security fencing. The construction of each Project component (Vega 2 & 3 and Vega 5) is estimated to take 12-18 months each and would begin in early 2023. A temporary, portable construction supply container would be located at the Project Site at the beginning of construction and removed at the end of construction. The number of on–site construction workers for Vega 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the Vega 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on–site construction workers for the Vega 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the Vega 5 battery storage facility and substation is not expected to exceed 50 workers at any one time. Onsite parking would be provided for all construction workers.

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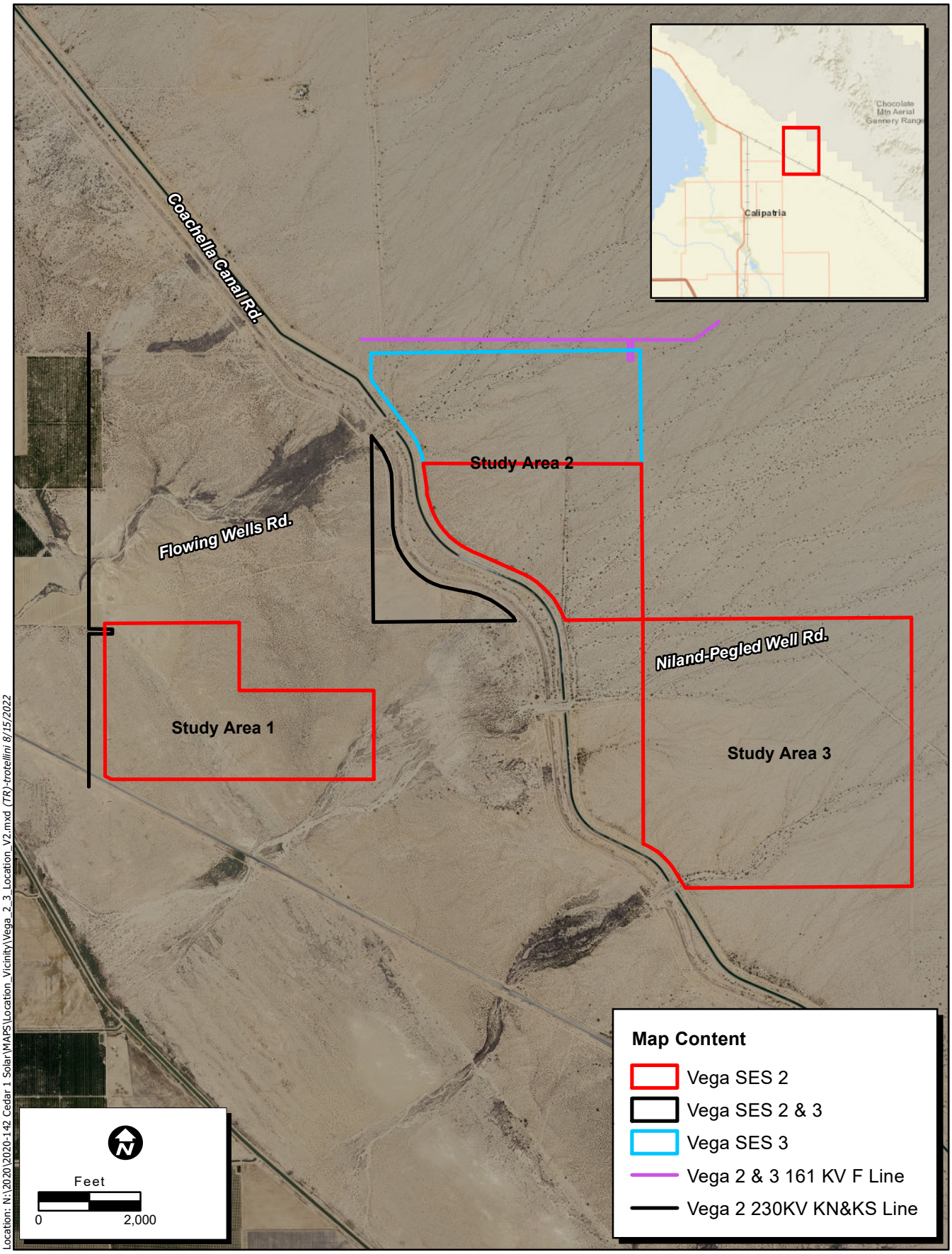

Map Date: 8/15/2022

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Figure 1. Project Location

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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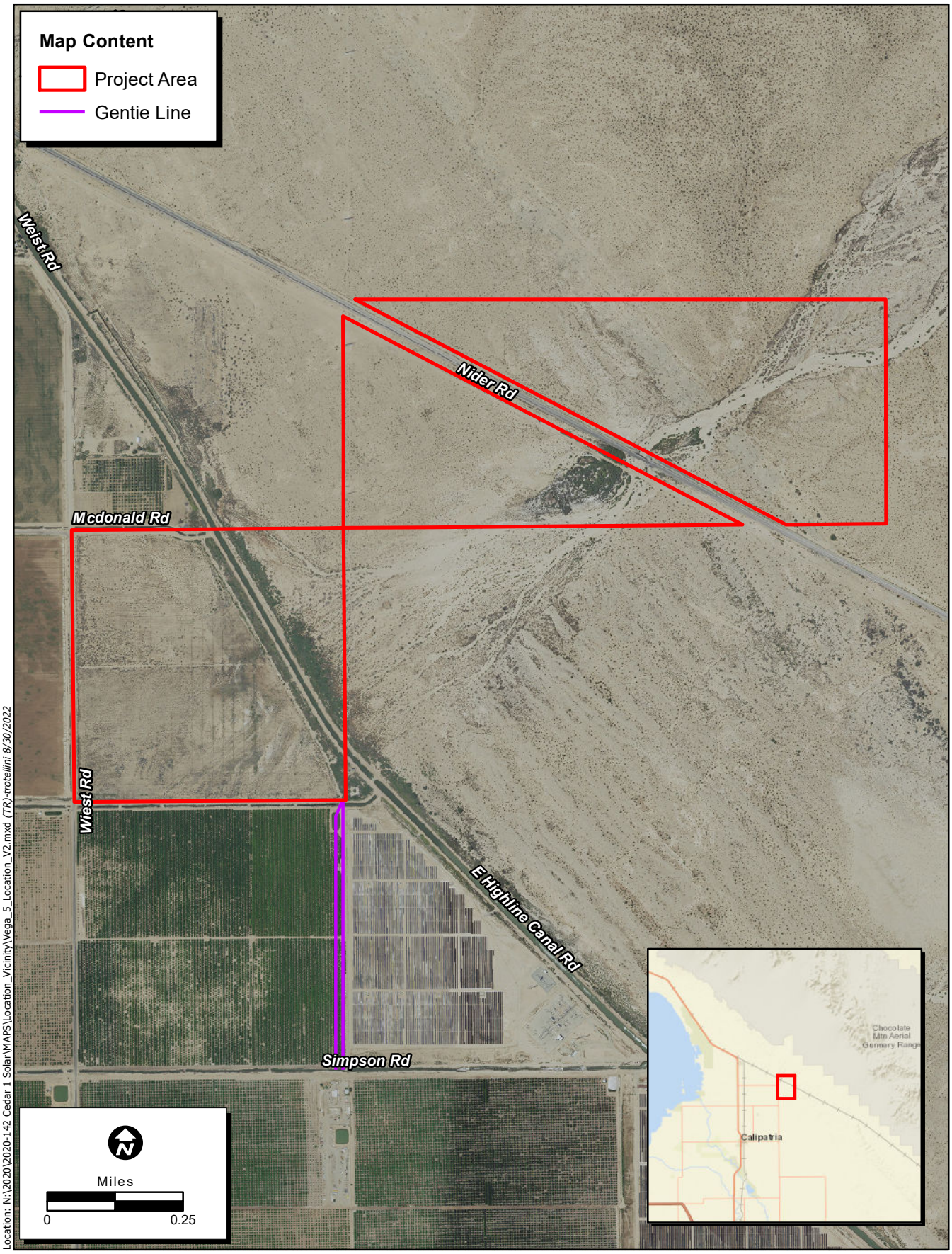

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Figure 1. Project Location

2020-144 Vega SES 5

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2.0 ENERGY CONSUMPTION

2.1 Energy Types and Sources

California relies on a regional power system comprised of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Natural gas provides California with a majority of its electricity followed by renewables, large hydroelectric and nuclear (California Energy Commission [CEC] 2020). Imperial Irrigation District (IID), the sixth largest electrical utility in California serving more than 150,000 customers in the Imperial Valley and parts of Riverside and San Diego counties, provides electrical services to the Project area. IID controls more than 1,100 megawatts of energy derived from a diverse resource portfolio that includes its own generation, and long- and short-term power purchases. Located in a region with abundant sunshine, enviable geothermal capacity, wind and other renewable potential, IID has met or exceeded all Renewable Portfolio Standard requirements to date, procuring renewable energy from diverse sources, including biomass, biowaste, geothermal, hydroelectric, solar and wind.

The Southern California Gas Company provides natural gas services to Imperial County. As the nation's largest natural gas distribution utility, the Southern California Gas Company delivers natural gas energy to 21.8 million consumers through 5.9 million meters in more than 500 communities. The Southern California Gas Company's service territory encompasses approximately 24,000 square miles throughout Central and Southern California, from Visalia to the Mexican border.

2.1.1 Energy Consumption

Electricity use is measured in kilowatt-hours (kWh), and natural gas use is measured in therms. Vehicle fuel use is typically measured in gallons (e.g. of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh.

The non-residential electricity consumption associated with all uses in Imperial County from 2017 to 2021 is shown in Table 2-1. As indicated, the demand has increased since 2017.

Table 2-1. Non-Residential Electricity Consumption in Imperial County 2017-2021

Year	Electricity Consumption (kilowatt hours)
2021	841,302,847
2020	834,483,019
2019	839,095,659
2018	831,318,925
2017	817,450,656

Source: CEC 2022

The non-residential natural gas consumption associated with all uses in Imperial County from 2017 to 2021 is shown in Table 2-2. As indicated, the demand has remained relatively constant since 2017.

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Table 2-2. Non-Residential Natural Gas Consumption in Imperial County 2017-2021	
Year	**Natural Gas Consumption (therms)**
2021	33,421,848
2020	33,813,700
2019	34,736,596
2018	31,159,562
2017	33,090,927

Source: CEC 2022

Automotive fuel consumption in Imperial County from 2017 to 2021 is shown in Table 2-3. Fuel consumption has decreased between 2017 and 2021.

Table 2-3. Automotive Fuel Consumption in Imperial County 2017-2021	
Year	**Total Fuel Consumption (gallons)**
2021	217,447,173
2020	195,778,823
2019	219,032,998
2018	219,075,991
2017	220,921,357

Source: California Air Resources Board (CARB) EMFAC 2021

2.2 Regulatory Framework

2.2.1 State

Executive Order B-55-18

In September 2018 Governor Jerry Brown Signed Executive Order (EO) B-55-18, which establishing a new statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Carbon neutrality refers to achieving a net zero carbon dioxide emissions. This can be achieved by reducing or eliminating carbon emissions, balancing carbon emissions with carbon removal, or a combination of the two. This goal is in addition to existing statewide targets for GHG emission reduction. EO B-55-18 requires the California Air Resource Board (CARB) to "work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.

Senate Bill 1368

On September 29, 2006, Governor Arnold Schwarzenegger signed into law Senate Bill (SB) 1368 (Perata, Chapter 598, Statutes of 2006). The law limits long-term investments in baseload generation by the state's

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utilities to those power plants that meet an emissions performance standard jointly established by the CEC and the California Public Utilities Commission (CPUC).

The CEC has designed regulations that:

- Establish a standard for baseload generation owned by, or under long-term contract to, publicly owned utilities, of 1,100 pounds carbon dioxide per megawatt hour (mWh). This would encourage the development of power plants that meet California's growing energy needs while minimizing their emissions of greenhouse gas.
- Require posting of notices of public deliberations by publicly owned utilities on long-term investments on the CEC website. This would facilitate public awareness of utility efforts to meet customer needs for energy over the long term while meeting the State's standards for environmental impact.
- Establish a public process for determining the compliance of proposed investments with the emissions performance standard (EPS) (Perata, Chapter 598, Statutes of 2006).

2.2.2 Renewable Energy Sources (Renewable Portfolio Standards)

Established in 2002 under SB 1078, and accelerated by SB 107 (2006) and SB 2 (2011), California's Renewables Portfolio Standard (RPS) obligates investor-owned utilities, energy service providers, and community choice aggregators to procure 33 percent of their electricity from renewable energy sources by 2020. Eligible renewable resources are defined in the 2013 RPS to include biodiesel; biomass; hydroelectric and small hydro (30 megawatts or less); Los Angeles Aqueduct hydro power plants; digester gas; fuel cells; geothermal; landfill gas; municipal solid waste; ocean thermal, ocean wave, and tidal current technologies; renewable derived biogas; multi-fuel facilities using renewable fuels; solar photovoltaic; solar thermal electric; wind; and other renewables that may be defined later. Governor Jerry Brown signed SB 350 on October 7, 2015, which expands the RPS by establishing a goal of 60 percent of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 includes the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses upon which an energy efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the CPUC, in consultation with the CEC, establish efficiency targets for electrical and gas corporations consistent with this goal. SB 350 also provides for the transformation of the California Independent System Operator (CAISO) into a regional organization to promote the development of regional electricity transmission markets in the western states and to improve the access of consumers served by the CAISO to those markets, pursuant to a specified process. In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

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2.3 Energy Consumption Impact Assessment

2.3.1 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to energy if it would do any of the following:

1) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

2) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The impact analysis focuses on the four sources of energy that are relevant to the proposed Project: electricity, natural gas, the equipment fuel necessary for Project construction, and the automotive fuel necessary for Project operations. Addressing energy impacts requires an agency to make a determination as to what constitutes a significant impact. There are no established thresholds of significance, statewide or locally, for what constitutes a wasteful, inefficient, and unnecessary consumption of energy for a proposed land use. For the purposes of this analysis, the amount of electricity and natural gas estimated to be consumed by the Project are quantified and compared to that consumed by all land uses in Imperial County. Similarly, the amount of fuel necessary for Project construction and operations is calculated and compared to that consumed in Imperial County.

2.3.2 Methodology

Levels of construction and operational related energy consumption estimated to be consumed by the Project include the number of kWh of electricity, therms of natural gas and gallons of gasoline. Modeling was based on Project specific information such as construction timing and equipment as well as site operations. Energy consumption estimates were calculated using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. CalEEMod is a statewide land use computer model designed to quantify resources associated with both construction and operations from a variety of land use projects.

2.3.3 Impact Analysis

Energy Consumption

The Project proposes to construct a cluster of alternating current solar PV energy generation systems totaling 350 MWs with accompanying battery storage on approximately 1,962.76 acres of land. Operations of the proposed Project would not result in the consumption of electricity or natural gas and thus, would not contribute to the County wide usage. Instead, the Project would directly support the RPS goal of increasing the percentage of electricity procured from renewable sources.

Therefore, this impact analysis focuses on the two sources of energy that are most relevant to the Project: the equipment fuel necessary for construction and the automotive fuel necessary for ongoing maintenance activities. The amount of total construction-related fuel use was estimated using ratios provided in the Climate Registry's General Reporting Protocol for the Voluntary Reporting Program,

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Version 2.1. The amount of operational fuel use was estimated using CARB's EMFAC2021 computer program, which provides projections for typical daily fuel usage in Imperial County. This analysis conservatively assumes that all of the automobile trips projected to arrive at the Project during operations would be new to Imperial County.

Energy consumption associated with the proposed Project is summarized in Table 2-4. Project increases in automotive fuel consumption are compared with the countywide fuel consumption in 2021, the most recent full year of data.

Table 2-4. Proposed Project Energy and Fuel Consumption

Energy Type	Annual Energy Consumption	Percentage Increase Countywide
Electricity Consumption[1]	0 kilowatt-hours	0.00000 percent
Natural Gas[1]	0 therms	0.00000 percent
Automotive Fuel Consumption		
Vega 2 and Vega 3		
Construction	94,680 gallons	0.0435 percent
Vega 5		
Construction	77,635 gallons	0.0357 percent
Vega Complex (2,3,5 combined)		
Construction	172,315 gallons	0.0792 percent
Project Operations[3]	225.5 gallons	0.0001 percent

Source: [1]CalEEMod; [2]Climate Registry 2016; [3]EMFAC2021 (CARB 2021)

Notes: The Project increases in electricity and natural gas consumption are compared with all uses in Imperial County in 2021, the latest data available. The Project increases in automotive fuel consumption are compared with the countywide fuel consumption in 2021, the most recent full year of data.

Fuel necessary for Project construction would be required for the operation and maintenance of construction equipment and the transportation of materials to the Project site. The fuel expenditure necessary to construct the solar facility and infrastructure would be temporary, lasting only as long as Project construction. As indicated in Table 2-4, the Project's gasoline fuel consumption during the Vega 2 and Vega 3 construction period is estimated to be 94,680 gallons, which would increase the annual countywide gasoline fuel usage by 0.0435 percent. The gasoline fuel consumption in Project's Vega 5 construction period is estimated to be 77,635 gallons, which would increase the annual countywide gasoline fuel usage by 0.0357 percent. Additionally, the construction during the Vega Complex, which adds Vega 2, 3, and 5 together, has an estimate gasoline usage of 172,315 gallons, which would increase the annual countywide gasoline fuel usage by 0.0792 percent. As such, all of the Project's construction options would have a nominal effect on local and regional energy supplies. No unusual Project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the state. Construction contractors would purchase

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their own gasoline and diesel fuel from local suppliers and would judiciously use fuel supplies to minimize costs due to waste and subsequently maximize profits. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and requiring recycling of construction debris, would further reduce the amount of transportation fuel demand during Project construction. For these reasons, it is expected that construction fuel consumption associated with the Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

Once construction is completed the Project would be remotely controlled. No employees would be based at the Project sites. The only operational emissions associated with the Project would be associated with motor vehicle use for routine maintenance work and site security as well as panel upkeep and cleaning. A conservative estimate of two vehicle trips per day was assumed. This is a conservative estimate as most days would require no operational related vehicle trips. As indicated in Table 2-4, this would estimate to a consumption of approximately 225.5 gallons of automotive fuel per year, which would increase the annual countywide automotive fuel consumption by 0.0001 percent. Fuel consumption associated with both the construction equipment needed to construct the Project and the vehicle trips generated by the Project during ongoing maintenance activities would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region.

State and Local Plans for Renewable Energy/Energy Efficiency

The purpose of the proposed Project is the construction of a renewable energy and storage facility in Imperial County. Once in operation, it will decrease the need for energy from fossil fuel–based power plants in the state. The result would be a net increase in electricity resources available to the regional grid, generated from a renewable source. Therefore, the Project would directly support the RPS goal of increasing the percentage of electricity procured from renewable sources. Additionally, the Project would also be consistent with the County's General Plan Conservation and Open Space Element, Objective 9.2 which encourages renewable energy developments. Therefore, the Project would directly support state and local plans for renewable energy development.

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LIST OF ATTACHMENTS

Attachment A - Energy Consumption Modeling Output

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ATTACHMENT A

Energy Consumption Modeling Output

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Proposed Project
Total Construction-Related and Operational
Gasoline Usage

Table 1. VEGA 2 and VEGA 3			
Action	**Carbon Dioxide Equivalents (CO_2e) in Metric Tons[1]**	**Conversion of Metric Tons to Kilograms[2]**	**Construction Equipment Emission Factor[2]**
Project Construction	0,961	961,000	10.15
Total Gallons Consumed During Project Construction:			**94,680**

Table 2. VEGA 5			
Action	**Carbon Dioxide Equivalents (CO_2e) in Metric Tons[1]**	**Conversion of Metric Tons to Kilograms[2]**	**Construction Equipment Emission Factor[2]**
Project Construction	0,788	788,000	10.15
Total Gallons Consumed During Project Construction:			**77,635**

Table 3. VEGA Complex (2,3,5 combined)			
Action	**Carbon Dioxide Equivalents (CO_2e) in Metric Tons[1]**	**Conversion of Metric Tons to Kilograms[2]**	**Construction Equipment Emission Factor[2]**
Project Construction	1,749	1,749,000	10.15
Total Gallons Consumed During Project Construction:			**172,315**

Notes:

Fuel used by all construction equipment, including vehicle hauling trucks, assumed to be diesel.

[1]Per CalEEMod Output Files found in Air Quality and Greenhouse Gas Emissions Assessment Attachment C

[2]Per Climate Registry Equation 13e

Sources:

[1]ECORP Consulting, 2022.

[2]Climate Registry. 2016. *General Reporting Protocol for the Voluntary Reporting Program version 2.1.* January 2016.
http://www.theclimateregistry.org/wp-content/uploads/2014/11/General-Reporting-Protocol-Version-2.1.pdf

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Table 4. Total Gallons During Project Operations [3]								
Area	**Sub-Area**	**Cal. Year**	**Season**	**Veh_tech**	**EMFAC 2011 Category**	**Fuel_GAS Output**	**Daily Total**	**ANNUAL TOTAL**
Sub-Areas	Imperial County	2025	Annual	All Vehicles	All Vehicles [4]	0.000617813	0.617813	**225.5**

Sources:

3California Air Resource Board. 2017. EMFAC2017 Mobile Emissions Model.

Notes:

4Excluding Heavy-Duty Highway Trucks, T6 Agricultural Truck, T6 Instate Construction (heavy and small), T7 Agricultural Truck, T7 CAIRP Construction, T7 Single Construction, T7 Tractor Truck, and T7 Tractor Construction

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Draft Environmental Impact Report

VEGA SES 2, 3, and 5 Solar Energy Project

SCH No. 2021050013

Imperial County, California

December 2022

Prepared for

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Executive Summary

This Environmental Impact Report (EIR) has been prepared in compliance with the California Environmental Quality Act (CEQA) Public Resources Code [PRC] Section 21000 et seq., the CEQA Guidelines (Section 15000 et seq.) as promulgated by the California Resources Agency and the Governor's Office of Planning and Research (OPR). The purpose of this environmental document is to assess the potential environmental effects associated with the VEGA SES 2, 3 & 5 Solar Energy Projects and to propose mitigation measures, where required, to reduce significant impacts.

Project Overview

The VEGA SES 2, 3 & 5 Solar Energy Projects are located on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA. The project area is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The project area is transected by the Coachella and East Highline Canals and the Union Pacific Railway.

Three separate Conditional Use Permits (CUPs) have been filed with the County, which together define the project sites. The three CUP applications or individual site locations consist of the following:

- CUP 20-0021: VEGA SES 2
- CUP 20-0022: VEGA SES 3
- CUP 20-0023: VEGA SES 5

Table ES-1 identifies the individual assessor parcel numbers (APN) associated with the VEGA SES 2, 3, and 5 sites with their respective acreage and zoning.

Collectively, the proposed projects involve the construction of up to 350 megawatt (MW) alternating current (AC) photovoltaic (PV) solar energy facility with an integrated 350 MW battery storage system (not to exceed 700 MW). The projects propose to utilize either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker systems. The projects would include electronic/electrical equipment, on-site substations, interconnection facilities, access roads and fencing. The electrical energy produced by the projects would be conducted through the projects' interconnection facilities to the following:

- VEGA SES 2 – Imperial Irrigation District's (IID) KN/KS Line
- VEGA SES 3 - IID 161 kilovolt (kV) "F" Transmission Line
- VEGA SES 5 - IID 92 kV Midway Substation

Table ES-1. Solar Energy Facility Site Assessor Parcel Numbers, Acreages, and Zoning

Project	APN	Acreage	Zoning
VEGA SES 2 (CUP 20-0021)	025-010-006 (partial)	410	S-2-RE
	025-260-011 (partial	288	S-2-RE
	025-270-023	625	S-2-RE

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Table ES-1. Solar Energy Facility Site Assessor Parcel Numbers, Acreages, and Zoning

Project	APN	Acreage	Zoning
	Subtotal	***1,323***	**--**
VEGA SES 3 (CUP 20-0022)	025-010-006 (partial)	230	S-2-RE
	Subtotal	***230***	**--**
VEGA SES 5 (CUP 20-0023)	025-260-011 (partial)	160	S-2-RE
	025-260-019	90	S-2-RE
	025-260-022	160	A-2-RE, A-3-RE, S-2-RE
	Subtotal	***410***	**--**
Total Gross Acres		**1,963**	**--**

Notes:
APN = assessor parcel number; A-2-RE = General Agriculture with a Renewable Energy Zone Overlay A-3-RE = Heavy Agriculture with a Renewable Energy Zone Overlay; S-2-RE = Open Space/Preservation with a Renewable Energy Zone Overlay

Purpose of an EIR

The purpose of an EIR is to analyze the potential environmental impacts associated with a project. CEQA (Section 15002) states that the purpose of CEQA is to: (1) inform the public and governmental decision makers of the potential significant environmental impacts of a project; (2) identify the ways that environmental damage can be avoided or significantly reduced; (3) prevent significant avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and (4) disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Eliminated from Further Review in Notice of Preparation

Based on the Initial Study and Notice of Preparation (IS/NOP) prepared for the proposed projects (Appendix A of this EIR), Imperial County (County) has determined that environmental effects to Forestry Resources, Energy, Mineral Resources, Population/Housing, Public Services, Recreation, Utilities (Wastewater, Stormwater, and Solid Waste), and Wildfire would not be potentially significant. Therefore, these impacts are not addressed in this EIR; however, the rationale for eliminating these issues is discussed in Chapter 6.0, Effects Found Not Significant.

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Summary of Significant Impacts and Mitigation Measures that Reduce or Avoid the Significant Impacts

Based on the analysis presented in the IS/NOP and the information provided in the comments to the IS/NOP, the following environmental topics are analyzed in this EIR:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use Planning
- Noise
- Transportation
- Tribal Cultural Resources
- Utilities/Service Systems

Table ES-2 summarizes the environmental impacts that were determined to be potentially significant, mitigation measures, and level of significance after mitigation associated with the projects.

Areas of Controversy and Issues to be Resolved

Areas of Concern

Section 15123(b)(2) of the CEQA Guidelines requires that an EIR identify areas of controversy as well as issues to be resolved known to the Lead Agency, including issues raised by other agencies and the public. A primary issue associated with this solar farm project, and other solar facility projects that are proposed in the County, is the corresponding land use compatibility and fiscal/economic impacts to the County. Through the environmental review process for this project, other areas of concern and issues to be resolved include water supply; relocation, modification, or reconstruction of IID facilities; and access.

Detailed analyses of these topics are included within each corresponding section contained within this document.

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Agricultural Resources			
Impact 3.3-3 (VEGA SES 5 project only): Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.	Potentially Significant	This mitigation measure is applicable to the VEGA SES 5 project only. **AG-1** Prior to the issuance of a grading permit or building permit (whichever occurs first), a Pest Management Plan shall be developed by the project applicant and approved by the County of Imperial Agricultural Commissioner. The project applicant shall maintain a Pest Management Plan until reclamation is complete. The plan shall provide the following: 1. Monitoring, preventative, and management strategies for weed and pest control during construction activities at any portion of the project (e.g., transmission line); 2. Control and management of weeds and pests in areas temporarily disturbed during construction where native seed will aid in site revegetation as follows: • Monitor for all pests including insects, vertebrates, weeds, and pathogens. Promptly control or eradicate pests when found, or when notified by the Agricultural Commissioner's office that a pest problem is present on the project site. The assistance of a licensed pest control advisor is recommended. All treatments must be performed by a qualified applicator or a licensed pest control business; • All treatments must be performed by a qualified applicator or a licensed pest control operator; • "Control" means to reduce the population of common pests below economically damaging levels, and includes attempts to exclude pests before infestation, and effective control methods after infestation. Effective control methods may include physical/mechanical removal, bio control, cultural control, or chemical treatments; • Use of "permanent" soil sterilants to control weeds or other pests is prohibited because this would interfere with reclamation; • Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of	Less than Significant

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		Food Agriculture and the U.S. Department of Agriculture. Request a sample be taken by the Agricultural Commissioner's Office of a suspected invasive species. Eradication of exotic pests shall be done under the direction of the Agricultural Commissioner's Office and/or California Department of Food and Agriculture; • Obey all pesticide use laws, regulations, and permit conditions; • Allow access by Agricultural Commissioner staff for routine visual and trap pest surveys, compliance inspections, eradication of exotic pests, and other official duties; • Ensure all project employees that handle pest control issues are appropriately trained and certified, all required records are maintained and made available for inspection, and all required permits and other required legal documents are current; • Maintain records of pests found and treatments or pest management methods used. Records should include the date, location/block, project name (current and previous if changed), and methods used. For pesticides include the chemical(s) used, EPA Registration numbers, application rates, etc. A pesticide use report may be used for this; • Submit a report of monitoring, pest finds, and treatments, or other pest management methods to the Agricultural Commissioner quarterly within 15 days after the end of the previous quarter, and upon request. The report is required even if no pests were found or treatment occurred. It may consist of a copy of all records for the previous quarter, or may be a summary letter/report as long as the original detailed records are available upon request. 3. A long-term strategy for weed and pest control and management during the operation of the proposed project. Such strategies may include, but are not limited to: • Use of specific types of herbicides and pesticides on a scheduled basis.	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		4. Maintenance and management of project site conditions to reduce the potential for a significant increase in pest-related nuisance conditions on surrounding agricultural lands. 5. The project shall reimburse the Agricultural Commissioner's office for the actual cost of investigations, inspections, or other required non-routine responses to the site that are not funded by other sources.	
Air Quality			
Impact 3.4-1: Conflict with or obstruct implementation of the applicable air quality plan.	Potentially Significant	**AQ-1** **Fugitive Dust Control.** During construction activities, the constructor contractor shall employ the following PM_{10} reducing measures: 1. All unpaved roads associated with construction shall be effectively stabilized of dust emissions using Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant before the commencement of construction, and every 30 days thereafter until the end of all construction activities. Unpaved roads associated with construction include: • The 1.65 miles of unpaved road on Weist Road and Flowing Wells Road to the VEGA SES 2 and 3 project sites. Monthly application of Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant shall be applied at a rate of 0.1 gallon/square yard of chemical dust suppressant. 2. Prior to any earthmoving activity, the applicant shall submit a construction dust control plan and obtain Imperial County Air Pollution Control District and Imperial County Planning and Development Services Department (ICPDS) approval. 3. Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained	Less than significant

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		within Regulation VIII – Fugitive Dust Control Measures. Whereas these Regulation VIII measures are mandatory and are not considered project environmental mitigation measures, the ICAPCD CEQA Handbook's required additional standard and enhanced mitigation measures listed below shall be implemented prior to and during construction. ICAPCD will verify implementation and compliance with these measures as part of the grading permit review/approval process. **ICAPCD Standard Measures for Fugitive Dust (PM_{10}) Control** • All disturbed areas, including bulk material storage, which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material, such as vegetative ground cover. • All on-site and off-site unpaved roads will be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering. • All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material. • All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area. • Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line. • The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants, and/or watering. **ICAPCD "Discretionary" Measures for Fugitive Dust (PM_{10}) Control** • Water exposed soil only in those areas where active grading and vehicle movement occurs with adequate frequency to control dust. • Replace ground cover in disturbed areas as quickly as possible.	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• Automatic sprinkler system installed on all soil piles. • Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site. • Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees. • Implement a shuttle service to and from retail services and food establishments during lunch hours. • Standard Mitigation Measures for Construction Combustion Equipment • Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum. • Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use. • Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set). **Enhanced Mitigation Measures for Construction Equipment** To help provide a greater degree of reduction of PM emissions from construction combustion equipment, ICAPCD recommends the following enhanced measures. • Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		construction activity during the peak hour of vehicular traffic on adjacent roadways. • Implement activity management (e.g., rescheduling activities to reduce short-term impacts). **AQ-2** **Construction Equipment.** Construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at the project sites by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit. The equipment list shall be submitted periodically to ICAPCD to perform a NO_x analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds. The Planning and Development Services Department and ICAPCD shall verify implementation of this measure. **AQ-3** **Dust Suppression.** The project applicant shall employ a method of dust suppression (such as water or chemical stabilization) approved by ICAPCD. The project applicant shall apply chemical stabilization as directed by the product manufacturer to control dust between the panels as approved by ICAPCD, and other non-used areas (exceptions will be the paved entrance and parking area, and Fire Department access/ emergency entry/exit points as approved by Fire/Office of Emergency Services [OES] Department). **AQ-4** **Operational Dust Control Plan.** Prior to issuance of a Certificate of Occupancy, the applicant shall submit an operations dust control plan and obtain ICAPCD and ICPDS approval. ICAPCD Rule 301 Operational Fees apply to any project applying for a building permit. At the time that building permits	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		are submitted for the proposed projects, ICAPCD shall review the project to determine if Rule 310 fees are applicable to the projects.	
Impact 3.4-2: Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.	Potentially Significant	Implement Mitigation Measures AQ-1 through AQ-4.	Less than Significant
Biological Resources			
Impact 3.5-1: Potential impacts on special-status species.	Potentially Significant	**BIO-1a** **Rare Plant Surveys.** Prior to initiating ground disturbance, rare plant surveys shall be conducted within suitable habitat on the VEGA SES 2 and 3 project sites during the appropriate blooming period as follows for gravel milk-vetch, Wiggins' croton, glandular ditaxis, sand food, and Munz's cholla. The surveys shall be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If project-related impacts to rare plants on the project sites are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a	Less than Significant

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		no-disturbance buffer around locations of individuals or a population and additional monitoring requirements. **BIO-1b** **Rare Plant Surveys.** Prior to initiating ground disturbance, rare plant surveys shall be conducted within suitable habitat on the VEGA SES 5 project site during the appropriate blooming period for Salton milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster. The surveys shall be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If project-related impacts to rare plants on the project sites are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements. **BIO-2** **General Impact Avoidance and Minimization Measures.** The following measures will be applicable throughout the life of the projects: • To reduce the potential indirect impact on migratory birds, bats and raptors, the project shall comply with the APLIC 2012 Guidelines for overhead utilities, as appropriate, to	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		minimize avian collisions with transmission facilities (APLIC 2012) • All electrical components on the project sites shall be either undergrounded or protected so that there will be no exposure to wildlife and therefore no potential for electrocution. • The project proponent shall designate a Project Biologist who shall be responsible for overseeing compliance with protective measures for biological resources during vegetation clearing and work activities within and adjacent to areas of native habitat. The Project Biologist shall be familiar with the local habitats, plants, and wildlife. The Project Biologist shall also maintain communications with the Contractor to ensure that issues relating to biological resources are appropriately and lawfully managed and shall monitor construction. The Project Biologist shall monitor activities within construction areas during critical times, such as vegetation removal, the implementation of Best Management Practices (BMPs), and installation of security fencing to protect native species. The Project Biologist shall ensure that all wildlife and regulatory agency permit requirements, conservation measures, and general avoidance and minimization measures are properly implemented and followed. • The boundaries of all areas to be newly disturbed (including solar facility areas, staging areas, access roads, and sites for temporary placement of construction materials and spoils) shall be delineated with stakes and flagging prior to disturbance. All disturbances, vehicles, and equipment shall be confined to the flagged areas. • No potential wildlife entrapments (e.g., trenches, bores) shall be left uncovered overnight. Any uncovered pitfalls	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		will be excavated to 3:1 slopes at the ends to provide wildlife escape ramps. Alternatively, man-made ramps may be installed. Covered pitfalls will be covered completely to prevent access by small mammals or reptiles. • To avoid wildlife entrapment (including birds), all pipes or other construction materials or supplies shall be covered or capped in storage or laydown areas, and at the end of each work day in construction, quarrying and processing/handling areas. No pipes or tubing of sizes or inside diameters ranging from 1 to 10 inches shall be left open either temporarily or permanently. • No anticoagulant rodenticides, such as Warfarin and related compounds (indandiones and hydroxycoumarins), shall be used within the project sites, on off-site project facilities and activities, or in support of any other project activities. • Avoid wildlife attractants. All trash and food-related waste shall be placed in self-closing containers and removed regularly from the sites to prevent overflow. Workers shall not feed wildlife. Water applied to dirt roads and construction areas for dust abatement shall use the minimal amount needed to meet safety and air quality standards to prevent the formation of puddles, which could attract wildlife. Pooled rainwater or floodwater within retention basins shall be removed to avoid attracting wildlife to the active work areas. • To minimize the likelihood for vehicle strikes on wildlife, speed limits shall not exceed 15 miles per hour when driving on access roads. All vehicles required for O&M must remain on designated access/maintenance roads. • Avoid nighttime construction lighting or if nighttime construction cannot be avoided, use shielded directional	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		lighting pointed downward and towards the interior of the project sites, thereby avoiding illumination of adjacent natural areas and the night sky. • All construction equipment used for the projects shall be equipped with properly operating and maintained mufflers. • Hazardous materials and equipment stored overnight, including small amounts of fuel to refuel hand-held equipment, shall be stored within secondary containment when within 50 feet of open water to the fullest extent practicable. Secondary containment shall consist of a ring of sand bags around each piece of stored equipment/structure. A plastic tarp/visqueen lining with no seams shall be placed under the equipment and over the edges of the sandbags, or a plastic hazardous materials secondary containment unit shall be utilized by the Contractor. • The Contractor will be required to conduct vehicle refueling in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species. Any fuel containers, repair materials, including creosote-treated wood, and/or stockpiled material that is left on site overnight, shall be secured in secondary containment within the work area and staging/assembly area and covered with plastic at the end of each work day. • In the event that no activity is to occur in the work area for the weekend and/or a period of time greater than 48 hours, the Contractor shall ensure that all portable fuel containers are removed from the project sites. • All equipment shall be maintained in accordance with manufacturer's recommendations and requirements.	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• Equipment and containers shall be inspected daily for leaks. Should a leak occur, contaminated soils and surfaces will be cleaned up and disposed of following the guidelines identified in the Stormwater Pollution Prevention Plan or equivalent, Materials Safety Data Sheets, and any specifications required by other permits issued for the projects. • The Contractor shall utilize off-site maintenance and repair shops as much as possible for maintenance and repair of equipment. • If maintenance of equipment must occur onsite, fuel/oil pans, absorbent pads, or appropriate containment will be used to capture spills/leaks within all areas. Where feasible, maintenance of equipment shall occur in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species. • Appropriate BMPs shall be used by the Contractor to control erosion and sedimentation and to capture debris and contaminants from construction to prevent their deposition in waterways. • Erosion and sediment control devices used for the proposed projects, including fiber rolls and bonded fiber matrix, shall be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard. • Firearms, open fires, and pets shall be prohibited at all work locations and access roads. Smoking shall be prohibited along the project alignment. • Cross-country vehicle and equipment use outside of approved designated work areas and access roads shall	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		be prohibited to prevent unnecessary ground and vegetation disturbance. • Any injured or dead wildlife encountered during project-related activities shall be reported to the project biologist, biological monitor, CDFW, or a CDFW-approved veterinary facility as soon as possible to report the observation and determine the best course of action. For special-status species, the Project Biologist shall notify the County, USFWS, and/or CDFW, as appropriate, within 24 hours of the discovery. • Stockpiling of material shall only be allowed within established work areas. • The Contractor shall actively manage the spread of noxious weeds. • The ground beneath all parked equipment and vehicles shall be inspected for wildlife before moving. **BIO-3 Worker Environmental Awareness Program.** Prior to project construction, a Worker Environmental Awareness Program shall be developed and implemented by a qualified biologist and shall be available in both English and Spanish. Handouts summarizing potential impacts on special-status biological resources and the potential penalties for impacts on these resources shall be provided to all construction personnel. At a minimum, the education program shall including the following: • the purpose for resource protection; • a description of special-status species including representative photographs and general ecology; • occurrences of USACE, RWQCB, and CDFW regulated features in the project study area; • regulatory framework for biological resource protection and consequences if violated	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		• sensitivity of the species to human activities; • avoidance and minimization measures designed to reduce the impacts on special-status biological resources • environmentally responsible construction practices; • reporting requirements; • the protocol to resolve conflicts that may arise at any time during the construction process; and • workers sign acknowledgement form indicating that the Environmental Awareness Training and Education Program that has been completed, which shall be kept on record. **BIO-4** **Burrowing Owl Avoidance and Minimization.** Take avoidance (pre-construction) surveys for burrowing owl shall be completed prior to project construction. Surveys shall be conducted as detailed within Appendix D of the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game [CDFG] 2012). If burrowing owl is not detected, construction may proceed. • If burrowing owl is identified during the non-breeding season (September 1 through January 31), then a 50-meter buffer will be established by the biological monitor. Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until a CDFW-approved exclusion plan has been implemented. The buffer distance may be reduced if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities. If burrowing owl is identified during the breeding season (February 1 through August 31), then an appropriate buffer will	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		be established by the biological monitor in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until young have fledged. The buffer distance may be reduced in consultation with CDFW if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities. **BIO-5** **Pre-Construction Nesting Bird Survey.** If construction or other project activities are scheduled to occur during the bird breeding season (typically February 1 through August 31 for raptors and March 15 through August 31 for the majority of migratory bird species), a pre-construction nesting-bird survey shall be conducted by a qualified avian biologist to ensure that active bird nests, including those for loggerhead shrike, black-tailed gnatcatcher, and burrowing owl, will not be disturbed or destroyed. The survey shall be completed no more than three days prior to initial ground disturbance. The nesting-bird survey shall include the project site and adjacent areas where project activities have the potential to affect active nests, either directly or indirectly, due to construction activity or noise. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist. If construction activities cease for a period of greater than three days during the bird breeding season, a pre-construction nesting bird survey shall be conducted prior to the commencement of activities. Final construction buffers or setback distances shall be determined by the qualified biologist in coordination with USFWS and CDFW on a case-by-case basis, depending on the species, season in which disturbance shall occur, the type of disturbance, and other factors that could influence susceptibility	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		to disturbance (e.g., topography, vegetation, existing disturbance levels, etc.). **BIO-6a** **Pre-Construction Survey for Special-Status Species.** A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 2 and 3 project sites or that were identified as having a high potential to occur on the sites. These species include, but are not limited to, burrowing owl, loggerhead shrike, and black-tailed gnatcatcher. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken. **BIO-6b** **Pre-Construction Survey for Special-Status Species.** A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 5 project site or that were identified as having a high potential to occur on the site. These species include, but are not limited to, mountain plover, California black rail, merlin, Yuma hispid cotton rat, burrowing owl, black-tailed gnatcatcher, and loggerhead strike. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		measures with the appropriate agency (USFWS, CDFW) may need to be undertaken. **BIO-7a** **Sensitive Habitat Avoidance.** To the greatest extent possible, plans should avoid impacts on blue palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets habitats within the VEGA SES 2 and 3 project sites to minimize potential impacts on special-status species. Excluding these habitats from the projects should also minimize mitigation and permitting requirements to meet the less-than-significance threshold. **BIO-7b** **Sensitive Habitat Avoidance.** To the greatest extent possible, plans should avoid impacts on bush seepweed scrub and tamarisk thicket habitats within the VEGA SES 5 project site to minimize potential impacts to special-status species. Excluding these habitats from the project should also minimize mitigation and permitting requirements to meet the less-than-significance threshold.	
Impact 3.5-2: Impact on riparian habitat or other sensitive natural communities.	Potentially Significant	**BIO-7a** **Sensitive Habitat Avoidance.** **BIO-7b** **Sensitive Habitat Avoidance.** **BIO-8** **Aquatic Resources Regulatory Permitting.** If project-related impacts occur to the riparian areas that may also fall under the jurisdiction of the USACE, CDFW, or RWQCB a regulatory permit with those agencies will be needed prior to the impact occurring. Refer to the ECORP Jurisdiction Delineation Report (2022) for preliminary determination of regulatory limits of areas that may be regulated by the USACE, CDFW, or RWRCB. Permitting includes preparation and submittal of a Pre-Construction Notification under Section 404 of the federal CWA, an Application for Water Quality Certification under Section 401 of the federal CWA, and a Notification of Lake or Streambed Alteration under Section 1600 of the California Fish and Game Code. A completed CEQA document, and Notice of Determination, will be necessary to submit along with the applications. Other items such as finalized project plans, quantities of fill material, supporting technical studies, etc., are also submitted along with the applications. As a part of this	Less than Significant

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures		Significance After Mitigation
			process, the projects must also identify and approve mitigation through the respective agencies. Mitigation can include onsite or offsite options or could include purchase of credits from an existing mitigation or conservation bank or payment of an in-lieu fee to a conservation organization. Types of mitigation can include restoration, creation, rehabilitation, enhancement, or other types of habitat improvement. Typically, the type of mitigation and acreage of mitigation is negotiated with the regulatory agencies during the permitting process.	
		BIO-9	**Minimization of Impacts to Wetland/Riparian Habitat.** Solar panels, structures, and new access roads should not be placed within 50 feet of wetland and riparian habitat boundaries. A construction buffer of 300 feet shall be established around the wetlands and riparian habitat during the bird breading season (February 1 – August 31). Prior to construction, fencing should be installed approximately 10 feet from the wetland and riparian habitat boundaries within 50 feet of the projects. Fencing should be easily visible to construction. The extensive alluvial fan systems should not be used as access roads between the projects.	
Impact 3.5-3: Impact on state or federally-protected wetlands.	Potentially Significant	**BIO-7a** **BIO-7b** **BIO-8** **BIO-9**	**Sensitive Habitat Avoidance.** **Sensitive Habitat Avoidance.** **Aquatic Resources Regulatory Permitting** **Minimization of Impacts to Wetland/Riparian Habitat.**	Less than Significant
Impact 3.5-4: Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Potentially Significant	**BIO-2** **BIO-4** **BIO-5** **BIO-6a** **BIO-6b** **BIO-7a** **BIO-7b**	**General Impact Avoidance and Minimization Measures.** **Burrowing Owl Avoidance and Minimization** **Pre-Construction Nesting Bird Survey.** **Pre-Construction Survey for Special-Status Species.** **Pre-Construction Survey for Special-Status Species.** **Sensitive Habitat Avoidance.** **Sensitive Habitat Avoidance.**	Less than Significant

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures		Significance After Mitigation
Cultural Resources				
Impact 3.6-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.	Potentially Significant	**CR-1**	**Cultural Resources Management Plan.** Project proponent will develop a cultural resources management plan (CRMP) to outline the process for compliance with applicable cultural resources laws, management of resources during operation, and consideration of the effect of decommissioning., the CRMP should include the following: identification of California Native American tribes, identification of long and short term management goals for cultural resources within the project area, evaluation of eligibility for the CRHR and NRHP for all resources within the project area, description of measures to avoid, minimize, or significant impacts to historical resources and historic properties, unanticipated discovery procedures, monitoring needs, curation procedures, anticipated personnel requirements and qualifications. The draft CRMP should be reviewed and approved by the lead agency.	Less than Significant
		CR-2	**Cultural Resources Training.** Project proponent will provide cultural resources training for all project personnel regarding the laws protecting cultural resources, appropriate conduct in the field, and other project-specific issues identified in the CRMP.	
		CR-3	**Construction Monitoring.** A qualified Archaeologist shall be present on site for ground disturbing activities within 100-feet of all unevaluated or sites eligible for inclusion to the NRHP or CRHR. Ground disturbing activities include grubbing, trenching, and grading. Monitoring will be limited to natural surfaces and undisturbed sediments. Monitoring is not required for previously disturbed areas or fill. Monitors will complete daily monitoring reports documenting activities and results of the day. After construction activities have finished a comprehensive monitoring report shall be prepared.	
		CR-4	**Unanticipated Discovery Procedures.** In the event of the discovery of previously unidentified archaeological materials,	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures		Significance After Mitigation
			the contractor shall immediately cease all work activities within approximately 100 feet of the discovery. After cessation of excavation, the contractor shall immediately contact the Imperial County Department of Planning and Development Services. Except in the case of cultural items that fall within the scope of the Native American Grave Protection and Repatriation Act, the discovery of any cultural resource within the project area shall not be grounds for a "stop work" notice or otherwise interfere with the project's continuation except as set forth in this paragraph. In the event of an unanticipated discovery of archaeological materials during construction, the applicant shall retain the services of a qualified professional archaeologist, meeting the Secretary of the Interior's Standards for a Qualified Archaeologist, to evaluate the significance of the materials prior to resuming any construction related activities in the vicinity of the find. If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA and it cannot be avoided, the applicant shall implement an archaeological data recovery program.	
Impact 3.6-3: Disturb human remains.	Potentially Significant	**CR-5**	**Human Remains.** If subsurface deposits believed to be human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist who meets the Secretary of the Interior's Standards for prehistoric and historic archaeology and is familiar with the resources of the region, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find: • If the find includes human remains, or remains that are potentially human, the professional archaeologist shall ensure reasonable protection measures are taken to	Less than Significant

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Imperial County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. • If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC may mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the Imperial County Planning and Development Services Department, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.	
Geology and Soils			
Impact 3.6-2: Possible risks to people and structures	Potentially Significant	**GEO-1** **Prepare Geotechnical Report(s) as Part of Final Engineering for the Project and Implement Required Measures.** Facility design for all project components shall	Less than Significant

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
caused by strong seismic ground shaking.		comply with the site-specific design recommendations as provided by a licensed geotechnical or civil engineer to be retained by the project applicant. The final geotechnical and/or civil engineering report shall address and make recommendations on the following: ▪ Site preparation ▪ Soil bearing capacity ▪ Appropriate sources and types of fill ▪ Potential need for soil amendments ▪ Structural foundations ▪ Grading practices ▪ Soil corrosion of concrete and steel ▪ Erosion/winterization ▪ Seismic ground shaking ▪ Liquefaction ▪ Expansive/unstable soils In addition to the recommendations for the conditions listed above, the geotechnical investigation shall include subsurface testing of soil and groundwater conditions and shall determine appropriate foundation designs that are consistent with the version of the CBC that is applicable at the time building and grading permits are applied for. All recommendations contained in the final geotechnical engineering report shall be implemented by the project applicant. The final geotechnical and/or civil engineering report shall be submitted to Imperial County Public Works Department, Engineering Division for review and approval prior to issuance of building permits.	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Impact 3.6-3: Possible risks to people and structures caused by seismic-related ground failure, including liquefaction.	Potentially Significant	Implement Mitigation Measure GEO-1.	Less than Significant
Impact 3.6-5: Substantial soil erosion or the loss of topsoil.	Potentially Significant	Implement Mitigation Measure GEO-1 and Mitigation Measure HYD-1.	Less than Significant
Impact 3.6-6: Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project.	Potentially Significant	Implement Mitigation Measure GEO-1.	Less than Significant
Impact 3.6-7: Be located on expansive soil, as defined in Table 18 1 B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.	Potentially Significant	Implement Mitigation Measure GEO-1.	Less than Significant
Impact 3.5-9: Impact on paleontological resources.	Potentially Significant	**GEO-2** **Paleontological Resources.** In the event that unanticipated paleontological resources or unique geologic resources are encountered during ground-disturbing activities, work must cease within 50 feet of the discovery and a paleontologist shall be hired to assess the scientific significance of the find. The consulting paleontologist shall have knowledge of local paleontology and the minimum levels of experience and expertise as defined by the Society of Vertebrate Paleontology's Standard Procedures (2010) for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. If any paleontological resources or unique geologic features are found within the project sites, the consulting paleontologist shall prepare a paleontological Treatment and Monitoring Plan to include the methods that will	Less than Significant

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures		Significance After Mitigation
			be used to protect paleontological resources that may exist within the project sites, as well as procedures for monitoring, fossil preparation and identification, curation of specimens into an accredited repository, and preparation of a report at the conclusion of the monitoring program.	
Hydrology/Water Quality				
Impact 3.8-1: Violation of water quality standards.	Potentially Significant	**HYD-1**	**Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration.** The project applicant or its contractor shall prepare a SWPPP specific to the projects and be responsible for securing coverage under SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the appropriate agency prior to commencement of work and shall be made conditions of the contract with the contractor selected to build and decommission the projects. The SWPPP shall incorporate control measures in the following categories: ▪ Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching) ▪ Sediment control practices (e.g., temporary sediment basins, fiber rolls) ▪ Temporary and post-construction on- and off-site runoff controls ▪ Special considerations and BMPs for water crossings and drainages	Less than Significant

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		▪ Monitoring protocols for discharge(s) and receiving waters, with emphasis place on the following water quality objectives: dissolved oxygen, floating material, oil and grease, potential of hydrogen (pH), and turbidity ▪ Waste management, handling, and disposal control practices ▪ Corrective action and spill contingency measures ▪ Agency and responsible party contact information ▪ Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP The SWPPP shall be prepared by a Qualified SWPPP Practitioner and/or Qualified SWPPP Developer with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. BMPs for soil stabilization and erosion control practices and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure. **HYD-2** **Incorporate Post-Construction Runoff BMPs into Project Drainage Plan.** The project Drainage Plan shall adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County	

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Table ES-2. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		Engineer to control and manage the on- and off-site discharge of stormwater to existing drainage systems. Infiltration basins will be integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary.	
Impact 3.10-3: Result in erosion or siltation on- or off-site.	Potentially Significant	Implement Mitigation Measure HYD-1.	Less than Significant
Impact 3.10-4: Increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.	Potentially Significant	Implement Mitigation Measure HYD-2.	Less than Significant
Impact 3.10-5: Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Potentially Significant	Implement Mitigation Measure HYD-1.	Less than Significant
Impact 3.10-8: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Potentially Significant	Implement Mitigation Measures HYD-1 and HYD-2.	Less than Significant

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Statement of Overriding Considerations

CEQA Guidelines Section 15093 requires the Lead Agency to balance, as applicable, the economic, legal, social, and technological, or other benefits of the project against its unavoidable environmental risks when determining whether to approve the project. No significant and unmitigated impacts have been identified for the proposed projects; therefore, the County would not be required to adopt a Statement of Overriding Considerations pursuant to Section 15093 for this project.

Project Alternatives

Alternatives Considered but Rejected

Alternative Site

Section 15126.6(f)(2) of the CEQA Guidelines addresses alternative locations for a project. The key question and first step in the analysis is whether any of the significant effects of the proposed project would be avoided or substantially lessened by constructing the proposed project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need to be considered for inclusion in the EIR. Further, CEQA Guidelines Section 15126.6(f)(1) states that among the factors that may be taken into account when addressing the feasibility of alternative locations are whether the project proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent).

The proponent does not have control of an alternate site; if control were viable, the proponent would have to re-initiate the application process as a new project. Similar to the proposed project site, an alternate site would require environmental review once the proponent has prepared sufficient project description information. At present, the proponent does not have control of an alternate site. This alternative would be the most complex, costly, and time-consuming alternative to implement. It is unknown if the environmental impacts associated with this Alternative would be less than the proposed project because it would be speculative to evaluate an unsecured alternate site. This is primarily due to the fact that the proponent does not have control of an alternate site. Therefore, an alternative site was eliminated from further consideration in this EIR.

Alternatives Evaluated

The environmental analysis for the proposed project evaluated the potential environmental impacts resulting from implementation of the proposed project, as well as alternatives to the project. The alternatives include Alternative 1: No Project/No Development and Alternative 2: Reduced Project Site. A detailed discussion of the alternatives considered is included in Chapter 7. Table ES-3 summarizes the impacts resulting from the proposed projects and the identified alternatives.

Alternative 1: No Project/No Development Alternative

The CEQA Guidelines require analysis of the No Project Alternative (PRC Section 15126). According to Section 15126.6(e), “the specific alternative of ‘no project’ shall also be evaluated along with its impacts. The ‘no project’ analysis shall discuss the existing conditions at the time the Notice of Preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.”

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The No Project/No Development Alternative assumes that the projects, as proposed, would not be implemented and the project site would not be developed.

The No Project/No Development Alternative would not meet a majority of the objectives of the projects. Additionally, the No Project/No Development Alternative would not help California meet its statutory and regulatory goal of increasing renewable power generation, including GHG reduction goals of Assembly Bill (AB) 32 (California Global Warming Solutions Act of 2006).

Alternative 2: Reduced Project Site

The purpose of this alternative is to reduce the size of the project sites to minimize impacts on sensitive vegetation communities and riparian habitat. Iodine bush scrub, bush seepweed scrub, tamarisk thickets, and blue palo verde-ironwood woodland occur within the project sites and are considered sensitive natural communities by CDFW.

In addition, riparian habitat associated with the drainage systems throughout the VEGA SES 2 and 3 project sites consists of blue palo verde-ironwood woodland and tamarisk thickets. Riparian habitat associated with the drainage systems throughout the VEGA SES 5 project site consists of tamarisk thickets.

This alternative would remove the portion of VEGA SES 2 that is located on APN 025-010-006 and remove APN 025-260-019 and a portion of APN 025-260-011 from VEGA SES 5. Therefore, the project site would be reduced by 660 acres from a total of 1,963 acres to 1,303 acres. Figure 7-1 depicts this alternative.

Alternative 2 would meet most of the basic objectives of the proposed projects and should remain under consideration. However, this alternative would make it more difficult to achieve the overall objective of providing a total of 350 MW of renewable solar energy, as there would be less area available for the placement of PV structures.

Environmentally Superior Alternative

Table ES-3 provides a qualitative comparison of the impacts for each alternative compared to the proposed projects. As noted on Table ES-3, the No Project/No Development Alternative would be considered the environmentally superior alternative, since it would eliminate all of the significant impacts identified for the projects. However, CEQA Guidelines Section 15126.6(e)(2) states that “if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.” As shown on Table ES-3, Alternative 2 would be the environmental superior alternative because it would reduce impacts for the following environmental issue areas as compared to the proposed projects: air quality, biological resources, cultural resources, hydrology/water quality, and utilities/service systems.

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Table ES-3. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Aesthetics	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Agricultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact
Air Quality	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Biological Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Cultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* *Less Impact*

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Table ES-3. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Geology and Soils	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact
GHG Emissions	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Hazards and Hazardous Materials	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Hydrology/ Water Quality	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Land Use/Planning	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact

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Table ES-3. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Noise	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Transportation	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Tribal Cultural Resources	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* *Less than Significant* *Comparison to Proposed Project:* Similar Impact
Utilities/Service Systems	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Less Impact

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1 Introduction

This environmental impact report (EIR) has been prepared to meet the requirements of the California Environmental Quality Act (CEQA) for purposes of evaluating the potential environmental impacts, mitigation measures, and alternatives associated with the proposed VEGA SES 2, 3, and 5 Solar Energy Project. This EIR describes the existing environment that would be affected by, and the environmental impacts which could potentially result from the construction and operation of the proposed projects as described in detail in Chapter 2.0 of this EIR.

1.1 Overview of the Proposed Project

The project applicant, Apex Energy Solutions, LLC, proposes to construct and operate an expansive photovoltaic (PV) solar energy facility and associated infrastructure on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA. The project area is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The project area is transected by the Coachella and East Highline Canals and the Union Pacific Railway.

Three separate Conditional Use Permits (CUPs) have been filed with the County, which together define the project sites. The three CUP applications or individual site locations consist of the following:

- CUP 20-0021: VEGA SES 2
- CUP 20-0022: VEGA SES 3
- CUP 20-0023: VEGA SES 5

Table 1-1 identifies the individual assessor parcel numbers (APN) associated with the VEGA SES 2, 3, and 5 sites with their respective acreage and zoning.

Table 1-1. Solar Energy Facility Site Assessor Parcel Numbers, Acreages, and Zoning

Project	APN	Acreage	Zoning
VEGA SES 2 (CUP 20-0021)	025-010-006 (partial)	410	S-2-RE
	025-260-011 (partial)	288	S-2-RE
	025-270-023	625	S-2-RE
	Subtotal	***1,323***	**--**
VEGA SES 3 (CUP 20-0022)	025-010-006 (partial)	230	S-2-RE
	Subtotal	***230***	**--**
VEGA SES 5 (CUP 20-0023)	025-260-011 (partial)	160	S-2-RE
	025-260-019	90	S-2-RE
	025-260-022	160	A-2-RE, A-3-RE, S-2-RE
	Subtotal	***410***	**--**

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Table 1-1. Solar Energy Facility Site Assessor Parcel Numbers, Acreages, and Zoning

Project	APN	Acreage	Zoning
Total Gross Acres		**1,963**	**--**

Notes:
APN = assessor parcel number; A-2-RE = General Agriculture with a Renewable Energy Zone Overlay A-3-RE = Heavy Agriculture with a Renewable Energy Zone Overlay; S-2-RE = Open Space/Preservation with a Renewable Energy Zone Overlay

Collectively, the proposed projects involve the construction of up to 350 megawatt (MW) alternating current (AC) photovoltaic (PV) solar energy facility with an integrated 350 MW battery storage system (not to exceed 700 MW). The projects propose to utilize either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker systems. The projects would include electronic/electrical equipment, on-site substations, interconnection facilities, access roads and fencing. The electrical energy produced by the projects would be conducted through the projects' interconnection facilities to the following:

- VEGA SES 2 – Imperial Irrigation District's (IID) KN/KS Line
- VEGA SES 3 - IID 161 kilovolt (kV) "F" Transmission Line
- VEGA SES 5 - IID 92 kV Midway Substation

The only motorized access to the VEGA SES 2 and 3 project sites, and corresponding Imperial IID utilities is Flowing Wells Road, which is a County maintained road situated on Bureau of Land Management (BLM) public lands. Rights-of-Ways (ROW) grants from the BLM would be required for site access and for interconnection to the IID system. No portion of the VEGA SES 2 and 3 projects, other than access road(s), power lines, and access to IID infrastructure would be located on BLM public lands.

Access would also be required across Bureau of Reclamation (BREC) land for the VEGA SES 3 project, crossing the Coachella Canal. Applications for this ROW have been filed directly with the BREC office.

1.1.1 Agency Roles and Responsibilities

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the project.

County of Imperial

Implementation of the project would involve the following approvals by the County of Imperial:

1. **Approval of Conditional Use Permits (CUPs) – Solar Energy Facility.** Implementation of the projects would require the approval of CUPs by the County to allow for the construction and operation of the proposed solar energy facilities with an integrated battery storage system. The following CUPs are under consideration for approval as evaluated in this EIR:
    - CUP 20-0021: VEGA SES 2
    - CUP 20-0022: VEGA SES 3
    - CUP 20-0023: VEGA SES 5

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The project parcels are currently zoned as A-2-RE (General Agriculture with a Renewable Energy Zone Overlay), A-3-RE (Heavy Agriculture with a Renewable Energy Zone Overlay), and S-2-RE (Open Space/Preservation with a Renewable Energy Zone Overlay).

Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

> *j) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)*
>
> *s) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *z) Electrical substations in an electrical transmission system (500 kv/230 kv/161 kv)*
>
> *bb) Facilities for the transmission of electrical energy (100-200 kv)*
>
> *ww) Resource extraction and energy development as per Division 17*
>
> *aaa) Solar energy electrical generator*

Pursuant to Title 9, Division 5, Chapter 9, the following uses are permitted in the A-3 zone subject to approval of a CUP from Imperial County:

> *i) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)*
>
> *o) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *oo) Major facilities relating to the generation and transmission of electrical energy provided such facilities are not under State or Federal law, to be approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters, meeting the requirements in Division 17.*
>
> *zz) Solar energy plants meeting the requirements in Division 17*

Pursuant to Title 9, Division 5, Chapter 19, the following uses are permitted in the S-2 zone subject to approval of a CUP from Imperial County:

> *d) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *i) Major facilities relating to the generation and transmission of electrical energy provide[d] such facilities are not under State or Federal law, to [be] approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters. Such uses shall include but be limited to the following:*
>
> - *Electrical generation plants*

- *Facilities for the transmission of electrical energy (100-200 kV)*
- *Electrical substations in an electrical transmission system (500 kv/230 kv/161 kV)*

2. **Approval of CUPs (CUP 22-0025 and -0026) – Groundwater Wells.** Pursuant to Title 9 Division 21: Water Well Regulations, §92102.00, the Applicant will be required to obtain a CUP for each proposed on-site groundwater well. As required by §92102.00, no person shall (1) drill a new well, (2) activate a previously drilled but unused well, (unused shall mean a well or wells that have not been used for a 12 month) period by installing pumps, motors, pressure tanks, piping, or other equipment necessary or intended to make the well operational, (3) increase the pumping capacity of a well, or (4) change the use of a well, without first obtaining a CUP through the County Planning & Development Services Department.
3. **Certification of the EIR.** After the required public review for the Draft EIR, the County will respond to written comments, edit the document, and produce a Final EIR to be certified by the Planning Commission and Board of Supervisors prior to making a decision on the project.

Subsequent ministerial approvals may include, but are not limited to:

- Grading and clearing permits
- Building permits
- Reclamation plan
- Encroachment permits
- Transportation permit(s)

Other Agencies Reviews and/or Consultations

The following agencies may be involved in reviewing and/or consultations with the project proponent as it relates to construction of the project:

Federal

UNITED STATES FISH AND WILDLIFE SERVICE

- The United States Fish and Wildlife Service (USFWS) enforces compliance with regulations related to special-status species or their habitat as required under the Federal Endangered Species Act (ESA).

UNITED STATES ARMY CORPS OF ENGINEERS

- Section 404 Permit (Clean Water Act [CWA]). The CWA establishes a program to regulate the discharge of dredge and fill material into waters of the U.S. including wetlands. Activities regulated under this program include fills for development, water resource projects (e.g., dams and levees), infrastructure development (e.g., highways and airports), and conversion of wetlands to uplands for farming and forestry. Either an individual 404b permit or authorization to use an existing USACE Nationwide Permit will need to be obtained if any portion of the construction requires fill into a river, stream, or stream bed that has been determined to be a jurisdictional waterway.

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BUREAU OF LAND MANAGEMENT (BLM)

- Right-of-way easement to use Flowing Wells Road for access during construction and maintenance
- Right-of-way grant for the off-site gen-tie lines to be located on federal lands under the jurisdiction of the BLM

BUREAU OF RECLAMATION

- Right-of-way easement to cross the Coachella Canal to access the project site (APN 025-010-006)

State

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (TRUSTEE AGENCY)

- The California Department of Fish and Wildlife (CDFW) is a Trustee Agency and enforces compliance with regulations related to California special-status species or their habitats as required under the California Endangered Species Act (CESA).

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

- **National Pollution Discharge Elimination System Construction General Permit Order No. 2009-009-DWQ.** Requires the applicant to file a public Notice of Intent to discharge stormwater and to prepare and implement a stormwater pollution prevention plan (SWPPP).
- **Jurisdictional Waters.** Agencies and/or project proponents must consultant with the California Regional Water Quality Control Board (RWQCB) regarding, when applicable, regarding compliance with the CWA Section 401 Water Quality Certification or permitting under California Porter-Cologne Act.

Local

IMPERIAL COUNTY FIRE DEPARTMENT

- Review as part of the EIR process including the final design of the proposed fire system.

IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT

- Review as part of the EIR process regarding consistency with the Imperial County Air Pollution Control District (ICAPCD) CEQA Air Quality Handbook, the final “Modified” 2009 8-hour Ozone Air Quality Management Plan, the State Implementation Plan for particulate matter less than 10 microns in diameter (PM_{10}) in the Imperial Valley, the State Implementation Plan (SIP) for particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and verification of Rule 801 compliance.

1.2 Relationship to Statutes, Regulations, and Other Plans

1.2.1 County of Imperial General Plan and Land Use Ordinance

The General Plan provides guidance on future growth in the County of Imperial. Any development in the County of Imperial must be consistent with the General Plan and Land Use Ordinance (Title 9, Division 10).

1.2.2 Renewables Portfolio Standard Program

Established in 2002 under Senate Bill (SB) 1078, California's Renewables Portfolio Standard (RPS) was accelerated in 2006 under SB 107 by requiring that 20 percent of electricity retail sales be served by RE resources by 2010. RE sources include wind, geothermal, and solar. Subsequent recommendations in California energy policy reports advocated a goal of 33 percent by 2020. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order (EO) S-14-08 requiring that "... all retail sellers of electricity shall serve 33 percent of their load with RE by 2020." The following year, EO S-21-09 directed the California Air Resources Board (CARB), under its Assembly Bill (AB) 32 authority, to enact regulations to achieve the goal of 33 percent renewables by 2020.

In the ongoing effort to codify the ambitious 33 percent by 2020 goal, SB X12 was signed by Governor Brown, in April 2011. This new RPS preempts the CARB's 33 percent Renewable Electricity Standard and applies to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities had to adopt the new RPS goals of 20 percent of retails sales from renewables by the end of 2013, 25 percent by the end of 2016, and the 33 percent requirement being met by the end of 2020.

Governor Brown signed into legislation SB 350 in October 2015, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible RE resources by 2030. In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

1.2.3 Senate Bill 32

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by Executive Order (EO) B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

1.2.4 Title 17 California Code of Regulations, Subchapter 10, Article 2, Sections 95100 et seq.

These CARB regulations implement mandatory GHG emissions reporting as part of the California Global Warming Solutions Act of 2006.

1.2.5 Federal Clean Air Act

The legal authority for federal programs regarding air pollution control is based on the 1990 Clean Air Act (CAA) Amendments. These are the latest in a series of amendments made to the CAA. This legislation modified and extended federal legal authority provided by the earlier Clean Air Acts of 1963 1970, and 1977.

The Air Pollution Control Act of 1955 was the first Federal legislation involving air pollution. This Act provided funds for federal research in air pollution. The CAA of 1963 was the first Federal legislation regarding air pollution control. It established a federal program within the U.S. Public Health Service and authorized research into techniques for monitoring and controlling air pollution. In 1967, the Air

Quality Act was enacted in order to expand Federal government activities. In accordance with this law, enforcement proceedings were initiated in areas subject to interstate air pollution transport. As part of these proceedings, the Federal government for the first time conducted extensive ambient monitoring studies and stationary source inspections.

The Air Quality Act of 1967 also authorized expanded studies of air pollutant emission inventories, ambient monitoring techniques, and control techniques.

1.2.6 Imperial County Air Pollution Control District

The ICAPCD enforces rules and regulations regarding air emissions associated with various activities, including construction and farming, and operational activities associated with various land uses, in order to protect the public health.

1.2.7 Federal Clean Water Act (33 United States Code Section 1251-1387)

The Federal Water Pollution Control Act (33 United States Code [USC] §§1251-1387), otherwise known as the CWA, is a comprehensive statute aimed at restoring and maintaining the chemical, physical and biological integrity of the nation's waters. Enacted originally in 1948, the Act was amended numerous times until it was reorganized and expanded in 1972. It continues to be amended almost every year. Primary authority for the implementation and enforcement of the CWA rests with the U.S. Environmental Protection Agency (EPA). In addition to the measures authorized before 1972, the Act authorizes water quality programs, requires federal effluent limitations and state water quality standards, requires permits for the discharge of pollutants into navigable waters, provides enforcement mechanisms, and authorizes funding for wastewater treatment works construction grants and state revolving loan programs, as well as funding to states and tribes for their water quality programs. Provisions have also been added to address water quality problems in specific regions and specific waterways.

Important for wildlife protection purposes are the provisions requiring permits to dispose of dredged and fill materials into navigable waters. Permits are issued by the United States Army Corps of Engineers (USACE) under guidelines developed by EPA pursuant to Section 404 of the CWA.

1.2.8 Federal Clean Water Act and California Porter-Cologne Water Quality Control Act

The project is located within the Colorado River Basin RWQCB, Region 7. The CWA and the California Porter-Cologne Water Quality Control Act require that Water Quality Control Plans (more commonly referred to as Basin Plans) be prepared for the nine state-designated hydrologic basins in California. The Basin Plan serves to guide and coordinate the management of water quality within the region.

1.2.9 Federal Endangered Species Act

The ESA (16 USC 1531-1544) provides protection for plants and animals whose populations are dwindling to levels that are no longer sustainable in the wild. The Act sets out a process for listing species, which allows for petition from any party to list a plant or animal. Depending on the species, USFWS or the National Marine Fisheries Service (NMFS) will determine whether listing the species is warranted. If it is warranted, the species will be listed as either threatened or endangered. The

difference between the two categories is one of degree, with endangered species receiving more protections under the statute.

1.2.10 National Historic Preservation Act

Federal regulations (36 Code of Federal Regulations [CFR] Part 800.2) define historic properties as "any prehistoric or historic district, site, building, structure, or object included, or eligible for inclusion in, in the National Register of Historic Places (NRHP)." The term "cultural resource" is used to denote a historic or prehistoric district, site, building, structure, or object, regardless of whether it is eligible for the NRHP.

1.2.11 California Endangered Species Act

CESA is enacted through Government Code Section 2050. Section 2080 of the California Fish and Game Code (FGC) prohibits "take" of any species that the commission determines to be an endangered species or a threatened species. Take is defined in Section 86 of the FGC as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

CESA allows for take incidental to otherwise lawful development projects. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate mitigation planning to offset project-caused losses of listed species populations and their essential habitats.

1.2.12 California Lake and Streambed Program (Fish and Game Code Section 1602)

CDFW is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the FGC (Section 1602) requires an entity to notify CDFW of any proposed activity that may substantially modify a river, stream, or lake.

1.3 Purpose of an EIR

The purpose of an EIR is to analyze the potential environmental impacts associated with a project. CEQA (Section 15002) states that the purpose of CEQA is to: (1) inform the public and governmental decision makers of the potential, significant environmental impacts of a project; (2) identify the ways that environmental damage can be avoided or significantly reduced; (3) prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and (4) disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

1.4 EIR Process

1.4.1 Availability of Reports

This Draft EIR has been distributed to various federal, state, regional, local agencies and interested parties for a 50-day public review period, from December 14, 2022, through February 2, 2023, in accordance with Section 15087 of the CEQA Guidelines. This Draft EIR and documents incorporated by reference are available for public review at the County of Imperial Planning and Development

Services Department, 801 Main Street, El Centro, California 92243. Documents may be reviewed during regular business hours.

David Black, Planner IV

County of Imperial, Planning and Development Services Department

801 Main Street

El Centro, California 92243

Comments received during the public review period of the Draft EIR will be reviewed and responded to in the Final EIR. The Final EIR will then be reviewed by the Imperial County Planning Commission and Board of Supervisors as a part of the procedure to adopt the EIR. Additional information on this process may be obtained by contacting the County of Imperial Planning and Development Services Department at (442) 265-1736.

1.4.2 Public Participation Opportunities/Comments and Coordination

Notice of Preparation

The County of Imperial issued a notice of preparation (NOP) for the preparation of an EIR for the VEGA SES 2, 3, and 5 Solar Energy Project on May 4, 2021. The NOP was distributed to city, county, state, and federal agencies, other public agencies, and various interested private organizations and individuals in order to define the scope of the EIR. The NOP was also published in the Imperial Valley Press and The Desert Review on May 4, 2021. The purpose of the NOP was to identify public agency and public concerns regarding the potential impacts of the projects, and the scope and content of environmental issues to be addressed in the EIR. Correspondence in response to the NOP was received from the following entities and persons:

- California Department of Transportation
- Native American Heritage Commission
- V&V Farms, LLC

The comments submitted on the NOP during the public review and comment period are included as Appendix A to this EIR.

Scoping Meeting and Environmental Evaluation Committee

During the NOP public review period, the VEGA SES 2, 3 and 5 Solar Energy Project was discussed as an informational item at the County's Environmental Evaluation Committee meeting on May 13, 2021.

Additionally, a virtual scoping meeting for the general public as well public agencies was held on May 13, 2021 at 6:00 p.m., to further obtain input as to the scope of environmental issues to be examined in the EIR. The NOP, which included the scoping meeting date and location, was published in the Imperial Valley Press and The Desert Review on May 4, 2021. A virtual meeting was held by the Imperial County Planning & Development Services Department. At the scoping meeting, members of the public were invited to ask questions regarding the proposed projects and the environmental review process, and to comment both verbally and in writing on the scope and content of the EIR. No written or verbal comments were received during the scoping meeting.

1.4.3 Environmental Topics Addressed

Based on the analysis presented in the NOP and the information provided in the comments to the NOP, the following environmental topics are analyzed in this EIR.

- Aesthetics
- Agriculture Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- GHG Emissions
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use and Planning
- Noise and Vibration
- Public Services
- Transportation
- Tribal Cultural Resources
- Utilities/Service Systems (Water Supply)

Eliminated from Further Review in Notice of Preparation

The initial study (IS)/NOP completed by the County (Appendix A of this EIR) determined that environmental effects to Forestry Resources, Energy, Mineral Resources, Population/Housing, Public Services, Recreation, Utilities (Wastewater, Stormwater, and Solid Waste), and Wildfire would not be potentially significant. Therefore, these impacts are not addressed in this EIR; however, the rationale for eliminating these issues is discussed in Chapter 6.0, Effects Found Not Significant.

1.4.4 Areas of Controversy and Issues to be Resolved

Section 15123(b)(2) of the CEQA Guidelines requires that an EIR identify areas of controversy known to the Lead Agency, including issues raised by other agencies and the public as well as issues to be resolved. A primary issue associated with this solar farm project, and other solar facility projects that are proposed in the County, is the corresponding land use compatibility and fiscal/economic impacts to the County. Through the environmental review process for this project, other areas of concern and issues to be resolved include water supply; relocation, modification, or reconstruction of IID facilities; and access.

1.4.5 Document Organization

The structure of the Draft EIR is identified below. The Draft EIR is organized into 11 chapters, including the Executive Summary.

- The **Executive Summary** provides a summary of the proposed projects, including a summary of project impacts, mitigation measures, and project alternatives.
- **Chapter 1 Introduction** provides a brief introduction of the proposed projects; relationship to statutes, regulations and other plans; the purpose of an EIR; public participation opportunities; availability of reports; and comments received on the NOP.
- **Chapter 2 Project Description** provides a description of the VEGA SES 2, 3 & 5 Solar Energy Projects. This chapter also defines the goals and objectives of the proposed projects, provides details regarding the individual components that together comprise the project, and identifies the discretionary approvals required for implementation of the project.
- **Chapter 3 Environmental Analysis** provides a description of the existing environmental setting and conditions, an analysis of the environmental impacts of the project for the following

environmental issues: aesthetics; agricultural resources; air quality; biological resources; cultural resources; geology and soils; GHG emissions; hydrology/water quality; land use and planning; noise and vibration; transportation; tribal cultural resources; and utilities/service systems. This chapter also identifies mitigation measures to address potential impacts to the environmental issues identified above.

- **Chapter 4 Analysis of Long-Term Effects** provides an analysis of growth inducing impacts, significant irreversible environmental changes, and unavoidable adverse impacts.
- **Chapter 5 Cumulative Impacts** discusses the impact of the proposed projects in conjunction with other planned and future development in the surrounding areas.
- **Chapter 6 Effects Found Not to be Significant** lists all the issues determined to not be significant as a result of the preparation of this EIR.
- **Chapter 7 Alternatives** analyzes the alternatives to the proposed projects.
- **Chapter 8 References** lists the data references utilized in preparation of the EIR.
- **Chapter 9 EIR Preparers and Organizations Contacted** lists all the individuals and companies involved in the preparation of the EIR, as well as the individuals and agencies consulted and cited in the EIR.

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2 Project Description

Chapter 2 provides a description of the VEGA SES 2, 3, and 5 Solar Energy Projects. This chapter also defines the goals and objectives of the proposed projects, provides details regarding the individual components that together comprise the projects, and identifies the discretionary approvals required for project implementation of each of the projects.

2.1 Project Location

The project applicant, Apex Energy Solutions, LLC, proposes to construct and operate an expansive photovoltaic (PV) solar energy facility, battery energy storage system (BESS), and associated infrastructure on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA. The project area is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The project area is transected by the Coachella and East Highline Canals and the Union Pacific Railway.

Three separate Conditional Use Permits (CUPs) have been filed with the County for the construction and operation of the solar facilities, which together define the project sites. The three CUP applications or individual site locations consist of the following:

- CUP 20-0021: VEGA SES 2
- CUP 20-0022: VEGA SES 3
- CUP 20-0023: VEGA SES 5

Table 2-1 identifies the individual assessor parcel numbers (APN) associated with the VEGA SES 2, 3, and 5 sites with their respective acreage and zoning.

Table 2-1. Solar Energy Facility Site Assessor Parcel Numbers, Acreages, and Zoning

Project	APN	Acreage	Zoning
VEGA SES 2 (CUP 20-0021)	025-010-006 (partial)	410	S-2-RE
	025-260-011 (partial)	288	S-2-RE
	025-270-023	625	S-2-RE
	Subtotal	***1,323***	**--**
VEGA SES 3 (CUP 20-0022)	025-010-006 (partial)	230	S-2-RE
	Subtotal	***230***	**--**
VEGA SES 5 (CUP 20-0023)	025-260-011 (partial)	160	S-2-RE
	025-260-019	90	S-2-RE
	025-260-022	160	A-2-RE, A-3-RE, S-2-RE
	Subtotal	***410***	**--**

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Table 2-1. Solar Energy Facility Site Assessor Parcel Numbers, Acreages, and Zoning

Project	APN	Acreage	Zoning
Total Gross Acres		**1,963**	**--**

Notes:
APN = assessor parcel number; A-2-RE = General Agriculture with a Renewable Energy Zone Overlay A-3-RE = Heavy Agriculture with a Renewable Energy Zone Overlay; S-2-RE = Open Space/Preservation with a Renewable Energy Zone Overlay

2.1.1 VEGA SES 2

The VEGA SES 2 project site is located on three non-contiguous parcels (APNs 025-010-006 [partial], 025-260-011 [partial], and 025-270-023).

The northernmost parcel, APN 025-010-006, comprises 640 acres. The VEGA SES 2 project site is located on the southern 410 acres of the 640-acre parcel. This parcel is approximately 2.31 miles northeast of the East Highline Canal Road/Wiest Road/Flowing Wells Road intersection. This parcel is transected by Coachella Canal Road (intersected by Flowing Wells Road approximately halfway through the parcel) and the Coachella Canal, which runs southeast parallel to the roadway.

The southwestern parcel, APN 025-260-011, comprises 488 acres. The VEGA SES 2 project is located on the northern 288 acres of the 488-acre parcel.

The southeastern parcel, APN 025-270-023, encompasses approximately 625 acres and is adjacent to the southeast corner of APN 025-010-006. An approximately 934-foot segment of the Coachella Canal traverses the southwestern corner of the parcel. This parcel is transected by Niland Pegleg Well Road and Ted Kipf Road in the northern half of the parcel.

2.1.2 VEGA SES 3

The VEGA SES 3 project site is located on the northern portion of APN 025-010-006, comprising the remaining 230 acres of the 640-acre parcel.

2.1.3 VEGA SES 5

The VEGA SES 5 project site is located on three parcels (APNs 025-260-011 [partial], 025-260-019 and 025-260-022) encompassing approximately 410 acres. A portion of the VEGA SES 5 project site is located on the southern 160 acres of APN 025-260-011. APN 025-260-019 is adjacent to the Union Pacific Railway and Noffsinger Road to the northeast. APN 025-260-022 is adjacent to Wiest Road to the west and McDonald Road to the north and transected by East Highline Canal Road and the East Highline Canal.

The agricultural portion of VEGA SES 5 (APN 025-260-022) that is west of the East Highline Canal contains fallow agricultural land with scattered dry crop residue. The agricultural field is bounded by McDonald Road to the north, Schrimpf Road to the south, and Weist Road to the west. The East Highline Canal cuts across APN 025-260-022 diagonally in a northwest to southeast direction. Within the agricultural portion of the VEGA SES 5 project site, there are subsurface tile drainage pipelines that are generally aligned north to south and carry irrigation wastewater to the N Drain at the southwest corner of the field.

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Figure 2-1. Regional Location

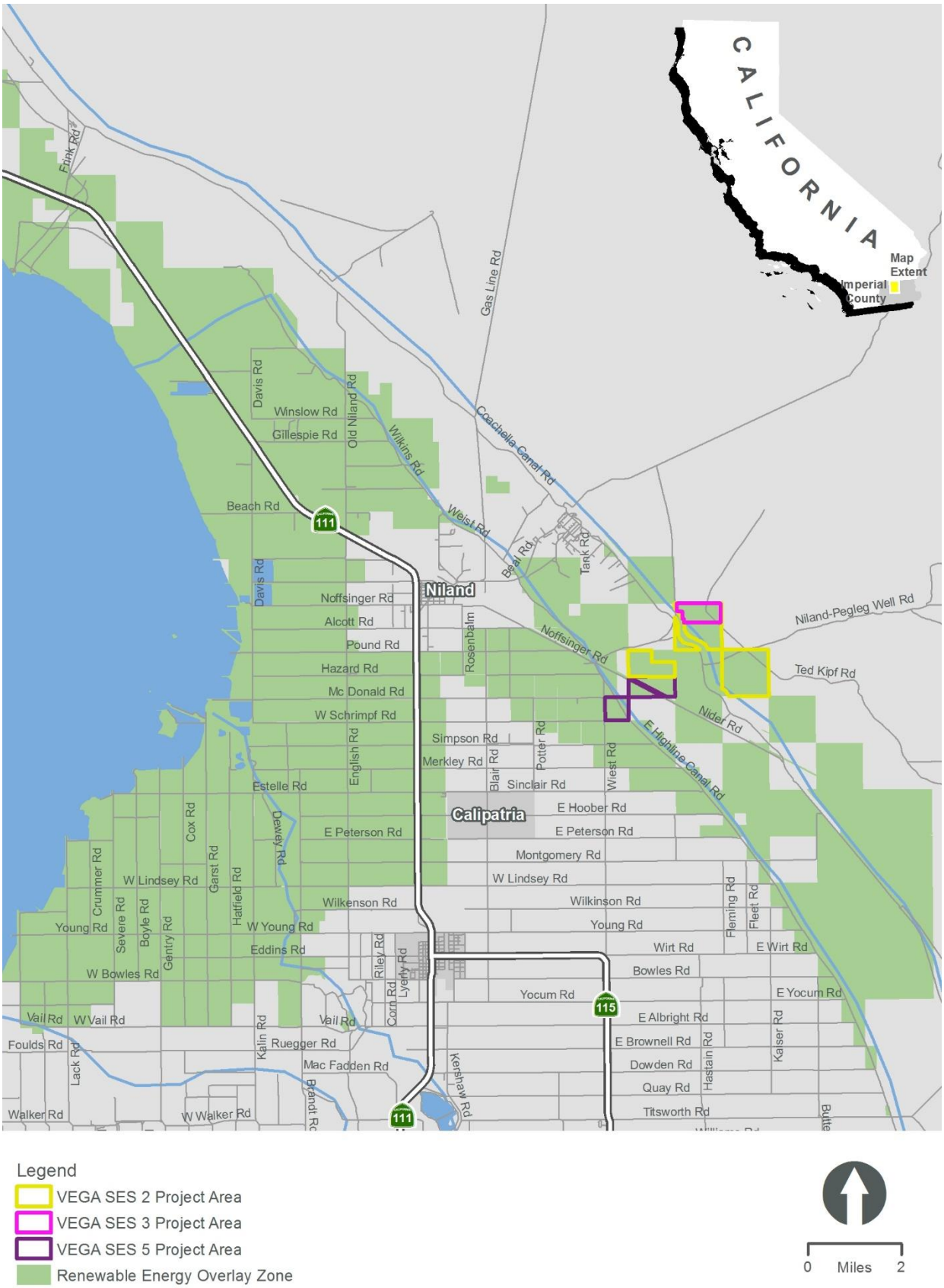

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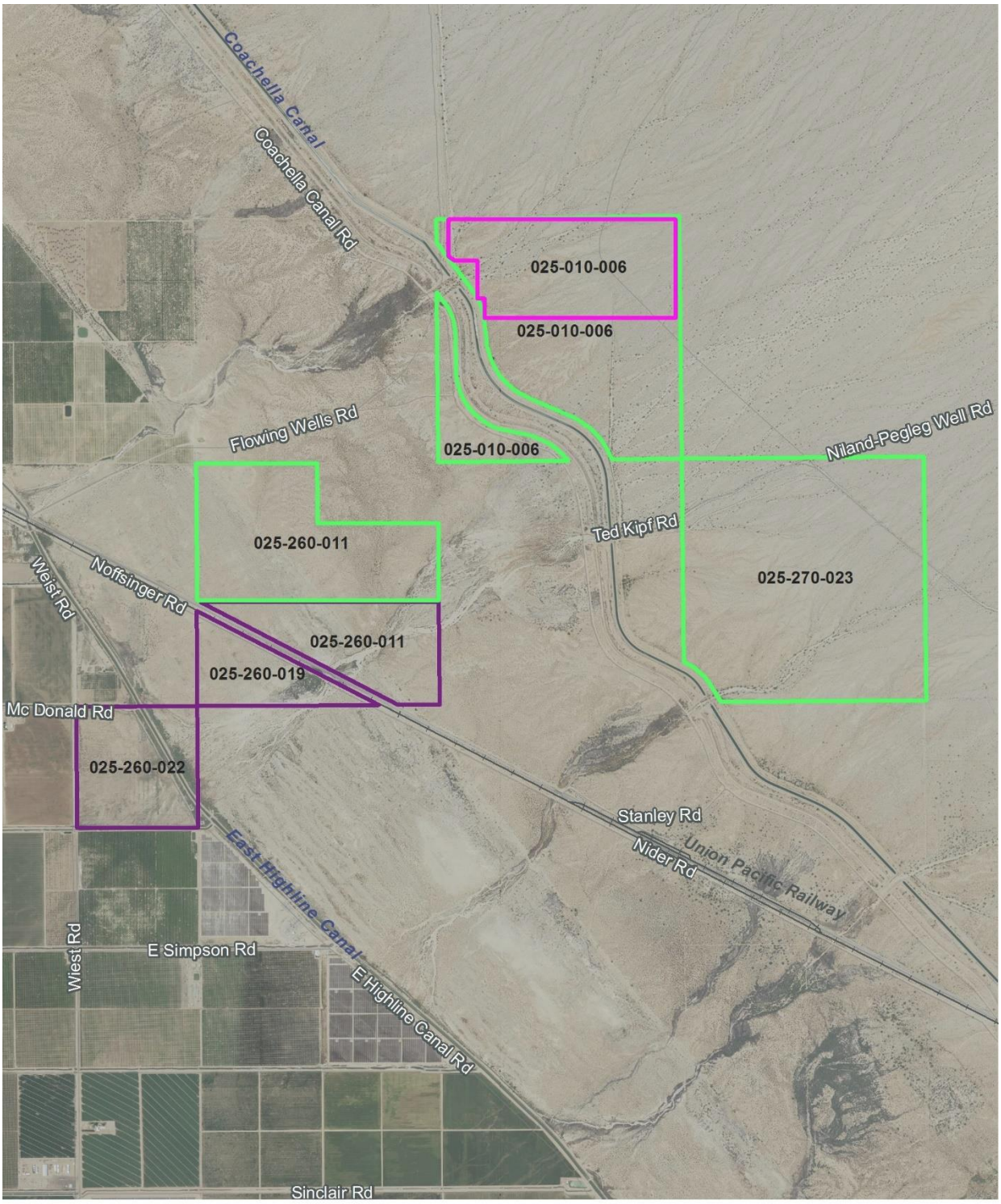
Figure 2-2. Project Sites



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2.1.4 Renewable Energy Overlay Zone

In 2016, the County adopted the Imperial County Renewable Energy and Transmission Element, which includes an RE Zone (RE Overlay Map). This General Plan element was created as part of the California Energy Commission Renewable Energy Grant Program to amend and update the County's General Plan to facilitate future development of renewable energy projects.

The County Land Use Ordinance, Division 17, includes the RE Overlay Zone, which authorizes the development and operation of renewable energy projects with an approved CUP. The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of renewable energy facilities while minimizing the impact on other established uses. CUP applications proposed for specific renewable energy projects not located in the RE Overlay Zone would not be allowed without an amendment to the RE Overlay Zone.

As shown on Figure 2-1, the project sites are located within the RE Overlay Zone. Therefore, no General Plan Amendment or Rezone would be required to implement the proposed projects.

2.2 Project Objectives

- Construct and operate a solar energy facility capable of producing up to 350 megawatt (MW) alternating current (AC) of electricity to assist the State of California in achieving its 60 percent renewable portfolio standard by 2030.
- Provide a 700 MW energy (battery storage) system, that would accommodate and store the power generated by the project so that the facility can continue to provide renewable energy during non-daylight hours.
- Interconnect directly to IID's existing electrical transmission system.
- Help California meet its statutory and regulatory goal of increasing renewable power generation, including greenhouse gas reduction goals of Senate Bill 32.
- Minimize and mitigate any potential impact to sensitive environmental resources within the project area.

2.3 Project Characteristics

The proposed projects (VEGA SES 2, 3, and 5) would involve the construction and operation of an expansive PV solar energy facility and associated infrastructure on approximately 1,963 acres of privately-owned land. The project sites would be developed with a ground mounted PV solar power generating system, supporting structures, on-site substations, battery energy storage system (BESS), interconnection facilities, and internal access roads. The projects would employ the use of PV power systems to convert solar energy into electricity using non-reflective technology.

Collectively, the proposed projects involve the construction of up to 350 megawatt (MW) alternating current (AC) photovoltaic (PV) solar energy facility (Table 2-2) with an integrated battery storage system (not to exceed 700 MW).

Table 2-2. Megawatt Output

Solar Facility	Proposed Megawatt Output	Battery Storage
VEGA SES 2	240 MW	480 MW
VEGA SES 3	60 MW	120 MW
VEGA SES 5	50 MW	100 MW
Total	**350MW**	**700 MW**

2.3.1 Photovoltaic Panels/Solar Arrays

PV solar cells convert sunlight directly into direct current electricity. The process of converting light (photons) to electricity (voltage) in a solid-state process is called the photovoltaic effect. A number of individual PV cells are electrically arranged and connected into solar PV modules, sometimes referred to as solar panels.

The projects propose to utilize either thin film or crystalline solar photovoltaic (PV) technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems.

The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The depth of the piles would be dependent on the recommendations of the geotechnical report prepared for the projects. The fixed-frame racks would be secured at a fixed tilt of 20-30 degrees from horizontal facing a southerly direction. Current project designs would have individual PV modules, mounted two high on a fixed frame, providing a two-foot ground clearance and resulting in the tops of the panels at approximately 7.5 feet above the ground. The fixed PV modules would be arranged in arrays spaced approximately 15 to 25 feet apart (pile-to-pile) to maximize performance and to allow access for panel cleaning. These arrays would be separated from each other and the perimeter security fence by up to 30-foot wide interior roads.

If HSAT technology is used, the PV modules would rotate around the north-south HSAT axis so that the PV modules would continue to face the sun as the sun moves across the sky throughout the day. The PV modules would reach their maximum height (up to 9 feet above the ground, depending on the final design) at both sunrise and sunset, when the HSAT is rotated to point the modules at the rising or setting sun. At noon, or when stowed during high winds, when the HSAT system is rotated so that the PV modules are horizontal, the nominal height would be about 6 feet above the ground, depending on the final design.

The individual PV systems would be arranged in large arrays by placing them in columns spaced approximately 10 feet apart to maximize operational performance and to allow access for panel cleaning and maintenance. Current project designs would have individual HSAT PV modules, each approximately two feet wide by four feet long (depending on the specific PV technology selected), mounted on a frame which is attached to an HSAT system. The HSAT arrays would be separated from each other and the perimeter security fence by up to 30-foot-wide roads, consistent with Imperial County Fire Department emergency access requirements.

2.3.2 Electrical Power System

Electricity generated by the PV modules would be collected by a direct current (DC) collection system routed underground in trenches. This DC power would be delivered to one of the pad-mounted inverters in weatherproof enclosures located within the arrays. The inverters would convert the DC

power to three-phase alternating current (AC). The inverters could be connected to AC interconnection facilities which, if needed, would raise the voltage to 34.5 kilovolt (kV), or the interconnection voltage selected by the projects. Underground or overhead 12.5 kV or 34.5 kV collection lines would transmit the electricity to the new substations.

2.3.3 Substations, Distribution/Electrical Collection and Transmission

VEGA SES 2

Substations

As shown in Figure 2-3, two new substations would be constructed on the VEGA SES 2 project site. The first substation would be constructed in the northwestern corner of APN 025-260-011 on approximately two acres. The substation would take the delivery of up to 60 kV electricity and increase the voltage of the electricity to 230 kV, where it would feed into the interconnection switching station for metering and delivery to the IID KN/KS Line. The substation would include two transformers, circuit breakers, disconnect switches, microwave or other communication facilities, and an electrical control building.

The second substation would be located in the northwestern corner of APN 025-270-023 on approximately two acres. This substation would be comprised of an underground combiner box used to connect all of the low voltage AC outputs of the inverters, a medium voltage transformer to increased the voltage up to 60 kV, a protective relay system and associated circuit breakers and disconnect switches. This substation would take delivery of the energy generated on APN 025-270-023 and transmit it through the proposed 34.5 kV or 60 kV lines to the primary project substation on APN 025-260-011. The substation would include a transformer, circuit breaker, meters, disconnect switches, and microwave or other communication facilities.

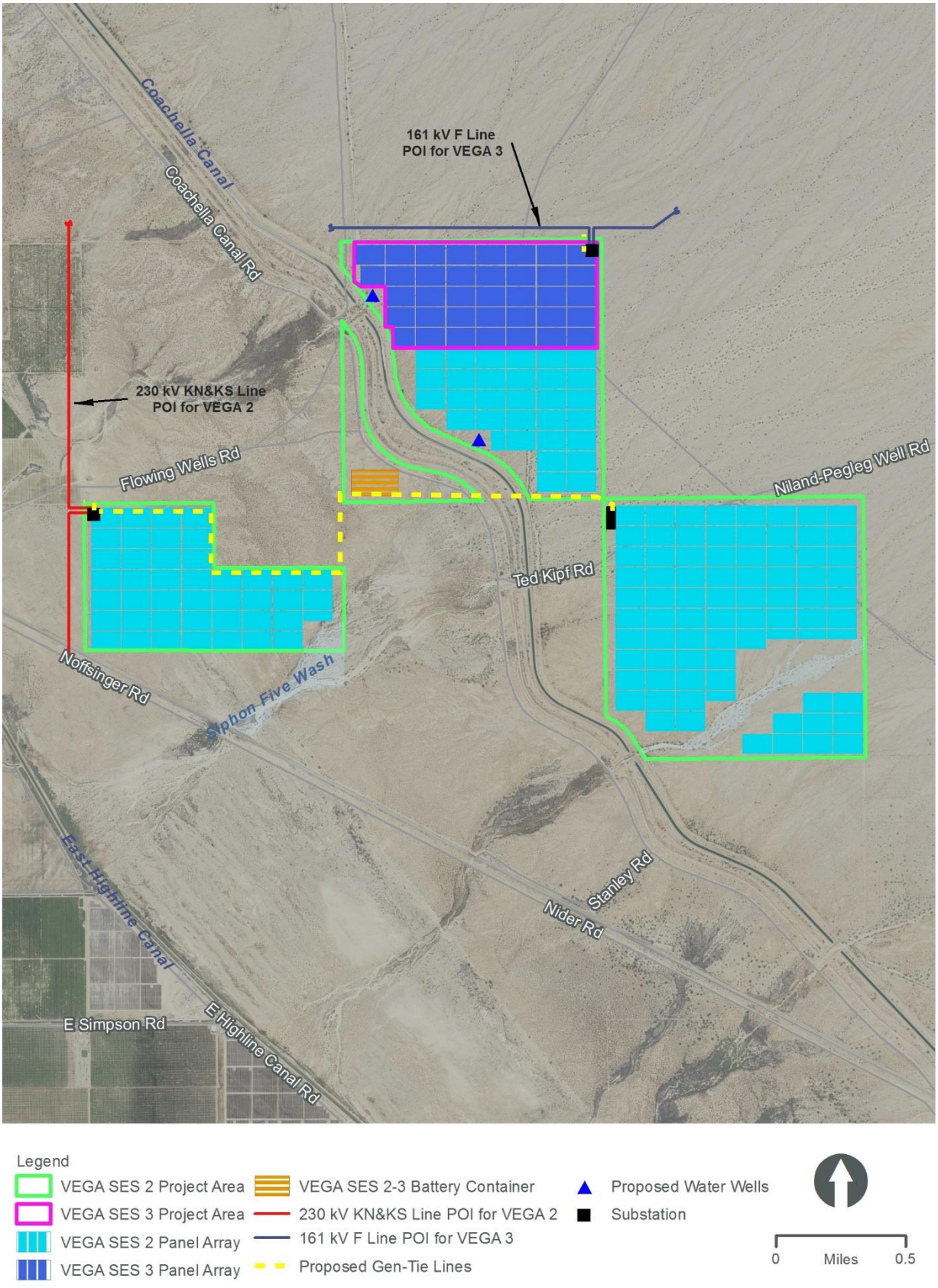
One new interconnection switching station would be constructed on APN 025-260-011, immediately adjacent to the substation. The interconnection switching station and substation would be connected via a single overhead 230 kV line. The switching station would include circuit breakers, switches, overhead bus work, protective relay equipment and an electrical control building. The switching station would operate at 230 kV and be configured in a Breaker-And-A-Half arrangement. This would allow for looping in of one or two of the IID 230 kV lines as well as connection of the total project output at 230 kV. The switching station would be enclosed within its own fence.

To connect the project's interconnection facilities, the medium voltage power produced by the project would be conveyed underground, or above ground where necessary, to cross over any sensitive site features. The design of the project's interconnection facilities would meet all necessary utility standards and requirements. As required, surge arrestors would be used to protect facilities and auxiliary equipment from lightning strikes or other disturbances. Distribution from the site would be via an overhead connection.

Distribution and Interconnection

The VEGA SES 2 project's distribution and interconnection would be as follows: the medium voltage power would be conveyed underground or aboveground via 34.5 kV or 60 kV distribution circuits from the substation located in the northwest corner of 025-270-023 to the substation located in the northwest corner of APN 025-260-011. The height of the proposed gen-tie transmission structures would be 40 feet. The electrical energy produced by the VEGA SES 2 project would be delivered to the IID through the project's interconnection switching station to the IID's 230 kV KN/KS Line.

Figure 2-3. VEGA SES 2 and 3 Site Plan



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BLM Right-of-Way Request – VEGA SES 2

60-Foot-Wide ROW for Gen-Tie Interconnection

As shown in Figure 2-4, there is a portion of the VEGA SES 2 gen-tie line, from the southwest corner of APN 025-010-006 to the northeast corner of APN 025-260-011, that would traverse BLM land. The project applicant is requesting a 60-foot-wide ROW from BLM to construct a portion of the gen-tie line on BLM land.

30-Foot-Wide ROW for Gen-Tie Interconnection

A triangular ROW would be required at the southeastern corner of APN 025-010-006 to the northwestern corner of APN 025-270-023 for overhead powerlines that would span the two corners of these parcels. No power poles would be set within this ROW.

Additionally, BLM approval of two aerial easements would also be required to allow gen-tie connections between the facilities. No ground disturbance would occur associated with the aerial easements.

VEGA SES 3

Substation

A new substation would be constructed on the northwestern corner of the VEGA SES 3 project site. The substation site will comprise approximately two acres. Medium voltage power electricity generated from the site would be conveyed underground, or above ground where necessary, to cross over any sensitive site features, to connect to the substation.

Interconnection

A new interconnection switching station would be constructed immediately adjacent to the substation. The interconnection switching station and substation would be connected via a single overhead 161 kV line. The switching station would include circuit breakers, switches, overhead bus work, protective relay equipment and an electrical control building. The switching station would operate at 161 kV and be configured in a Breaker-And-A-Half or three breaker ring bus arrangement. This would allow for looping in of the IID 161 kV “F” transmission line as well as connection of the project gen-tie line. The switching station would be enclosed within its own fence. As shown in Figure 2-3, the electrical energy produced by the VEGA SES 3 project would be connected to the existing utility approved point of interconnection at the northeast corner of the site to the IID’s 161 kV “F” Line.

The design of the project’s interconnection facilities would meet all necessary utility standards and requirements. As required, surge arrestors would be used to protect facilities and auxiliary equipment from lightning strikes or other disturbances. Distribution from the site would be via an overhead connection.

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BLM Right-of-Way Request – VEGA SES 3

140-Foot-Wide ROW for Gen-Tie Interconnection

As shown in Figure 2-3, the electrical energy produced by the VEGA SES 3 project would be connected to the existing utility approved point of interconnection at the northeastern corner of the site to the IID's 161 kV "F" Line. Because the "F" Line is located on BLM land, the project applicant is requesting a 140-foot-wide ROW from BLM to construct a gen-tie line from the northeastern corner of the site to IID's 161 kV "F" Line to the north (Figure 2-4).

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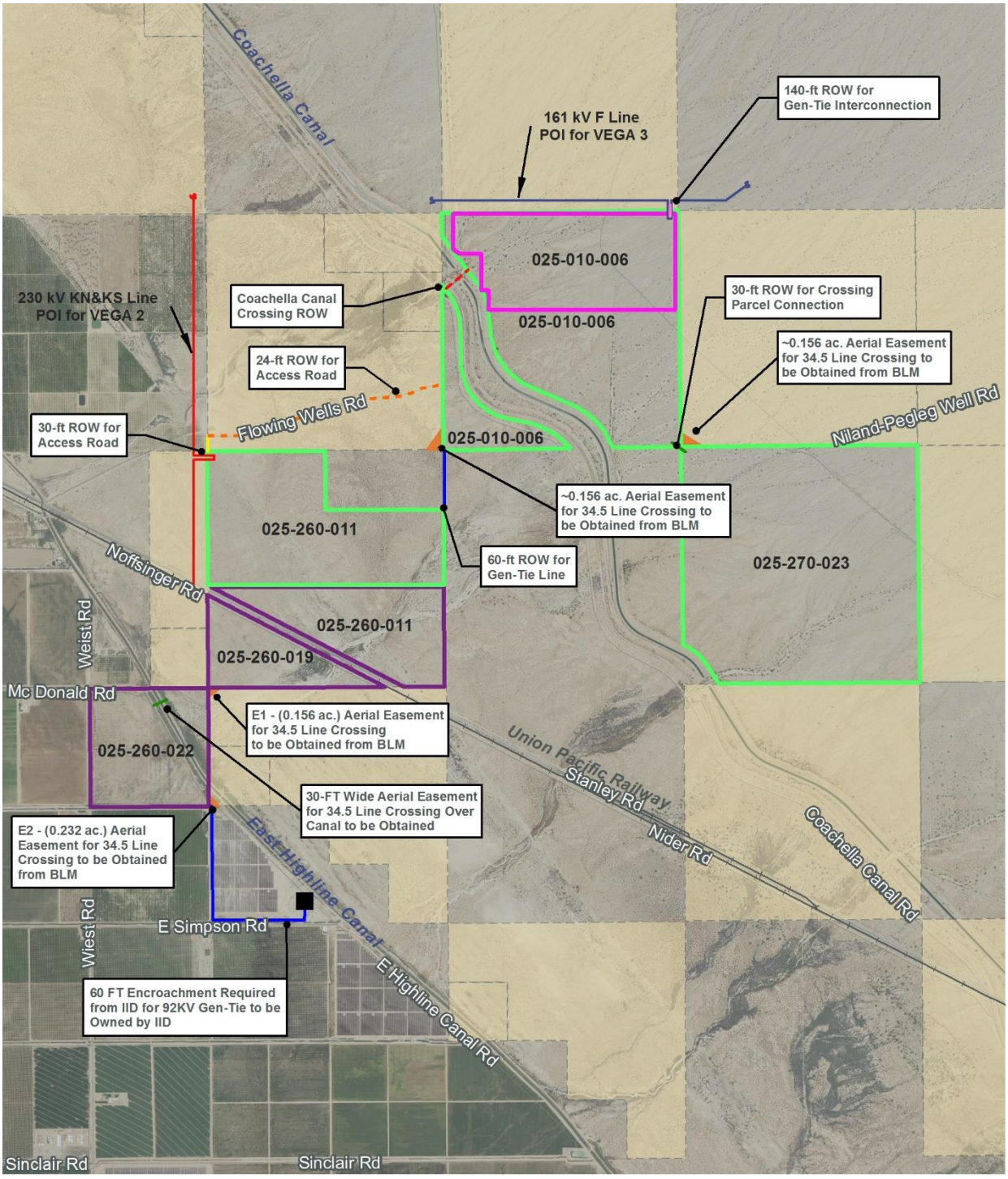
Figure 2-4. Right-of-Way Requests



VEGA SES 5

Substation

A new substation would be constructed on the VEGA SES 5 project site, on the southeastern boundary of APN 025-260-022. This substation would take the delivery of the up to 34.5 kV power generated on the site and increase the voltage of the electricity to 92 kV, where it would be delivered to the IID 92 kV Midway Substation.

Interconnection

The proposed gen-tie line alignment for VEGA SES 5 is depicted on Figure 2-5. The substation would include a transformer, circuit breakers, meters, disconnect switches, and microwave or other communication facilities. The medium voltage power electricity generated from the project would be conveyed underground, or above ground where necessary, to cross over any sensitive site features, to connect to the projects' interconnection facilities.

The design of the project's interconnection facilities would meet all necessary utility standards and requirements. As required, surge arrestors would be used to protect facilities and auxiliary equipment from lightning strikes or other disturbances. Distribution from the site would be via an overhead connection.

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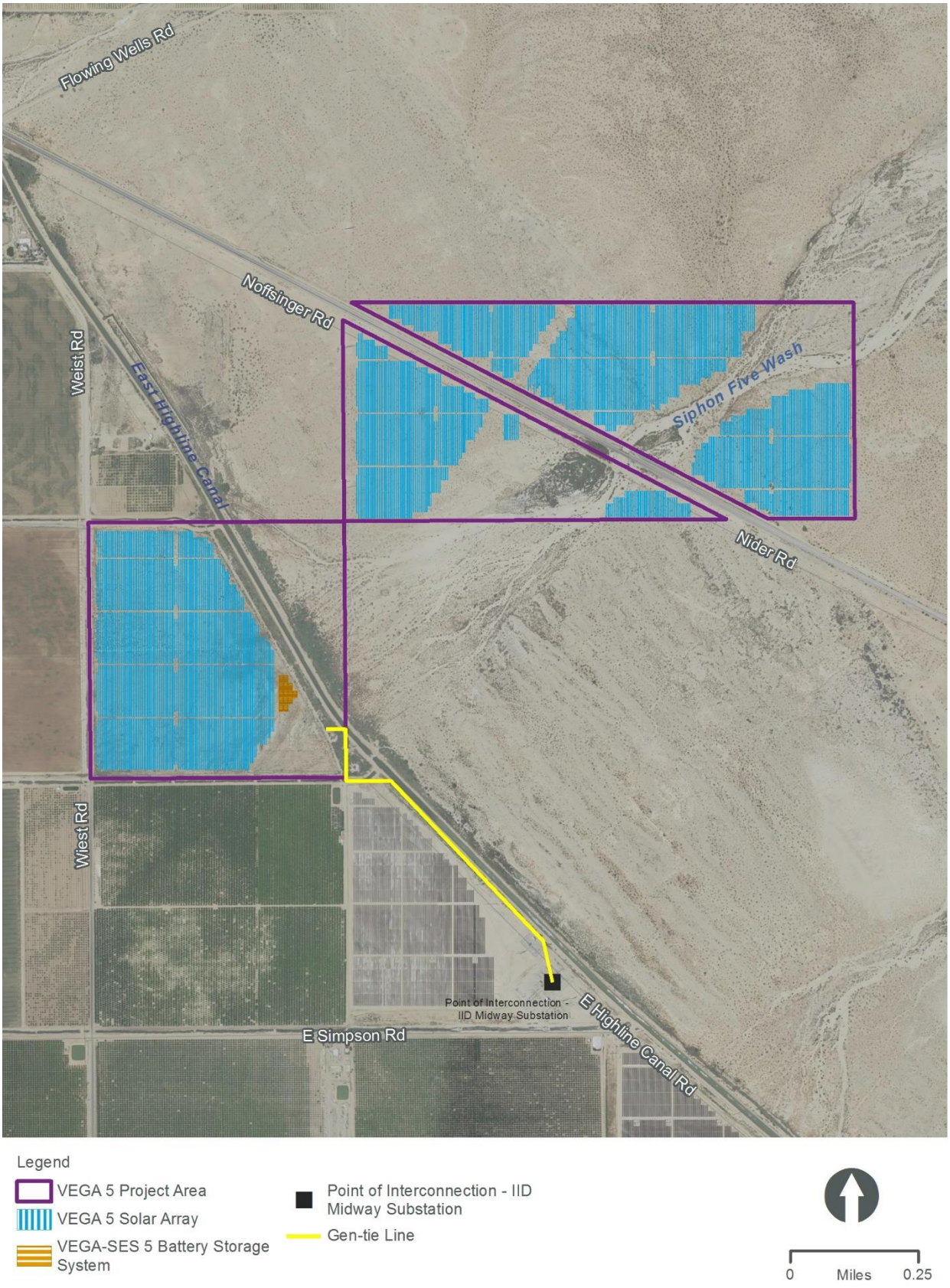
Figure 2-5. VEGA SES 5 Site Plan



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2.3.4 Battery Energy Storage System

A BESS is proposed on an approximately 5-acre site within the VEGA SES 2 project site in the southwestern corner of APN 025-010-006. The BESS on the VEGA SES 5 project site is proposed to be located in the southeastern corner of APN 025-260-022. The proposed BESS would consist of either lithium ion or flow batteries. The batteries will either be housed in storage containers or buildings fitted with HVAC and fire suppression systems as necessary, depending on the final selection of battery technology. Inside the housing the batteries will be placed on racks, the orientation of which depends on the type of housing. Underground trenches with conduits will be used to connect the batteries to the control and monitoring systems, and inverters to convert the PV produced DC power to AC power. Figure 2-6 depicts representative examples of a typical BESS.

Figure 2-6. Representative Example of Battery Energy Storage Systems

2.3.5 Security

Six-foot high security fencing would be installed around the perimeter of each of the project sites at the commencement of construction and site access would be limited to authorized site workers. In addition, a motion detection system and closed-circuit camera system may also be installed. The site would be remotely monitored 24 hours per day, 7 days per week. In addition, routine unscheduled security rounds may be made by the security team monitoring the site security.

2.3.6 Site Access

VEGA SES 2 and 3

The VEGA SES 2 and 3 project sites would include both a primary and secondary access driveway (if required) off adjacent public roads. No new access across IID lateral canals or drains is expected. The project driveways would be provided with a minimum of 30-foot double swing gates with "Knox Box" for keyed entry. Emergency response personnel would be provided with manual override capability in order to access the site facilities. To accommodate emergency access, PV panels would be spaced to maintain proper clearance. Internal access roads, up to 30-foot wide, would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles.

BLM Right-of-Way Requests

The proposed access to both VEGA SES 2 and 3 is through the use of Flowing Wells Road. This existing dirt road, although occasionally maintained by the County of Imperial, is on BLM land and a right-of-way (ROW) approval from the BLM is required. There is no alternative route that either exists or can be used to gain access to the VEGA SES 2 and 3 project sites that do not cross some Federal lands, hence Flowing Wells Road, is the only viable route.

24-Foot-Wide ROW for Access Road

The VEGA SES 2 and 3 projects intend to use Flowing Wells Road for access during construction of the facilities which upon being permitted will take approximately one year of actual construction. As shown in Figure 2-4, the projects propose to obtain a 24-foot-wide ROW for the length of Flowing Wells Road starting approximately 575 feet north of the northwest corner of APN 025-260-011 to APN 025-010-006.

The VEGA SES 2 and 3 projects would not require changes to Flowing Wells Road either in terms of alignment, cross section, width or length. The project applicant is requesting a 24-foot-wide ROW given that the road currently has no designated width. The VEGA SES 2 and 3 projects, if required as part of the permitting or ROW approval, would grade and maintain Flowing Wells Road during construction as required by the BLM, County and/or Air District, including future years maintenance for safe access to the sites. A maintenance agreement with the County/BLM will be included in the conditions of approval.

The use of Flowing Wells Road for construction is considered temporary as it would be used primarily during construction of the VEGA SES 2 and 3 projects. During operation, the sites will be controlled remotely and will not have any on site employees. The solar facilities would require occasional onsite maintenance. Therefore, Flowing Wells Road could require occasional maintenance. Either the County or applicant could perform the maintenance of Flowing Wells Road under an agreement.

30-Foot-Wide ROW for Access Road

The project applicant is requesting a 30-foot-wide ROW from BLM for an access road to connect the northwest corner of the VEGA SES 2 site (APN 025-0260-011) to Flowing Wells Road (Figure 2-4).

Bureau of Reclamation Right-of-Way Request

Access will be needed across Bureau of Reclamation (BREC) land for VEGA SES 3, crossing the Coachella Canal (Figure 2-4). Applications for this ROW have been filed directly with the BREC office.

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VEGA SES 5

The VEGA SES 5 site would include two primary driveways and a secondary driveway (if required). The primary driveway on APN 025-260-19 would be located in the northwestern corner of the parcel off of Noffsinger Road, while the driveway on APN 025-260-022 would be located along Weist Road which runs parallel to the western boundary of the parcel.

The project driveways would be provided with a minimum of 30-foot double swing gates with "Knox Box" for keyed entry. Emergency response personnel would be provided with manual override capability in order to access the site facilities. To accommodate emergency access, PV panels would be spaced to maintain proper clearance. Internal access roads, up to 30-foot wide, would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles.

2.3.7 Fire Protection/Fire Suppression

Fire protection systems for battery systems would be designed in accordance with California Fire Code and would take into consideration the recommendations of the National Fire Protection Association (NFPA) 855.

Fire suppression agents such as Novec 1230 or FM 2000, or water may be used as a suppressant. In addition, fire prevention methods would be implemented to reduce potential fire risk, including voltage, current, and temperature alarms. Energy storage equipment would comply with Underwriters Laboratory (UL)-95401 and test methods associated with UL-9540A. The projects would include lithium-ion batteries. For lithium-ion batteries storage, a system would be used that would contain the fire event and encourage suppression through cooling, isolation, and containment. Suppressing a lithium-ion (secondary) battery is best accomplished by cooling the burning material. A gaseous fire suppressant agent (e.g., 3M™ Novec™ 1230 Fire Protection Fluid or similar) and an automatic fire extinguishing system with sound and light alarms would be used for lithium-ion batteries.

To mitigate potential hazards, redundant separate methods of failure detection would be implemented. These would include alarms from the Battery Management System (BMS), including voltage, current, and temperature alarms. Detection methods for off gas detection would be implemented, as applicable. These are in addition to other potential protective measures such as ventilation, overcurrent protection, battery controls maintaining batteries within designated parameters, temperature and humidity controls, smoke detection, and maintenance in accordance with manufacturer guidelines. Remote alarms would be installed for operations personnel as well as emergency response teams in addition to exterior hazard lighting. In addition, an Incidence Response Plan would be implemented. Additionally, the project applicant would contribute its proportionate share for purchase of any fire-suppression equipment, if determined warranted by the County Fire Department for the proposed projects.

2.4 Site Construction

2.4.1 Construction Activities

Construction activities would primarily involve demolition and grubbing, grading of the project sites to establish access roads and pads for electrical equipment, trenching for underground electrical

collection lines, and the installation of solar equipment and security fencing. Construction of each solar energy facility is estimated to take 12-18 months and would begin in late 2022/early 2023.

Dust generated during construction would be controlled by watering and, as necessary, the use of other dust suppression methods and materials accepted by the Imperial County Air Pollution Control District (ICAPCD).

A temporary, portable construction supply container would be located at each project site at the beginning of construction and removed at the end of construction.

The number of on–site construction workers for the VEGA SES 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the VEGA SES 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on–site construction workers for the VEGA SES 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the VEGA SES 5 battery storage facility and substation is not expected to exceed 50 workers at any one time. Onsite parking would be provided for all construction workers.

2.4.2 Construction Access

As shown in Figure 2-7, primary access to the VEGA SES 2 and 3 project sites will be from SR-111 along McDonald Road to Weist Road. Construction-related traffic would cross the East Highline Canal at Noffsinger Road. Weist Road continues to Flowing Wells Road. The crossing of the Union Pacific (UP) Railroad tracks is at an unsignalized crossing on Weist Road. The VEGA SES 2 and 3 project sites will be accessed from Flowing Wells Road. Weist Road, Noffsinger Road and Flowing Well Roads are unpaved roadways.

For the VEGA SES 5 project, access to and from the site will be from SR-111 along McDonald Road (Figure 2-8). A portion of the site construction traffic will travel to the east side of the East Highline Canal, by using Weist Road and Noffsinger Road. To access the portion of the site east of the UP Railroad tracks, access across the tracks will be made at Flowing Wells Road, and access to the property will be made via an easement that will be acquired. The easement will be a direct vertical south from Flowing Wells Road at the western boundary of APN 025-260-011.

Delivery trucks are expected to follow the same travel route as construction workers. An estimated two trucks would arrive at each project site each day during the first few weeks of construction of each solar facility.

2.4.3 Water Use

The area served by IID is located in the Imperial Valley, which is generally contiguous with IID's Imperial Unit, lies south of the Salton Sea, north of the U.S./Mexico International Border, and generally in the 658,942-acre area between IID's Westside Main and East Highline Canals.

APN 025-260-011 and parts of APN 025-010-006 and APN 025-270-023 are located within IID's East Mesa Unit service area where water is only available for agricultural uses. Thus, there is not a public water system that will serve the VEGA SES 2 and 3 project sites. The water supply will be provided by new onsite groundwater supply wells (see Figure 2-3) to be drilled and installed as part of the VEGA SES 2 and 3 projects.

VEGA SES 5 APN 025-260-011, APN 025-260-019, and the area of APN 025-260-022 east of the East Highline Canal are located within IID's East Mesa Unit, while 114.4 acres of the area of APN 025-

260-022 west of the East Highline Canal is within IID's Imperial Unit. The VEGA SES 5 parcel areas in the East Mesa Unit do not currently have water service from IID. Although water service from IID is currently available for the area of APN 025-260-022 within the Imperial Unit, the project applicant does not plan to use surface water from IID to supply any area of the project. Thus, there are no public water systems that will serve the project. The water supply will be provided by a new onsite groundwater supply well to be drilled and installed as part of the VEGA SES 5 project.

Table 2-3 identifies the estimated water needed during construction of each project.

Table 2-3. Construction Water Use

Project	Construction Water Use (acre feet)
VEGA SES 2 & 3	630 AF
VEGA SES 5	365 AF
Total	**995 AF**

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Figure 2-7. VEGA SES 2 and 3 Access Route

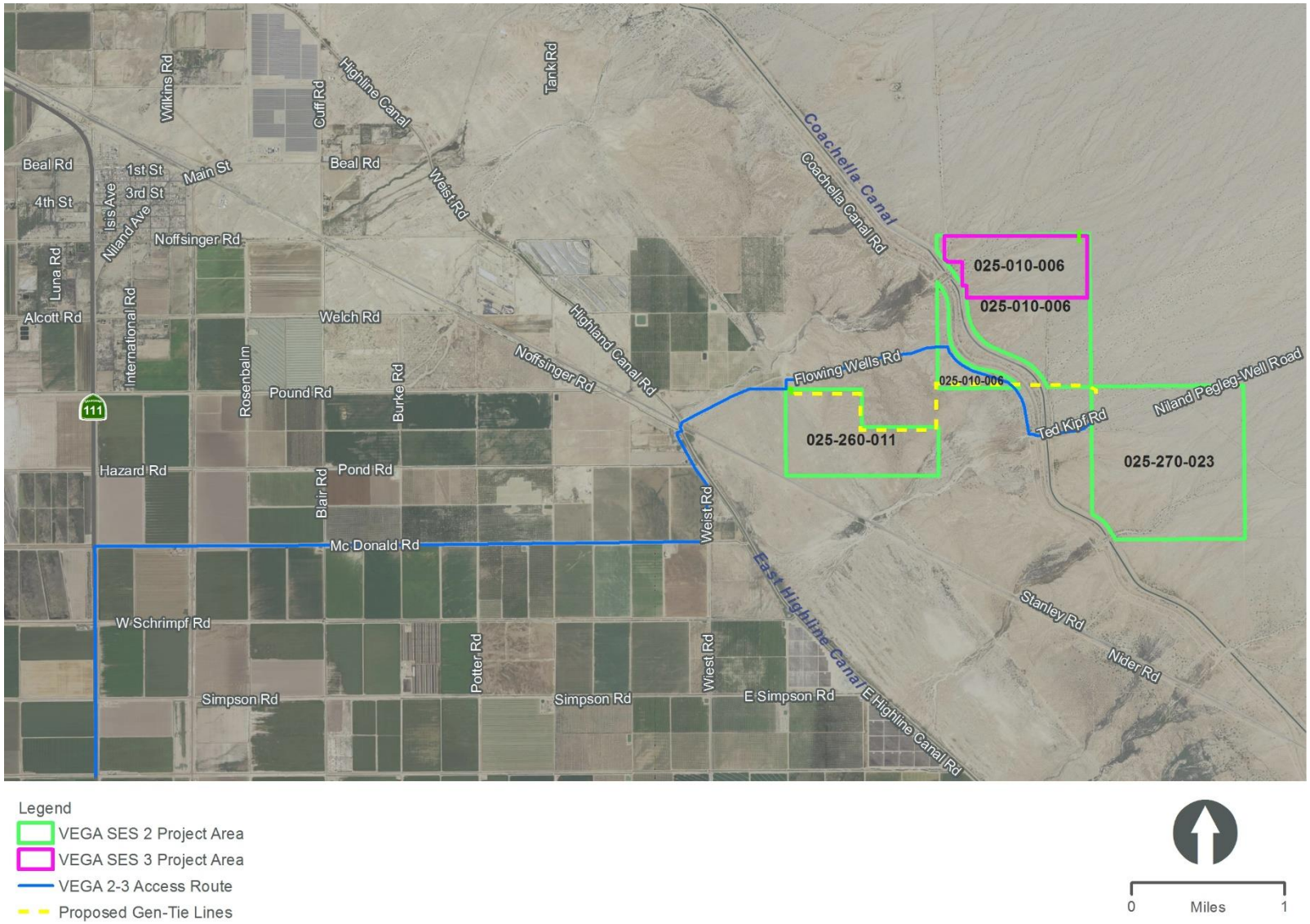

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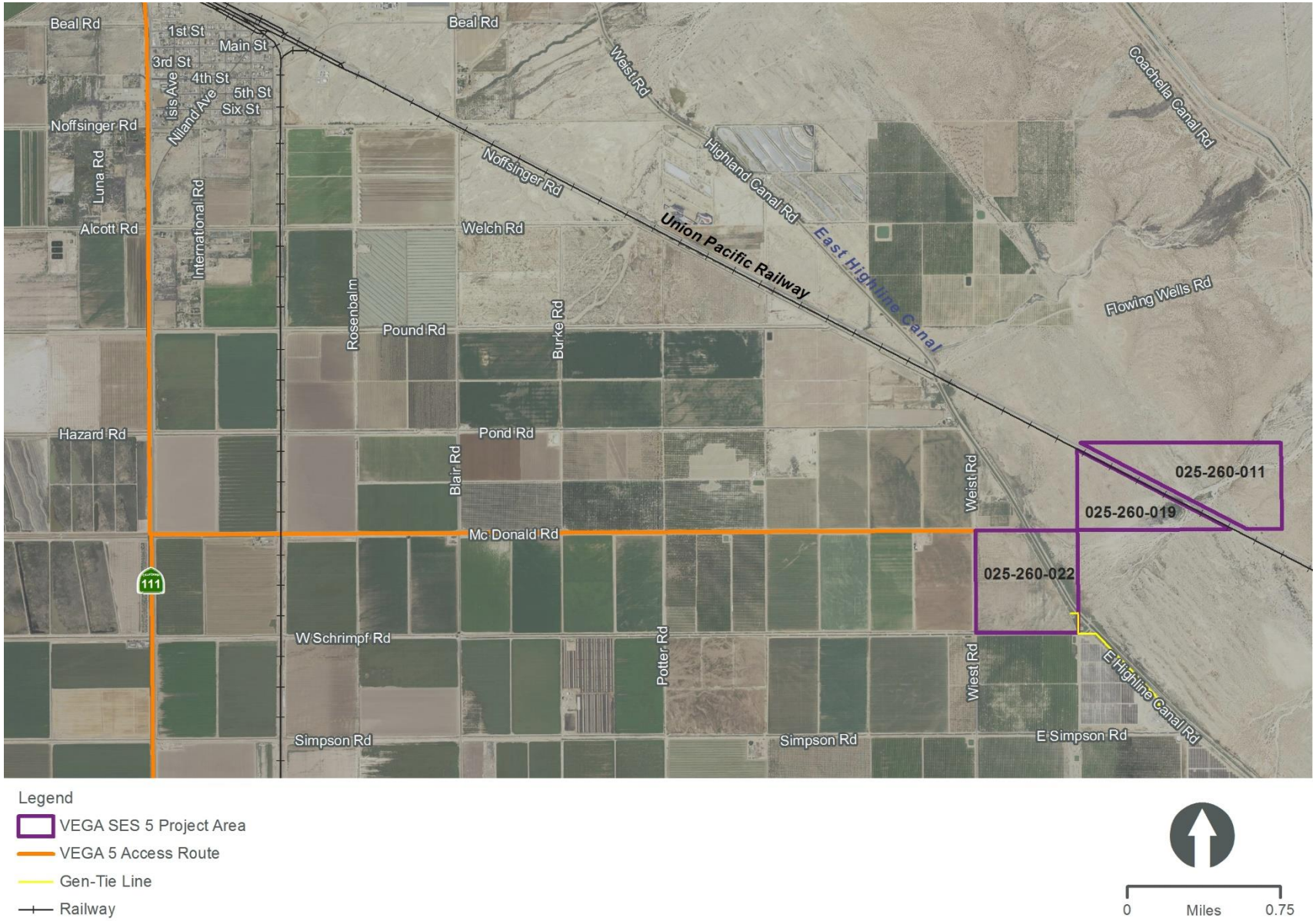
Figure 2-8. VEGA SES 5 Access Route



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2.5 Operations and Maintenance

Once construction is completed, the facilities would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. Security personnel may conduct unscheduled security rounds and would be dispatched to the project site in response to a fence breach or other alarm.

Up to two to three people would be contracted (part-time) to perform all routine and emergency operational and maintenance activities. Such activities include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules if needed (up to two times per year) to maintain power generation efficiency. Vegetation growing on the project sites would periodically (approximately every 3 months) be removed manually and/or treated with herbicides.

2.5.1 Water Use

Water for washing the PV modules on the project sites would be obtained from proposed on-site water wells (Figure 2-3). Table 2-4 identifies the estimated water needed during operation of each project.

Table 2-4. Operational Water Use

Project	Operational Water Use (acre feet per year)
VEGA SES 2	10 AF
VEGA SES 3	2 AFY
VEGA SES 5	20 AFY
Total	**32 AFY**

2.6 Restoration of the Project Sites

Electricity generated by the projects could be sold under the terms of a PPA with a power purchaser (i.e., utility service provider). The projected life of the projects is 30 years. At the end of the PPA term, the owner of the projects may choose to enter into a subsequent PPA, update technology and re-commission, or decommission and remove the generating facility and its components. Upon decommissioning, the sites could be converted to other uses in accordance with applicable land use regulations in effect at that time. A collection and recycling program will be executed to promote recycling of project components and minimize disposal in landfills. All permits related to decommissioning would be obtained, where required.

Project decommissioning may include the following activities:

- The facility would be disconnected from the utility power grid.
- Project components would be dismantled and removed using conventional construction equipment and recycled or disposed of safely.
- PV panel support steel and support posts would be removed and recycled off-site by an approved metals recycler.
- All compacted surfaces within the project site and temporary on-site haul roads would be de-compacted.

- Electrical and electronic devices, including inverters, transformers, panels, support structures, lighting fixtures, and their protective shelters would be recycled off-site by an approved recycler.
- All concrete used for the underground distribution system would be recycled off-site by a concrete recycler or crushed on-site and used as fill material.
- Fencing would be removed and recycled off-site by an approved metals recycler.
- Gravel roads would be removed; filter fabric would be bundled and disposed of in accordance with all applicable regulations. Road areas would be backfilled and restored to their natural contour.
- Soil erosion and sedimentation control measures would be re-implemented during the decommissioning period and until the site is stabilized.

Prior to issuance of the initial grading permit for the projects, a Site Reclamation Plan in conformance with County of Imperial requirements would be prepared for review and approval by the Imperial County Planning and Development Services Department. This plan would be implemented at the end of power operations and would describe the proposed equipment dismantling, removal and site restoration program, in conformance with County requirements.

2.7 Required Project Approvals

2.7.1 Imperial County

The following are the primary discretionary approvals required for implementation of the projects:

1. **Approval of CUPs.** Implementation of the projects would require the approval of CUPs by the County to allow for the construction and operation of the proposed solar energy facilities with an integrated battery storage system. The following CUPs are under consideration for approval as evaluated in this EIR:
    - CUP 20-0021: VEGA SES 2
    - CUP 20-0022: VEGA SES 3
    - CUP 20-0023: VEGA SES 5

Table 2-5. VEGA SES 2, 3, and 5 CUPs – Solar Facilities

Project	APN	Acreage	Zoning
VEGA SES 2 (CUP 20-0021)	025-010-006 (partial)	410	S-2-RE
	025-260-011 (partial)	288	S-2-RE
	025-270-023	625	S-2-RE
	Subtotal	***1,323***	**--**
VEGA SES 3 (CUP 20-0022)	025-010-006 (partial)	230	S-2-RE
	Subtotal	***230***	**--**
VEGA SES 5 (CUP 20-0023)	025-260-011 (partial)	160	S-2-RE
	025-260-019	90	S-2-RE
	025-260-022	160	A-2-RE, A-3-RE, S-2-RE

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Table 2-5. VEGA SES 2, 3, and 5 CUPs – Solar Facilities

Project	APN	Acreage	Zoning
	Subtotal	***410***	**--**
Total Gross Acres		**1,963**	**--**

The project parcels are currently zoned as A-2-RE, A-3-RE, and S-2-RE.

Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

> *j) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)*
>
> *s) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *z) Electrical substations in an electrical transmission system (500 kv/230 kv/161 kv)*
>
> *bb) Facilities for the transmission of electrical energy (100-200 kv)*
>
> *ww) Resource extraction and energy development as per Division 17*
>
> *aaa) Solar energy electrical generator*

Pursuant to Title 9, Division 5, Chapter 9, the following uses are permitted in the A-3 zone subject to approval of a CUP from Imperial County:

> *i) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)*
>
> *o) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *oo) Major facilities relating to the generation and transmission of electrical energy provided such facilities are not under State or Federal law, to be approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters, meeting the requirements in Division 17.*
>
> *zz) Solar energy plants meeting the requirements in Division 17*

Pursuant to Title 9, Division 5, Chapter 19, the following uses are permitted in the S-2 zone subject to approval of a CUP from Imperial County:

> *d) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *i) Major facilities relating to the generation and transmission of electrical energy provide[d] such facilities are not under State or Federal law, to [be] approved exclusively by an agency, or agencies of the State or Federal government, and*

provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters. Such uses shall include but be limited to the following:

- *Electrical generation plants*
- *Facilities for the transmission of electrical energy (100-200 kV)*
- *Electrical substations in an electrical transmission system (500 kv/230 kv/161 kV)*

2. **Approval of CUPs (CUP 22-0025 and -0026) – Groundwater Wells.** Pursuant to Title 9 Division 21: Water Well Regulations, §92102.00, the Applicant will be required to obtain a CUP for each proposed on-site groundwater well. As required by §92102.00, no person shall (1) drill a new well, (2) activate a previously drilled but unused well, (unused shall mean a well or wells that have not been used for a 12 month) period by installing pumps, motors, pressure tanks, piping, or other equipment necessary or intended to make the well operational, (3) increase the pumping capacity of a well, or (4) change the use of a well, without first obtaining a CUP through the County Planning & Development Services Department.
3. **Certification of the EIR.** After the required public review for the Draft EIR, the County will respond to written comments, edit the document, and produce a Final EIR to be certified by the Planning Commission and Board of Supervisors prior to making a decision on approval or denial of the project.

Subsequent ministerial approvals may include, but are not limited to:

- Grading and clearing permits
- Building permits
- Reclamation plan
- Encroachment permits
- Transportation permit(s)

2.7.2 Discretionary Actions and Approvals by Other Agencies

Responsible Agencies are those agencies that have discretionary approval over one or more actions involved with development of the project. Trustee Agencies are state agencies that have discretionary approval or jurisdiction by law over natural resources affected by a project. These agencies may include, but are not limited to the following:

- California RWQCB – Notice of Intent for General Construction Permit, CWA 401 Water Quality Certification
- ICAPCD – Fugitive Dust Control Plan, Rule 801 Compliance
- CDFW (Trustee Agency) – ESA Compliance, Section 1600 Streambed Alteration Agreement
- USFWS – ESA Compliance
- USACE – Section 404 of the CWA Permit
- Bureau of Land Management

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  - Right-of-way easement to use Flowing Wells Road for access during construction and maintenance
  - Right-of-way grant for the off-site gen-tie lines to be located on federal lands under the jurisdiction of the BLM
  - Aerial easements to allow gen-tie connections between the facilities
- Bureau of Reclamation
  - Right-of-way easement to cross the Coachella Canal to access the project site (APN 025-010-006)

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3 Environmental Analysis, Impacts, and Mitigation

3.1 Introduction to Environmental Analysis

This section provides an overview of the environmental analysis and presents the format for the environmental analysis in each topical section.

3.1.1 Organization of Issue Areas

Chapter 3 provides an analysis of impacts for those environmental topics that the County determined could result in "significant impacts," based on preparation of an Initial Study and review by the County's Environmental Evaluation Committee and responses received during the scoping process, including the NOP review period and public scoping meeting. Sections 3.1 through 3.15 discuss the environmental impacts that may result with approval and implementation of the projects, and where impacts are identified, recommends mitigation measures that, when implemented, would reduce significant impacts to a level less than significant. Each environmental issue area in Chapter 3 contains a description of the following:

- The environmental setting as it relates to the specific issue
- The regulatory framework governing that issue
- The threshold of significance (from Appendix G of the CEQA Guidelines)
- The methodology used in identifying and considering the issues
- An evaluation of the project-specific impacts and identification of mitigation measures
- A determination of the level of significance after mitigation measures are implemented
- The identification of any residual significant impacts following mitigation

3.1.2 Format of the Impact Analysis

This analysis presents the potential impacts that could occur under the projects along with any supporting mitigation requirements. Each section identifies the resulting level of significance of the impact using the terminology described below following the application of the proposed mitigation. The section includes an explanation of how the mitigation measure(s) reduces the impact in relation to the applied threshold of significance. If the impact remains significant (i.e., at or above the threshold of significance), additional discussion is provided to disclose the implications of the residual impact and indicate why no mitigation is available or why the applied mitigation does not reduce the impact to a less than significant level.

Changes that would result from the project were evaluated relative to existing environmental conditions within the project sites as defined in Chapter 2. Existing environmental conditions are based on the time at which the NOP was published on May 4, 2021. In evaluating the significance of these changes, this EIR applies thresholds of significance that have been developed using: (1) criteria discussed in the CEQA Guidelines; (2) criteria based on factual or scientific information; and (3) criteria based on

regulatory standards of local, state, and/or federal agencies. Mechanisms that could cause impacts are discussed for each issue area.

This EIR uses the following terminology to denote the significance of environmental impacts of the project:

- *No impact* indicates that the construction, operation, and maintenance of the projects would not have any direct or indirect effects on the environment. It means no change from existing conditions. This impact level does not need mitigation.
- A *less than significant impact* is one that would not result in a substantial or potentially substantial adverse change in the physical environment. This impact level does not require mitigation, even if feasible, under CEQA.
- A *significant impact* is defined by CEQA Section 21068 as one that would cause "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project." Levels of significance can vary by project, based on the change in the existing physical condition. Under CEQA, mitigation measures or alternatives to the project must be provided, where feasible, to reduce the magnitude of significant impacts.
- An *unmitigable significant impact* is one that would result in a substantial or potentially substantial adverse effect on the environment, and that could not be reduced to a less than significant level even with any feasible mitigation. Under CEQA, a project with significant and unmitigable impacts could proceed, but the lead agency would be required to prepare a "statement of overriding considerations" in accordance with State CEQA Guidelines California Code of Regulations (CCR) Section 15093, explaining why the lead agency would proceed with the project in spite of the potential for significant impacts.

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3.2 Aesthetics

This section provides a description of the existing visual and aesthetic resources within the project area and relevant state and local plans and policies regarding the protection of scenic resources. Effects to the existing visual character of the project area as a result of project-related facilities are considered and mitigation is proposed based on the anticipated level of significance. The information provided in this section is summarized from the Visual Impact Assessment Letter Report – VEGA SES 2 and VEGA SES 3 Projects and Visual Impact Assessment Letter Report – VEGA SES 5 Project (Appendix B1 and B2 of this EIR, respectively) prepared by ECORP Consulting, Inc.

3.2.1 Existing Conditions

Regional

Imperial County encompasses 4,597 square miles in the southeastern portion of California. The County is bordered by Riverside County on the north, the international border of Mexico on the south, San Diego County on the west and Arizona on the east. The length and breadth of the County provide for a variety of visual resources ranging from desert, sand dunes, mountain ranges, and the Salton Sea (County of Imperial 2016).

The desert includes several distinct areas that add beauty and contrast to the natural landscape. The barren desert landscape of the Yuha Desert, lower Borrego Valley, East Mesa, and Pilot Knob Mesa provide a dramatic contrast against the backdrop of the surrounding mountain ranges. The West Mesa area is a scenic desert bordered on the east by the Imperial Sand Dunes, the lower Borrego Valley, the East Mesa, and Pilot Knob Mesa.

The eastern foothills of the Peninsular Range are located on the west side of the County. The Chocolate Mountains, named to reflect their dark color, are located in the northeastern portion of the County, extending from the southeast to the northwest between Riverside County and the Colorado River. These mountains reach an elevation of 2,700 feet making them highly visible throughout the County.

Project Sites and Vicinity

The project sites are located on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA. The project area is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City.

VEGA SES 2 and 3

Topography within the VEGA SES 2 and 3 project sites consist of gentle slopes with a gradual increase in elevation from west to east and elevations range between -7 and 182 feet above mean sea level (amsl). Adjacent land uses include active agriculture and the Coachella Canal. BLM open space areas exist to the north, east, and south. Further away, approximately 3 miles to the northwest and just slightly higher in elevation than the project sites, are Slab City and Salvation Mountain. Slab City is a former military facility that now serves as the site of an informal community for artists, travelers, and winter-timer recreational vehicle (RV) campers. Salvation Mountain is an outdoor art project as the western entrance to Slab City. Both attract tourists and sightseers. However, topography, intervening

structures, and distance limit and obscure visibility of the project sites in direct views from publicly accessible portions of these areas.

The VEGA SES 2 and 3 project sites contain scattered desert vegetation. The majority of the project sites consist of creosote bush scrub and palo verde/ironwood woodland; and some bush seepweed scrub, disturbed creosote bush scrub, four-wing saltbush scrub, and tamarisk thickets. A small portion of the area adjacent to the proposed gen-tie alignment along Flowing Wells Road is active agriculture. The remainder of the project area consists of the canal and existing unpaved roadways.

VEGA SES 5

The VEGA SES 5 project site's topography is relatively flat with elevations ranging between -65 and 22 feet amsl. The majority of the VEGA SES 5 project site consists of fallow agricultural land (west of the East Highline Canal), creosote bush scrub, bush seepweed scrub, and tamarisk thickets. Other vegetation types present include iodine bush scrub. The surrounding land uses are observed to be mostly active agriculture land uses west of the East Highline Canal, vacant desert land east of the East Highline Canal, and the IID 92 kV Midway Substation which is approximately 0.50 mile southeast of the VEGA SES 5 project site.

Scenic Vista

Scenic vistas are typically expansive views from elevated areas. They may or may not be part of a designated scenic overlook or other area providing a static vista view of a landscape. The project sites are located in a rural portion of Imperial County and are not located within an area containing a scenic vista designated by the State or the County's General Plan.

Scenic Highways

According to the Conservation and Open Space Element, no State scenic highways have been designated in Imperial County (County of Imperial 2016). The project sites are not located within a state scenic highway corridor, nor are there any state scenic highways located in proximity to the project sites. The nearest road segment considered eligible for a State scenic highway designation is the portion of SR 111 from Bombay Beach to the County line. The project sites are located approximately 19 miles southeast of Bombay Beach; therefore, it would not be visible from the location of the proposed projects.

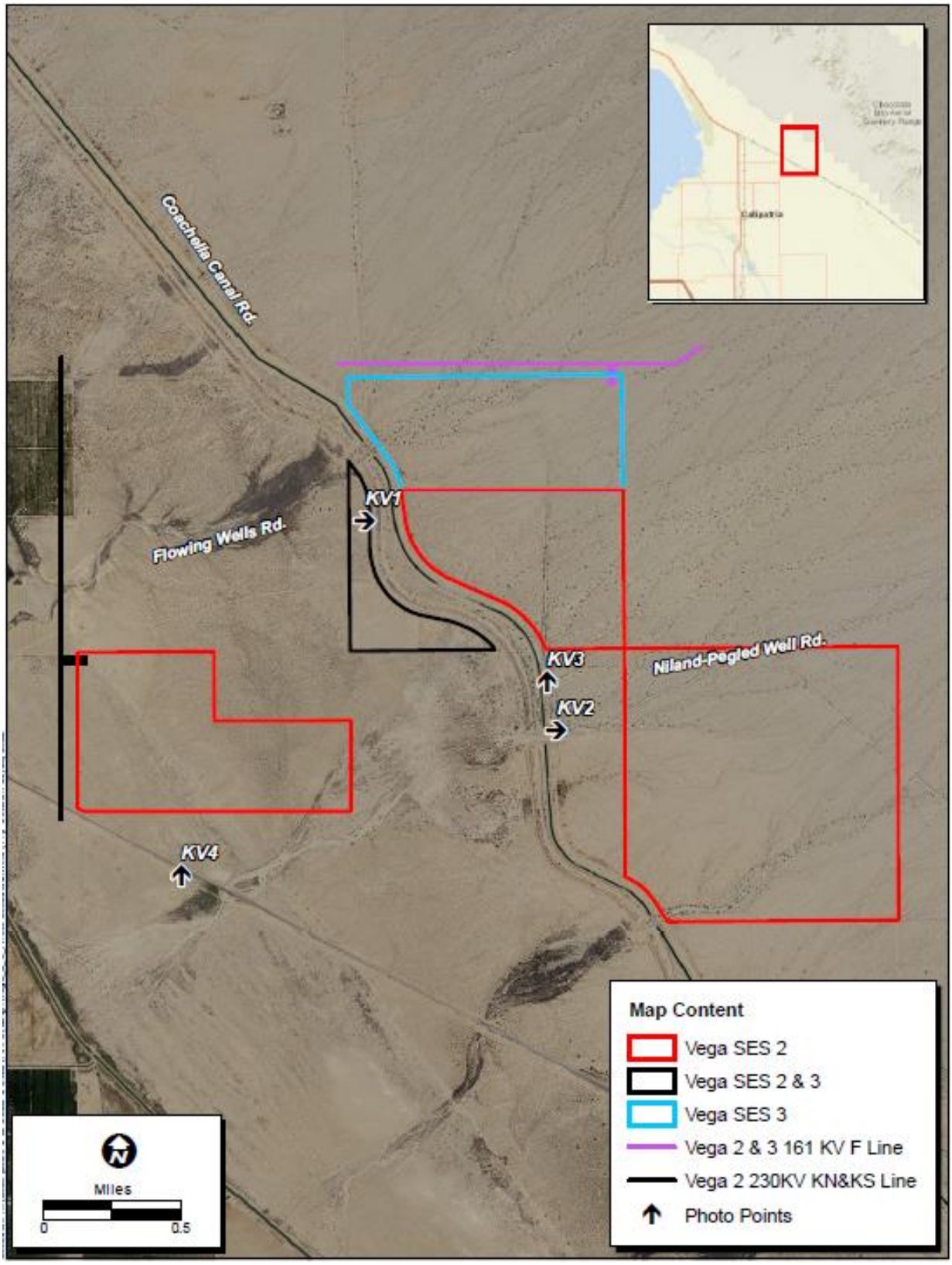
Visual Character

Aerial imagery was reviewed to identify where the proposed projects would potentially be visible from visually sensitive areas and selected preliminary viewpoints for site photography. Field surveys were conducted in January 2021 to photo-document existing visual conditions and views toward the project sites. A representative subset of photographed viewpoints was selected as Key Views (KV). Assessments of existing visual conditions were made based on professional judgment that took into consideration sensitive receptors and sensitive viewing areas in the project area.

VEGA SES 2 and 3

Because it is not feasible to study every available view of the project sites, four key views that represent typical views with distinct visual characteristics in the project study area were selected. The key views reflect views of the project sites and were taken from locations within the public right-of-way. A description of the four KVs is provided below and KV locations are depicted in Figure 3.2-1.

Figure 3.2-1. Key Views - VEGA SES 2 and 3 Project Sites



Source: Appendix B1 of this EIR

KV 1 – COACHELLA CANAL ROAD, NORTH OF FLOWING WELLS ROAD

KV 1 is a view from Coachella Canal Road, north of Flowing Wells Road facing east (Figure 3.2-2). The dominant feature within KV 1 is the vegetation visible throughout the view. Also visible within this KV is the Coachella Canal berm in the middleground and the distant Chocolate Mountains in the background. This view does not exhibit any striking or distinctive visual patterns; however, the presence of the scenic mountains in the background provides an aesthetic resource, although somewhat obstructed, to the view. While the Coachella Canal is present and the berm along the edge of the canal is visible within this KV, it is free from encroaching man-made elements.

KV 2 – NILAND-PEGLEG WELL ROAD, EAST OF COACHELLA CANAL

KV 2 is a view from Niland-Pegleg Well Road, east of Coachella Canal facing east (Figure 3.2-3). Similar to KV 1, the dominant features within this KV are the vegetation visible throughout the view and the Chocolate Mountains in the background. Also visible within this KV is the Coachella Canal berm in the foreground. KV 2 does not exhibit any striking or distinctive visual patterns; however, the presence of the scenic mountains in the background provides aesthetic resources that are prominent and mostly unobstructed in the view. While a service road and the Coachella Canal berm along the edge of the canal is visible within this KV, it is mostly free from encroaching man-made elements.

KV 3 – COACHELLA CANAL ROAD, NORTH OF NILAND-PEGLEG WELL ROAD

KV 3 is a view from Coachella Canal Road, north of Niland-Pegleg Road facing north (Figure 3.2-4). The dominant features within this KV is Coachella Canal Road, the vegetation visible on either side of the road, and the Chocolate Mountains in the distant background. Also visible within this KV are apiary boxes on the east side of Coachella Canal Road. KV 3 does not exhibit any striking or distinctive visual patterns. The presence of the scenic mountains in the distant background are visible but are affected by atmospheric conditions (e.g., haze). However, the mountains do provide aesthetic resources that are somewhat obstructed in the view. Due to the presence of the roadway and apiary boxes within this KV, the view contains highly visible encroaching man-made elements.

KV 4 – NOFFSINGER ROAD

KV 4 is a view from Noffsinger Road facing north (Figure 3.2-5). The dominant features within this KV are the existing Union Pacific Yuma subdivision railroad track, sparse vegetation in the foreground with denser vegetation beyond the railroad track, and the Chocolate Mountains in the background. Also visible within this view are marker posts associated with an underground utility line. This view does not exhibit any striking or distinctive visual patterns; however, the presence of the scenic mountains in the background, although affected by atmospheric conditions (e.g., haze), provide aesthetic resources that are mostly unobstructed in the view. Due to the presence of the railroad track and marker posts visible within this KV, the view contains highly visible encroaching man-made elements.

Figure 3.2-2. Key View 1: Coachella Canal Road, North of Flowing Wells Road - VEGA SES 2 and 3

Source: Appendix B1 of this EIR

Figure 3.2-3. Key View 2: Niland-Pegleg Well Road, East of Coachella Canal - VEGA SES 2 and 3

Source: Appendix B1 of this EIR

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Figure 3.2-4. Key View 3: Coachella Canal Road, North of Niland-Pegleg Road - VEGA SES 2 and 3

Source: Appendix B1 of this EIR

Figure 3.2-5. Key View 4: Noffsinger Road - VEGA SES 2

Source: Appendix B1 of this EIR

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VEGA SES 5

Two KVs that represent typical views with distinct visual characteristics in the VEGA SES 5 project area were selected. The key views reflect views of the area and were taken from locations within the public right-of-way. A description of the two KVs is provided below and KV locations are depicted in Figure 3.2-6.

KEY VIEW 1 – NOFFSINGER ROAD, NORTH OF WASH AREA

KV 1 is a view from Noffsinger Road, north of the wash area facing south (Figure 3.2-7). The dominant feature within this KV is the vegetation visible throughout the view and Noffsinger Road in the immediate foreground. There are no distant topographic features in the background. This view does not exhibit any striking or distinctive visual patterns. The view is free from encroaching man-made elements.

KEY VIEW 2 – WIEST ROAD, SOUTH OF MCDONALD ROAD

KV 2 is a view from Wiest Road, south of McDonald Road facing east (Figure 3.2-8). The dominant features within this KV are the vegetation visible only in the foreground and a fallow agricultural field in the middleground. The Chocolate Mountains are barely visible in the background because they are masked by atmospheric conditions (e.g., haze). This view does not exhibit any striking or distinctive visual patterns; however, the presence of the scenic mountains in the background, although masked by haze, provides an aesthetic resource somewhat visible within the view. While overhead power lines are visible within this KV, it is mostly free from encroaching man-made elements.

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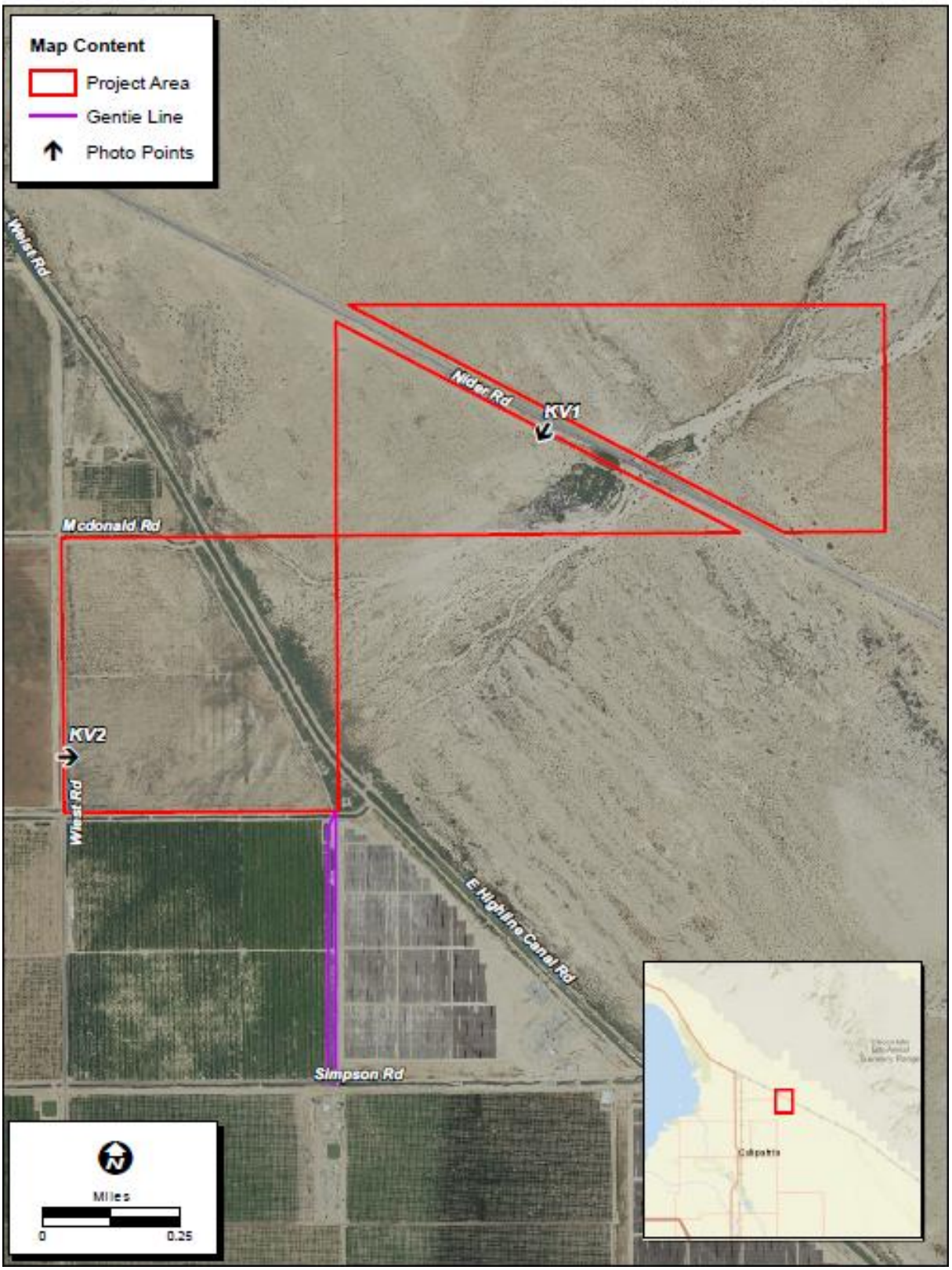
Figure 3.2-6. Key Views - VEGA SES 5 Project Site



Source: Appendix B2 of this EIR

Figure 3.2-7. Key View 1: Noffsinger Road, North of Wash Area

Source: Appendix B2 of this EIR

Figure 3.2-8. Key View 2: Wiest Road, South of McDonald Road

Source: Appendix B2 of this EIR

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Light, Glare, and Glint

Glare is considered a continuous source of brightness, relative to diffused light, whereas glint is a direct redirection of the sun beam in the surface of a PV solar module. Glint is highly directional, since its origin is purely reflective, whereas glare is the reflection of diffuse irradiance; it is not a direct reflection of the sun.

The project sites are currently vacant and do not generate any light or glare. The majority of the light and glare in the project area is a result of motor vehicles traveling on surrounding roadways, airplanes, and farm equipment. Local roadways generate glare both during the night hours when cars travel with lights on, and during daytime hours because of the sun's reflection from cars and pavement surfaces.

The Chocolate Mountains are located to the north and east of the project site. The Chocolate Mountain Aerial Gunnery Range is used by the United States Marine Corps (USMC) for training purposes.

3.2.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the projects.

State

California Department of Transportation

Caltrans manages the California Scenic Highway Program. The goal of the program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to the scenic corridor.

Local

Imperial County General Plan

The Imperial County General Plan contains policies for the protection and conservation of scenic resources and open spaces within the County. These policies also provide guidance for the design of new development. The Conservation and Open Space Element of the General Plan provides specific goals and objectives for maintaining and protecting the aesthetic character of the region. Table 3.2-1 provides an analysis of the proposed projects' consistency with the Conservation and Open Space Element Goal 5. Additionally, the Circulation and Scenic Highways Element of the General Plan provides policies for protecting and enhancing scenic resources within highway corridors in Imperial County, consistent with the Caltrans State Scenic Highway Program.

County of Imperial Land Use Ordinance, Title 9

The County's Land Use Ordinance Code provides specific direction for lighting requirements.

Division 17: Renewable Energy Resources, Section 91702.00 – Specific Standards for All Renewable Energy Projects

(R) Lights should be directed or shielded to confine direct rays to the Project site and muted to the maximum extent consistent with safety and operational necessity.

Table 3.2-1. Consistency with Applicable General Plan Conservation and Open Space Policies

General Plan Policies	Consistency with General Plan	Analysis
Goal 5: The aesthetic character of the region shall be protected and enhanced to provide a pleasing environment for residential, commercial, recreational, and tourist activity.	Consistent	As described in Section 3.2.3, the proposed projects would result in changes to the existing visual character of the project sites. However, public views of the project site are limited, and the proposed projects would not result in a significant deterioration in the visual character of the project site or surrounding area from public viewpoints.
Objective 5.1: Encourage the conservation and enhancement of the natural beauty of the desert and mountain landscape.	Consistent	The project sites are located on both sides of the East Highline Canal and occupy both active agricultural land and desert lands. As described in Section 3.2.3, proposed onsite apparatus would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. Solar PV arrays would be spaced approximately 15 to 25 feet apart allowing for views of the Chocolate Mountains from the public right-of-way. Further, views from project adjacent roadways that are publicly accessible, would be partially to fully obscured by roadside vegetation or berms, and such views would likely be of short duration given the probability of the viewers being in moving vehicles.

Source: County of Imperial 2016

3.2.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to aesthetics are considered significant if any of the following occur:

- Have a substantial adverse effect on a scenic vista
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway
- In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area

Methodology

This visual impact analysis is based on field observations conducted in January 2021, as well as a review of maps and aerial photographs for the project area. Evaluation of potential visual impacts and changes resulting from implementation of the proposed projects are based on the following criteria:

Change in Visual Quality

The difference in visual quality between the existing environmental setting and post-project condition is considered visual quality change. Those changes are identified by studying site plans, which provide information on the various elements that will be removed from and incorporated into the current viewshed and the degree of change in the existing setting.

Impacts to Visual Resources

Visual resources from both the natural and built environments can enhance the visual character and aesthetic quality of an area. The project areas were studied for visual resources. Visual resources can be associated with local events and history that represent and enhance the visual character of the local area. A project that substantially alters important visual resources can result in significant visual impacts. Mitigation is typically implemented to remove or minimize significant visual impacts.

Light, Glare, Shade, and Shadow

The existing light environment serves as a baseline to conduct light analysis and compare potential impacts caused by the introduction of the proposed projects. Impacts relating to light, glare, shade, and shadow were examined during field observations conducted in January 2021, and by the photographs to help establish light conditions during various times of the day and night and estimate the potential changes in the environment from implementation of the proposed projects. New light sources and reduction or elimination of light could be considered impacts that could change the natural environmental setting of the project sites. Impacts are evaluated based on how much existing conditions change, the degree of those changes, and the sensitivity of the affected environment.

Compatibility with Visual Policies

The Imperial County General Plan and other regulations or policies relating to visual resources and setting that are applicable to the proposed projects have been identified, reviewed, and used in the preparation of this analysis. Proposed visual changes that conflict with the adopted County guidelines could be considered a significant impact; however as shown in Table 3.2-1, the proposed projects would be consistent with the General Plan.

Impact Analysis

Impact 3.2-1 Would the project have a substantial adverse effect on a scenic vista?

VEGA SES 2, 3, and 5

The Chocolate Mountains are located to the north and east of the project sites. The County has identified the Chocolate Mountains as a scenic resource; however, no scenic vista points are identified in the County General Plan and none of the roadways in the project area are designated as a scenic highway or roadways. During construction, the use of standard construction equipment including, but not limited to, trucks, cranes, and tractors would be required. The presence of this equipment within the project sites during construction would alter views of the area from undeveloped and fallow agricultural land to a construction site. However, the views of construction activity from the surrounding vicinity would be temporary and would not involve any designated scenic vistas. Therefore, no impacts to a scenic vista would occur during construction.

Upon project operation, and with implementation of the solar infrastructure, the overall visual character of the project sites would change. However, given that there are no scenic resources or vistas within proximity to the project sites, project operation would not have a substantial adverse effect on a scenic vista. Impacts are considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.2-2 Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

VEGA SES 2, 3, and 5

The project sites are not located within a state scenic highway corridor, nor are there any state scenic highways located in proximity to the project sites. The nearest road segment considered eligible for a State Scenic Highway designation is the portion of SR 111 from Bombay Beach to the County line. The project sites are located approximately 19 miles south of Bombay Beach. Therefore, no impacts to scenic resources within a designated state scenic highway would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.2-3 In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

VEGA SES 2 and 3

Short-term visual impacts would occur in association with construction activities, including introducing heavy equipment (e.g., cranes), staging and materials storage areas and potential dust and exhaust to the project area. While construction equipment and activity may present a visual nuisance, it would be temporary (approximately 12-18 months) and would not represent a permanent change in views. Therefore, impacts associated with degrading the existing visual character or quality of the project sites during construction are considered less than significant.

As described in Section 3.2.1, four KVs were selected that reflect views of the VEGA SES 2 and 3 project sites and were taken from locations within the public right-of-way. The Visual Impact Assessment (Appendix B1 of this EIR) evaluated the potential visual impacts within these four KVs as a result of the proposed projects. The potential impacts on these KVs are discussed below.

KV 1. From KV 1 (Figure 3.2-2), the overall character and experience for a viewer would change substantially with implementation of the projects. Vegetation removal and grading of the project sites to accommodate the construction of solar apparatus and security fencing would result in the greatest physical change. Other facilities proposed such as roads, pads, underground utilities, and stormwater facilities would not be visible from the public ROW. The County has identified the Chocolate Mountains as a scenic resource; however, no scenic vista points are identified in the County General Plan.

Additional visual changes within this KV would be the installation of poles and electrical lines associated with the gen-tie line.

The proposed PV module frames when installed on pads would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. Currently, the existing vegetation on the project sites range from short shrubs to large bushes and views of the Chocolate Mountains in the background are already partially obstructed by the existing Coachella Canal berm and large bushes on the project sites. The installation of the new PV module frames would also result in the obstruction of the Chocolate Mountains as they are similar in height to existing large bushes on the site. PV module frames would be arranged in arrays spaced approximately 15 to 25 feet apart to maximize performance and allow access for maintenance and cleaning. As a result of the spacing of the arrays and relatively low-profile of the solar facility in general, view corridors of the Chocolate Mountains would be maintained throughout the site as a viewer travels along Coachella Canal Road. The construction of gen-tie poles and electrical lines would introduce manmade elements into the view; however, the profile of these structures and lines are slim and would not substantially obstruct existing views of the mountains.

KV 2. Similar to KV 1, the overall character and experience for the viewer would change substantially at KV 2 (Figure 3.2-3) with implementation of the proposed projects. The main physical change would be the removal of vegetation and grading of the project sites; as well as installation of poles and electrical lines associated with the gen-tie line.

The proposed onsite apparatus would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. The installation of the new PV module frames would also result in the obstruction of the Chocolate Mountains as they are similar in height to existing large bushes on the site; however, from this key view vantage point, the Chocolate Mountains in the background are relatively unobstructed.

Similar to KV 1, given the spacing of the arrays (15 to 25 feet apart) and relatively low-profile of the solar facility in general, view corridors of the Chocolate Mountains would be maintained throughout the site as a viewer travels along Coachella Canal Road. The construction of gen-tie poles and electrical lines would introduce manmade elements into the view; however, the profile of these structures and lines are slim and would not substantially obstruct existing views of the mountains.

KV 3. The overall character and experience for the viewer from KV 3 (Figure 3.2-4) would change moderately with implementation of the proposed projects. The main physical change would be the removal of vegetation and grading of the project sites; as well as installation of poles and electrical lines associated with the gen-tie.

The installation of the new PV module frames would result in the obstruction of the Chocolate Mountains as they are similar in height to existing large bushes on the site. However, views of the Chocolate Mountains from Coachella Canal Road and the viewshed to the west of the road would be maintained as no project-related facilities would be constructed that would obstruct views in those areas. Similar to KV1 and KV 2, the construction of gen-tie poles and electrical lines would introduce manmade elements into the view; however, the profile of these structures and lines are slim and would not substantially obstruct existing views of the mountains.

KV 4. The overall character and experience for the viewer from KV 4 (Figure 3.2-5) would change slightly with implementation of the proposed projects. The main physical change that would occur within KV 4 is the complete removal of vegetation and grading of the project site which is beyond the railroad tracks to accommodate the construction of solar apparatus and security fencing. The installation of the new PV module frames would not result in the obstruction of the Chocolate

Mountains and would align with the existing horizon due to the distance away from the KV 4 vantage point. Therefore, the views of the Chocolate Mountains would be maintained throughout the site as a viewer travels along Noffsinger Road.

VEGA SES 5

As described in Section 3.2.1, two KVs were selected that reflect views of the VEGA SES 5 project site and were taken from locations within the public right-of-way. The Visual Impact Assessment (Appendix B2 of this EIR) evaluated the potential visual impacts within these two KVs as a result of the proposed projects. The potential impacts on these KVs are discussed below.

KV 1. From KV 1 (Figure 3.2-7), the overall character and experience for the viewer would change substantially with implementation of the proposed project. Vegetation removal and grading of the VEGA SES 5 project site to accommodate the construction of solar apparatus and security fencing would result in the greatest physical change. Other facilities proposed such as roads, pads, underground utilities, and stormwater facilities would not be visible from the public right-of-way. Additionally, no scenic resources are visible within this KV.

Onsite vegetation would be completely removed, and the site would be graded to accommodate the installation of the PV module frames in arrays, substation, and BESS. The construction of gen-tie poles and electrical lines would not be visible from this KV.

KV 2. The overall character and experience for the viewer would change substantially at KV 2 (Figure 3.2-8) with implementation of the proposed project. The main physical change that would occur within this view is the complete removal of vegetation and the fallow agricultural field and grading of the project site to accommodate the construction of solar equipment and security fencing. The installation of the new PV module frames would result in the obstruction of the Chocolate Mountains due to the distance away from this vantage point. However, PV module frames would be arranged in arrays spaced approximately 15 to 25 feet apart and as a result of the spacing of the arrays, view corridors of the Chocolate Mountains would be maintained throughout the site as a viewer travels along Wiest Road. The construction of gen-tie poles and electrical lines would not be visible from this KV.

Conclusion

Implementation of the proposed projects would convert the project sites from vacant and fallow agricultural lands to solar energy facilities. As discussed above, depending on the vantage point, the existing visual character of the sites and the quality of views in terms of visibility beyond the sites would change given the existing nature of the sites which contain fallow agricultural and vacant desert land. However, these open space vegetated areas and agricultural areas impacted by the proposed projects are not considered to be scenic resources by the County of Imperial.

In the context of topographical conditions and relatively low profile of the project components, the proposed projects would not create an adverse or permanent visual obstruction of the background views of the desert or mountain areas to the north and east of the project sites. Existing views of the Chocolate Mountains are already partially obstructed by existing tall vegetation and masked by atmospheric conditions (e.g., haze). Additionally, as previously identified, proposed onsite apparatus would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. Solar PV arrays would be spaced approximately 15 to 25 feet apart allowing for views of the Chocolate Mountains from the public right-of-way. Further, views from project adjacent roadways that are publicly accessible, would be partially to fully obscured by roadside vegetation or

berms, and such views would likely be of short duration given the probability of the viewers being in moving vehicles. Therefore, impacts to visual character would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.2-4 Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

VEGA SES 2, 3, and 5

The proposed projects would include new sources of nighttime lighting. In addition, given the nature of the project (e.g., solar facility), this discussion also considers potential glare- and glint-related impacts generated by the proposed solar arrays. This discussion considers each issue under the associated headings below.

NIGHTTIME LIGHTING

Minimal lighting would be required for project operation and would be limited to safety and security functions. All lighting would be directed downward and shielded to confine direct rays to the project sites and muted to the maximum extent consistent with safety and operational necessity (Title 9, Division 17, Chapter 2: Specific Standards for all Renewable Energy Projects, of the County's Zoning Ordinance).

If additional lighting should be required for nighttime maintenance, portable lighting equipment would be used. Based on these considerations, and the distance to potential viewers, the proposed projects are not anticipated to create a new source of substantial light which would adversely affect nighttime views in the project area, and the impact is considered less than significant.

GLARE AND GLINT

The proposed projects would involve the installation of PV solar arrays which have low reflectivity. Solar PV modules are specifically designed to reduce reflection as any reflected light cannot be converted into energy. Research has shown that reflectivity from PV panels are similar to reflections from water (Appendix B1 and B2 of this EIR). The projects would not use other reflective materials such a fiberglass, aluminum or vinyl/plastic siding, galvanized products, and brightly painted steel roofs that have the potential to create on- and off-site glare. Further, the proposed projects are located in an undeveloped area of Imperial County. There are also no established residential neighborhoods immediately adjacent to the project sites or airports within 2 miles of the project sites. Therefore, the PV panels would not create a new source of substantial light or glare that would affect day or nighttime views. This impact is considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

3.2.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

If at the end of the PPA term, no contract extension is available for a power purchaser, no other buyer of the energy emerges, or there is no further funding of the proposed projects, the proposed projects will be decommissioned and dismantled. The project sites are relatively flat and primarily characterized by a level elevation. Therefore, no grading or significant landform modifications would be required during decommissioning activities upon site restoration in the future. Although the project sites would be visually disrupted in the short-term during decommissioning activities, because extensive grading is not required and these activities would be temporary, the visual character of the project sites would not be substantially degraded in the short-term and related impacts would be less than significant.

Residual

Impacts related to glare and glint impacts to roadway travelers would be less than significant and no additional mitigation measures are required. Changes to visual character of the project areas would be less than significant and would be transitioned back to their prior (pre-solar project) conditions following site decommissioning. Based on these conclusions, implementation of the proposed projects would not result in residual significant unmitigable impacts to the visual character of the project sites or add substantial amounts of light and glare.

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3.3 Agricultural Resources

This section provides an overview of existing agricultural resources within the project sites and identifies applicable federal, state, and local policies related to the conservation of agricultural lands. This includes a summary of the production outputs, soil resources, and adjacent operations potentially affected by the projects. The impact assessment in Section 3.3.3 provides an evaluation of potential adverse effects on agricultural resources based on criteria derived from the CEQA Guidelines in conjunction with actions proposed in Chapter 2, Project Description. Section 3.3.4 provides a discussion of residual impacts, if any.

No forestry resources are present within the project sites and, therefore, this section focuses on issues related to agricultural resources.

3.3.1 Existing Conditions

Imperial County

Agriculture has been the single most important economic activity of Imperial County throughout the 1900s and is expected to play a major economic role in the foreseeable future. The gross annual value of agricultural production in the County has hovered around $1 billion for the last several years, making it the County's largest source of income and employment.

Imperial County agriculture is a major producer and supplier of high-quality plant and animal foods and non-food products. In 2019, agriculture contributed a total of $2.01 billion to the county economy. Vegetable and melon crops were the single largest production category by dollar value ($799 million). Livestock represented the second largest category ($522 million) and consisted mostly of feedlot cattle ($449 million). Field crops ranked third with $498 million (Imperial County Agricultural Commissioner 2019).

Project Sites

The VEGA SES 2 and 3 and a portion of the VEGA SES 5 Project sites east of the East Highline Canal are not currently under cultivation and contain scattered desert vegetation. Meanwhile, the VEGA SES 5 Project site west of the East Highline Canal contains fallow agricultural land.

The agricultural portion of VEGA SES 5 (APN 025-260-022) that is west of the East Highline Canal contains fallow agricultural land with scattered dry crop residue. The agricultural field is bounded by McDonald Road to the north, Schrimpf Road to the south, and Weist Road to the west. The East Highline Canal cuts across APN 025-260-022 diagonally in a northwest to southeast direction. Within the agricultural portion of the VEGA SES 5 Project site, there are subsurface tile drainage pipelines that are generally aligned north to south and carry irrigation wastewater to the N Drain at the southwest corner of the field.

Important Farmland

According to the California Department of Conservation's (DOC) California Important Farmland Finder, the majority of the project sites are designated as Other Land (DOC 2021). As shown in Figure 3.3-1, a portion of the VEGA SES 5 Project site (APN 025-260-022) is designated as Farmland of Local Importance. Farmland of Local Importance is not considered an "agricultural land"

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per CEQA Statute Section 21060.1(a). The project sites do not contain Prime Farmland, Farmland of Statewide Importance, or Unique Farmland.

Soil types of the project site are provided in Section 3.7, Geology and Soils (see Figure 3.7-1).

Williamson Act Contract Land

According to the 2016/2017 Imperial County Williamson Act Map produced by the DOC, the project sites are not located on Williamson Act contracted land (DOC 2016).

3.3.2 Regulatory Setting

This section identifies and summarizes state and local laws, policies, and regulations that are applicable to the projects.

State

California Land Conservation Act

The Williamson Act (California Land Conservation Act, California Government Code, Section 51200 et seq.) is a statewide mechanism for the preservation of agricultural land and open space land. The Act provides a comprehensive method for local governments to protect farmland and open space by allowing land in agricultural use to be placed under contract (agricultural preserve) between a local government and a landowner.

Under the provisions of the Williamson Act (California Land Conservation Act 1965, Section 51200), landowners contract with the County to maintain agricultural or open space use of their lands in return for reduced property tax assessment. The contract is self-renewing and the landowner may notify the County at any time of intent to withdraw the land from its preserve status. Withdrawal involves a 10-year period of tax adjustment to full market value before protected open space can be converted to urban uses. Consequently, land under a Williamson Act Contract can be in either a renewal status or a nonrenewable status. Lands with a nonrenewable status indicate the farmer has withdrawn from the Williamson Act Contract and is waiting for a period of tax adjustment for the land to reach its full market value. Nonrenewable and cancellation lands are candidates for potential urbanization within a period of 10 years.

The requirements necessary for cancellation of land conservation contracts are outlined in Government Code Section 51282. The County must document the justification for the cancellation through a set of findings. Unless the land is covered by a farmland security zone contract, the Williamson Act requires that local agencies make both the Consistency with the Williamson Act and Public Interest findings.

On February 23, 2010, the Imperial County Board of Supervisors voted to not accept any new Williamson Act contracts and not to renew existing contracts because of the elimination of the subvention funding from the state budget. The County reaffirmed this decision in a vote on October 12, 2010, and notices of nonrenewal were sent to landowners with Williamson Act contracts following that vote. The applicable deadlines for challenging the County's actions have expired, and, therefore, all Williamson Act contracts in Imperial County will terminate on or before December 31, 2018.

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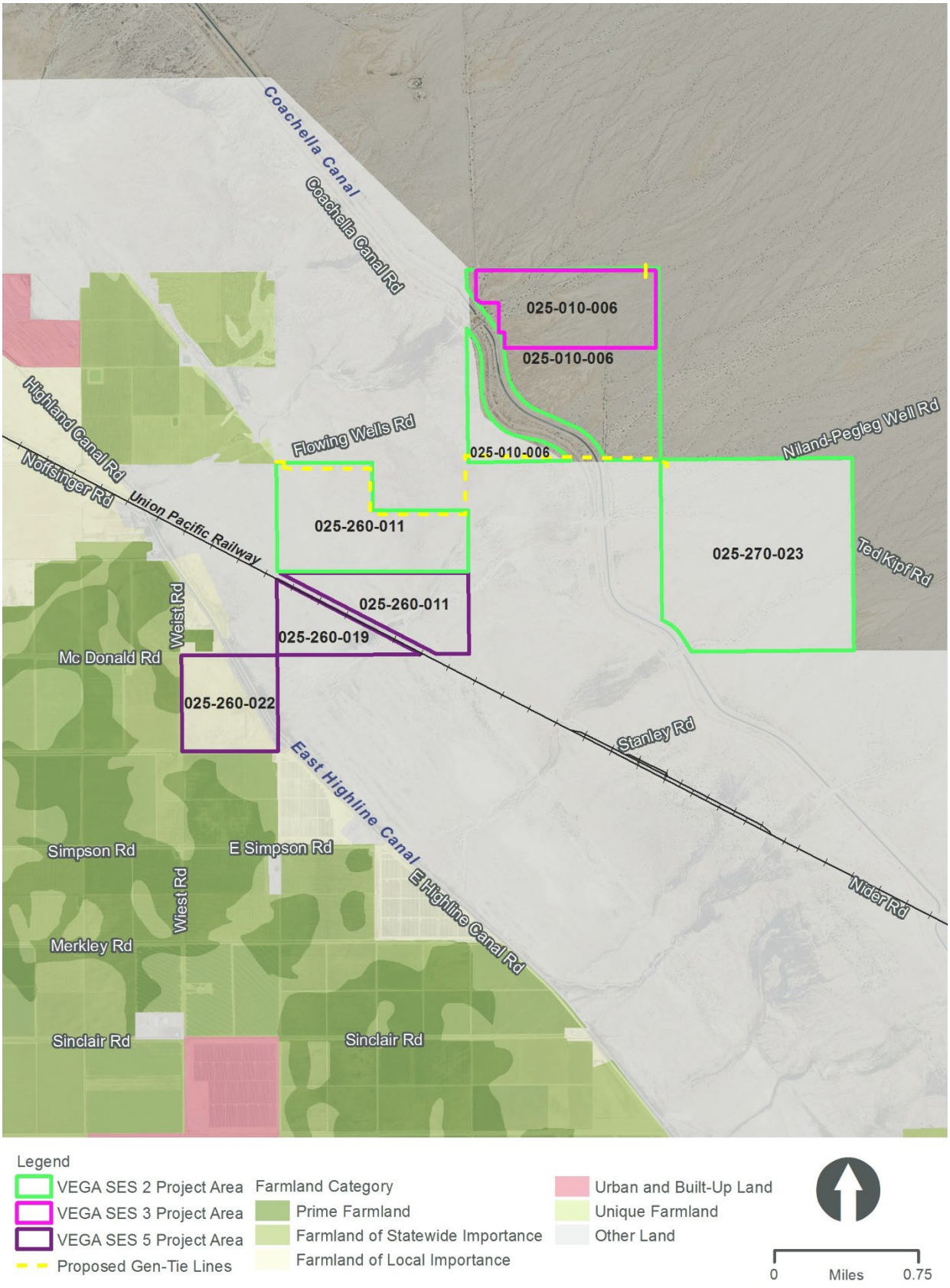
Figure 3.3-1. Important Farmland



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California Farmland Mapping and Monitoring Program

The California DOC, under the Division of Land Resource Protection, has set up the Farmland Mapping and Monitoring Program (FMMP), which monitors the conversion of the state's farmland to and from agricultural use. The map series identifies eight classifications, as defined below, and uses a minimum mapping unit size of 10 acres.

- Prime Farmland has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- Farmland of Statewide Importance is similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- Unique Farmland consists of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the 4 years prior to the mapping date.
- Farmland of Local Importance is land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- Grazing Land is land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.
- Urban and Built-up Land is occupied by structures with a building density of at least one unit to 1.5 acres or approximately six structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, prisons, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures.
- Water is defined as perennial water bodies with an extent of at least 40 acres.
- Other Land is land not included in any other mapping category. Common examples include low-density rural developments, vegetative and riparian areas not suitable for livestock grazing, confined animal agriculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land. More detailed data on these uses are available in counties containing the Rural Land Use Mapping categories.

The program also produces a biannual report on the amount of land converted from agricultural to non-agricultural use. The program maintains an inventory of state agricultural land and updates its "Important Farmland Series Maps" every 2 years. Table 3.3-1 provides a summary of agricultural land within Imperial County converted to non-agricultural uses during the time frame from 2016 to 2018.

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Table 3.3-1. Imperial County Change in Agricultural Land Use Summary (2016 to 2018)

Land Use Category	Total Acreage Inventoried		2016 to 2018 Acreage Changes			
	2016	2018	Acres Lost (-)	Gained (+)	Total Acreage Changed	Net Acreage Changed
Prime Farmland	190,206	189,163	1,699	656	2,355	-1,043
Farmland of Statewide Importance	297,272	291,596	6,330	654	6,984	-5,676
Unique Farmland	2,071	1,905	190	24	214	-166
Farmland of Local Importance	38,923	39,711	1,587	2,375	3,962	788
Important Farmland Subtotal	***528,472***	***522,375***	***9,806***	***3,709***	***13,515***	***-6,097***
Grazing Land	0	0	0	0	0	0
Agricultural Land Subtotal	528,472	522,375	9,806	3,709	13,515	-6,097
Urban and Built-Up Land	37,412	41,764	301	4,653	4,954	4,352
Other Land	461,891	463,488	712	2,309	3,021	1,597
Water Area	749	897	125	273	398	148
Total Area Inventoried	**1,028,524**	**1,028,524**	**10,944**	**10,944**	**21,888**	**0**

Source: DOC 2018

Local

County of Imperial General Plan

The Agricultural Element of the County's General Plan serves as the primary policy statement for implementing development policies for agricultural land use in Imperial County. The goals, objectives, implementation programs, and policies found in the Agricultural Element provide direction for new development as well as government actions and programs. Imperial County's Goals and Objectives are intended to serve as long-term principles and policy statements to guide agricultural use decision-making and uphold the community's ideals.

Agriculture has been the single most important economic activity in the County throughout its history. The County recognizes the area as one of the finest agricultural areas in the world because of several environmental and cultural factors including good soils, a year-round growing season, the availability of adequate water transported from the Colorado River, extensive areas committed to agricultural production, a gently sloping topography, and a climate that is well-suited for growing crops and raising livestock. The Agricultural Element in the County General Plan demonstrates the long-term commitment by the County to the full promotion, management, use, and development and protection of agricultural production, while allowing logical, organized growth of urban areas (County of Imperial 2015).

The County's Agricultural Element identifies several Implementation Programs and Policies for the preservation of agricultural resources. The Agricultural Element recognizes that the County can and should take additional steps to provide further protection for agricultural operations and at the same time provide for logical, organized growth of urban areas. The County must be specific and

consistent about which lands will be maintained for the production of food and fiber and for support of the County's economic base. The County's strategy and overall framework for maintaining agriculture includes the following policy directed at the preservation of Important Farmland:

> The overall economy of the County is expected to be dependent upon the agricultural industry for the foreseeable future. As such, all agricultural land in the County is considered as Important Farmland, as defined by federal and state agencies, and should be reserved for agricultural uses. Agricultural land may be converted to non-agricultural uses only where a clear and immediate need can be demonstrated, such as requirements for urban housing, commercial facilities, or employment opportunities. All existing agricultural land will be preserved for irrigation agriculture, livestock production, aquaculture, and other agriculture-related uses except for non-agricultural uses identified in this General Plan or in previously adopted City General Plans.

The following program is provided in the Agricultural Element:

> No agricultural land designated except as provided in Exhibit C [of the Agricultural Element] shall be removed from the Agriculture category except where needed for use by a public agency, for geothermal purposes, where a mapping error may have occurred, or where a clear long-term economic benefit to the County can be demonstrated through the planning and environmental review process. The Board (or Planning Commission) shall be required to prepare and make specific findings and circulate same for 60 days (30 days for parcels considered under Exhibit C of this [Agricultural] element) before granting final approval of any proposal, which removes land from the Agriculture category.

Also, the following policy addresses Development Patterns and Locations on Agricultural Land:

> "Leapfrogging" or "checkerboard" patterns of development have intensified recently and result in significant impacts on the efficient and economic production of adjacent agricultural land. It is a policy of the County that leapfrogging will not be allowed in the future. All new non-agricultural development will be confined to areas identified in this plan for such purposes or in cities' adopted Spheres of Influence, where new development must adjoin existing urban uses. Non-agricultural residential, commercial, or industrial uses will only be permitted if they adjoin at least one side of an existing urban use, and only if they do not significantly impact the ability to economically and conveniently farm adjacent agricultural land.

Agricultural Element Programs that address "leapfrogging" or "checkerboard" development include:

> All non-agricultural uses in any land use category shall be analyzed during the subdivision, zoning, and environmental impact review process for their potential impact on the movement of agricultural equipment and products on roads located in the Agriculture category, and for other existing agricultural conditions which might impact the projects, such as noise, dust, or odors.

The Planning and Development Services Department shall review all proposed development projects to ensure that any new residential or non-agricultural commercial uses located on agriculturally zoned land, except land designated as a Specific Plan Area, be adjoined on at least one entire property line to an area of existing urban uses. Developments that do not meet these criteria should not be approved.

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Table 3.3-2 provides a General Plan goal and policy consistency evaluation for the projects.

Table 3.3-2. Project Consistency with Applicable General Plan Agricultural Policies

General Plan Policies	Consistency with General Plan	Analysis
Goal 1. All Important Farmland, including the categories of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance, as defined by federal and state agencies, should be reserved for agricultural uses.	Consistent	The project sites do not contain Prime Farmland or Farmland of Statewide Importance. Therefore, the proposed projects would not convert land designated as Prime Farmland or Farmland of Statewide Importance to non-agricultural uses. A portion of the VEGA SES 5 Project site (APN 025-260-022) is designated as Farmland of Local Importance. The VEGA SES 5 Project would temporarily convert Farmland of Local Importance to non-agricultural uses. However, as part of the project, the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of its lifespan. The reclamation plan includes the removal, recycling, and/or disposal of all solar arrays, inverters, transformers, and other structures on the project site, as well as restoration of the site to pre-project condition. Therefore, the proposed VEGA SES 5 Project would not permanently convert Farmland of Local Importance to non-agricultural uses.
Objective 1.5.Direct development to less valuable farmland (i.e., Unique Farmland and Farmland of Local Importance rather than Prime Farmland or Farmland of Statewide Importance) when conversion of agricultural land is justified.	Consistent	The project sites are located within the County's designated Renewable Energy zone and are, therefore, considered to be located within an area that has been determined to be appropriate for the development of solar facilities. The majority of the project sites are designated as Other Land. A portion of the VEGA SES 5 Project site (APN 025-260-022) is designated as Farmland of Local Importance. A reclamation plan would be prepared for the project, which, when implemented, would return the site to pre-project conditions after the solar use is discontinued.
Objective 1.6. Recognize and preserve unincorporated areas of the County, outside of city sphere of influence areas, for irrigation agriculture, livestock production, aquaculture, and other special uses.	Consistent.	The project sites are located within the County's designated Renewable Energy zone and is, therefore, considered to be located within an area that has been determined to be appropriate for the development of solar facilities. The VEGA SES 5 Project would temporarily convert land located in an unincorporated area to non-agricultural uses; however, with the approval of the CUP, the VEGA SES 5 Project would be considered an allowable use in an agricultural zone as a conditionally-allowed use.
Objective 1.8. Allow conversion of agricultural land to non-agricultural uses including renewable energy only where a clear and immediate need can be demonstrated, based on economic benefits, population projections and lack of other available land (including land within incorporated cities) for such non-agricultural uses. Such conversion shall also be allowed only where such	Consistent	The project sites are located within the County's designated Renewable Energy zone and are, therefore, consistent with the General Plan. Additionally, with the approval of the CUPs, the projects would be consistent with the County's Land Use Ordinance. Therefore, the projects are consistent with the County's General Plan land use designation.

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Table 3.3-2. Project Consistency with Applicable General Plan Agricultural Policies

General Plan Policies	Consistency with General Plan	Analysis
uses have been identified for non-agricultural use in a city general plan or the County General Plan, and are supported by a study to show a lack of alternative sites.		
Objective 1.11. Control and prevent soil erosion when possible.	Consistent	The projects would implement BMPs within the site during construction and long-term operation of the project.
Goal 2. Adopt policies that prohibit "leapfrogging" or "checkerboard" patterns of nonagricultural development in agricultural areas and confine future urbanization to adopted Sphere of Influence area.	Consistent	The projects are located within the County's designated Renewable Energy zone, which identifies areas that are considered appropriate for the development of renewable energy. The projects do not include a residential component that would induce urbanization adjacent to the project. Furthermore, with the approval of the CUPs, the projects would be consistent with the County's Land Use Ordinance. Consistency with the Land Use Ordinance implies consistency with the General Plan land use designation.
Objective 2.1. Do not allow the placement of new non-agricultural land uses such that agricultural fields or parcels become isolated or more difficult to economically and conveniently farm.	Consistent	The projects are located within the County's designated Renewable Energy zone, which identifies areas that are considered appropriate for the development of renewable energy. Neither construction nor operation of the solar facility would not make it difficult to economically or conveniently farm.
Objective 2.2. Encourage the infilling of development in urban areas as an alternative to expanding urban boundaries.	Consistent	The projects are located within the County's designated Renewable Energy zone, which identifies areas that are considered appropriate for the development of renewable energy. The projects consist of the construction and operation of solar facilities. While the projects would introduce development in the area, it would not include residential uses that would, in turn, create a demand for other uses, such as commercial, employments centers, and supporting services.
Objective 2.3. Maintain agricultural lands in parcel size configurations that help assure that viable farming units are retained.	Consistent	The projects do not involve the subdivision of the property into smaller parcels. The projects are considered a temporary industrial use but would not induce growth in the area nor result in the expansion of urban boundaries. While the projects would temporarily convert agricultural land to non-agricultural uses; a reclamation plan would be prepared for the project sites, which, when implemented, would return the site to pre-project conditions after the solar uses are discontinued.
Objective 2.4. Discourage the parcelization of large holdings.	Consistent	The projects do not involve the subdivision of the property into smaller parcels. The size of the existing parcels would be retained for future agricultural use following site restoration.
Objective 2.6. Discourage the development of new residential or other non-agricultural areas outside of city "sphere of influence" unless	Consistent	The projects are located within the County's designated Renewable Energy zone, which identifies areas that are considered appropriate for the development of renewable energy.

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Table 3.3-2. Project Consistency with Applicable General Plan Agricultural Policies

General Plan Policies	Consistency with General Plan	Analysis
designated for non-agricultural use in the County General Plan, or for necessary public facilities.		
Goal 3. Limit the introduction of conflicting uses into farming areas, including residential development of existing parcels which may create the potential for conflict with continued agricultural use of adjacent property.	Consistent	Upon approval of the CUP, the VEGA SES 5 Project would be an allowable use within the applicable agricultural zone. Additionally, the projects do not include the development of housing. The solar development would be compatible with existing agricultural uses to the west.
Objective 3.2. Enforce the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031).	Consistent	The Imperial County Right-to-Farm Ordinance would be enforced. Existing nuisance issues, such as noise, dust, and odors from existing agricultural use would not impact the projects given the general lack of associated sensitive uses (e.g., residences). Likewise, with mitigation measures proposed in other resource sections (e.g., air quality, and noise) project-related activities would not adversely affect adjacent agricultural operations.
Objective 3.3. Enforce the provisions of the State nuisance law (California Code Sub-Section 3482).	Consistent	The provisions of the state nuisance law would be incorporated into the projects. As discussed below, there is the potential that weeds or other pests may occur within the solar field if these areas are not properly maintained and managed to control weeds and pests. Mitigation Measure AG-1 requires the project applicant to develop a Pest Management Plan prior to the issuance of a grading permit or building permit (whichever occurs first).

Source: County of Imperial 2015
BMP – best management practice; CUP – conditional use permit; DOC – Department of Conservation; IID – Imperial Irrigation District

3.3.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to agricultural resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to agricultural resources are considered significant if any of the following occur:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use.
- Conflict with existing zoning for agricultural use, or a Williamson Act contract.

- Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.

Methodology

This analysis evaluates the potential for the projects, as described in Chapter 2, Project Description, to adversely impact agricultural resources within the project sites based on the applied significance criteria as identified above. The analysis prepared for this EIR relied on Important Farmland and Williamson Act maps for Imperial County produced by the California DOC's Division of Land Resource Protection. These sources were used to determine the agricultural significance of the land in the project sites. Per the County of Imperial General Plan, Farmland of Local Importance is also considered an important farmland.

Additionally, potential conflicts with existing agricultural zoning or other changes resulting from the implementation of the projects, which could indirectly remove Important Farmland from agricultural production or reduce agricultural productivity were considered. Sources used in this evaluation included, but were not limited to, the Imperial County General Plan and zoning ordinance. The conceptual site plans for the projects (Chapter 2) was also used to evaluate potential impacts.

Impact Analysis

Impact 3.3-1 Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use?

VEGA SES 2 and 3

According to the California DOC's California Important Farmland Finder, the VEGA SES 2 and 3 Project sites are designated as Other Land (DOC 2021). The VEGA SES 2 and 3 Project sites do not contain Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Therefore, the proposed projects would not convert land designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland to non-agricultural uses and no impact is identified.

VEGA SES 5

According to the California DOC's California Important Farmland Finder, the majority of the VEGA SES 5 Project site is designated as Other Land (DOC 2021). A portion of the VEGA SES 5 Project site (APN 025-260-022) is designated as Farmland of Local Importance. It should be noted that analysis of Other Land and Farmland of Local Importance is not required under CEQA significance criteria, as these designations are not considered an "agricultural land" per CEQA Statute Section 21060.1(a). The VEGA SES 5 Project would temporarily convert Farmland of Local Importance to non-agricultural uses. However, as a condition of project approval (CUP condition), the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of its lifespan. The reclamation plan includes the removal, recycling, and/or disposal of all solar arrays, inverters, transformers, and other structures on the project site, as well as restoration of the site to pre-project conditions. The County is responsible for approving the reclamation plan for the projects and confirming that financial assurances for the projects are in conformance with Imperial County ordinances prior to the issuance of any building permits. This shall be made a condition of approval and included in the CUPs. Implementation of the

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reclamation plan would reduce the impact associated with the temporary conversion of Farmland of Local Importance to non-agricultural uses to a level less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.3-2 Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

VEGA SES 2, 3 and 5

Williamson Act. The VEGA SES 2 and 3 Project sites are not located on Williamson Act contracted land (DOC 2016). Therefore, the projects would not conflict with a Williamson Act contract and no impact would occur.

Agricultural Zoning. The VEGA SES 2 and 3 Project sites are zoned Open Space/Preservation with a Renewable Energy Zone Overlay (S-2-RE). The VEGA SES 2 and 3 Projects would not conflict with existing zoning for agricultural use and no impact is identified.

VEGA SES 5

Williamson Act. The VEGA SES 5 Project site is not located on Williamson Act contracted land (DOC 2016). Therefore, the project would not conflict with a Williamson Act contract and no impact would occur.

Agricultural Zoning. The VEGA SES 5 Project site is zoned as General Agriculture with a Renewable Energy Zone Overlay (A-2-RE), Heavy Agriculture with a Renewable Energy Zone Overlay (A-3-RE) and S-2-RE Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

j) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)

s) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.

z) Electrical substations in an electrical transmission system (500 kV/230 kV/161 kV)

bb) Facilities for the transmission of electrical energy (100–200 kV)

ww) Resource extraction and energy development as per Division 17

aaa) Solar energy electrical generator

Pursuant to Title 9, Division 5, Chapter 9, the following uses are permitted in the A-3 zone subject to approval of a CUP from Imperial County:

i) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)

o) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.

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oo) Major facilities relating to the generation and transmission of electrical energy provided such facilities are not under State or Federal law, to be approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters, meeting the requirements in Division 17.

zz) Solar energy plants meeting the requirements in Division 17

Upon approval of the CUP, the project's use would be consistent with the Imperial County Land Use Ordinance and thus is also consistent with the General Plan land use designation of the site. Additionally, the operation of the solar generating facility is not expected to inhibit or adversely affect adjacent agricultural operations through the placement of sensitive land uses, generation of excessive dust or shading, or place additional development pressures on adjacent areas. Based on these considerations, the impact is considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.3-3 Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?

VEGA SES 2 and 3

As discussed under Impact 3.3-1, the VEGA 2 and 3 Project sites do not contain Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. Furthermore, the VEGA 2 and 3 Project sites are not zoned for agricultural uses. Therefore, the VEGA 2 and 3 Projects would not involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use. No impact is identified.

VEGA SES 5

The Agricultural Element of the County's General Plan serves as the primary policy statement for implementing development policies for agricultural land use in Imperial County. The goals, objectives, implementation programs, and policies found in the Agricultural Element provide direction for private development as well as government actions and programs. A summary of the relevant Agricultural goals and objectives and the project's consistency with applicable goals and objectives is summarized in Table 3.3-2. As provided, the projects are generally consistent with certain Agricultural Element Goals and Objectives of the County General Plan.

Per County policy, agricultural land may be converted to non-agricultural uses only where a clear and immediate need can be demonstrated, such as requirements for urban housing, commercial facilities, or employment opportunities. Further, no agricultural land designated exempt shall be removed from the agriculture category except where needed for use by a public agency, for geothermal purposes, where a mapping error may have occurred, or where a clear long-term economic benefit to the County can be demonstrated through the planning and environmental review process.

As discussed under Impact 3.3-1, the VEGA SES 5 Project site does not contain Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Furthermore, the project site is located

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within the Renewable Energy Zone and the project is, therefore, considered an appropriate use in this area. Additionally, as a condition of project approval (CUP condition), the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of its lifespan. The reclamation plan includes the removal, recycling, and/or disposal of all solar arrays, inverters, transformers, and other structures on the project site, as well as restoration of the site to pre-project conditions. The County is responsible for approving the reclamation plan for the project and confirming that financial assurances for the project are in conformance with Imperial County ordinances prior to the issuance of any building permits. This shall be made a condition of approval and included in the CUP.

The nature of the project warrants that it be located adjacent to existing electrical transmission infrastructure. The electrical energy produced by the VEGA SES 5 Project would be conducted through the project's interconnection facilities to the IID's 92 kV Midway Substation.

With the approval of the CUP, the project would be consistent with the County's Land Use Ordinance. Consistency with the Land Use Ordinance implies consistency with the General Plan land use designation.

The project would not directly impact the movement of agricultural equipment on roads located within the agriculture category and access to existing agriculture-serving roads would not be precluded or hindered by the project. No modifications to roadways are proposed in the project area that would otherwise affect other agricultural operations in the area. Furthermore, existing nuisance issues, such as noise, dust, and odors from existing agricultural use would not impact the project given the general lack of associated sensitive uses (e.g., residences). Likewise, with mitigation measures proposed in other resource sections (air quality, noise, etc.), project-related activities would not adversely affect adjacent agricultural operations. Further, the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031) and the State nuisance law (California Code Sub-Section 3482) would continue to be enforced.

With the implementation of the VEGA SES 5 Project, it is possible that the physical and chemical makeup of the soil materials within the upper soil horizon may change. For example, improper soil stockpiling and management of the stockpiles could result in increased decomposition of soil organic materials, increased leaching of plant available nitrogen, and depletion of soil biota communities (e.g., Rhizobium or Frankia). Any reductions in agricultural productivity could significantly limit the types of crops (deeper rooting crops, orchards, etc.) that may be grown within the project site in the future. However, as a condition of project approval (CUP condition), the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of their lifespan. The reclamation plan includes restoration of the site to pre-project conditions.

Additionally, there is the potential that weeds or other pests may occur within the solar fields if the area is not properly maintained and managed to control weeds and pests. This is considered a significant impact. Implementation of Mitigation Measure AG-1 would reduce this impact to a level less than significant.

Mitigation Measure(s)

This mitigation measure is applicable to the VEGA SES 5 project only.

AG-1 Prior to the issuance of a grading permit or building permit (whichever occurs first), a Pest Management Plan shall be developed by the project applicant and approved by the

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County of Imperial Agricultural Commissioner. The project applicant shall maintain a Pest Management Plan until reclamation is complete. The plan shall provide the following:

1. Monitoring, preventative, and management strategies for weed and pest control during construction activities at any portion of the project (e.g., transmission line);
2. Control and management of weeds and pests in areas temporarily disturbed during construction where native seed will aid in site revegetation as follows:
    - Monitor for all pests including insects, vertebrates, weeds, and pathogens. Promptly control or eradicate pests when found, or when notified by the Agricultural Commissioner's office that a pest problem is present on the project site. The assistance of a licensed pest control advisor is recommended. All treatments must be performed by a qualified applicator or a licensed pest control business.
    - All treatments must be performed by a qualified applicator or a licensed pest control operator.
    - "Control" means to reduce the population of common pests below economically damaging levels, and includes attempts to exclude pests before infestation, and effective control methods after infestation. Effective control methods may include physical/mechanical removal, bio control, cultural control, or chemical treatments.
    - Use of "permanent" soil sterilants to control weeds or other pests is prohibited because this would interfere with reclamation.
    - Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of Food Agriculture and the U.S. Department of Agriculture. Request a sample be taken by the Agricultural Commissioner's Office of a suspected invasive species. Eradication of exotic pests shall be done under the direction of the Agricultural Commissioner's Office and/or California Department of Food and Agriculture.
    - Obey all pesticide use laws, regulations, and permit conditions.
    - Allow access by Agricultural Commissioner staff for routine visual and trap pest surveys, compliance inspections, eradication of exotic pests, and other official duties.
    - Ensure all project employees that handle pest control issues are appropriately trained and certified, all required records are maintained and made available for inspection, and all required permits and other required legal documents are current.
    - Maintain records of pests found and treatments or pest management methods used. Records should include the date, location/block, project name (current and previous if changed), and methods used. For pesticides include the chemical(s) used, EPA Registration numbers, application rates, etc. A pesticide use report may be used for this.

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- Submit a report of monitoring, pest finds, and treatments, or other pest management methods to the Agricultural Commissioner quarterly within 15 days after the end of the previous quarter, and upon request. The report is required even if no pests were found or treatment occurred. It may consist of a copy of all records for the previous quarter, or may be a summary letter/ report as long as the original detailed records are available upon request.

3. A long-term strategy for weed and pest control and management during the operation of the proposed project. Such strategies may include, but are not limited to:
    - Use of specific types of herbicides and pesticides on a scheduled basis.
4. Maintenance and management of project site conditions to reduce the potential for a significant increase in pest-related nuisance conditions on surrounding agricultural lands.
5. The project shall reimburse the Agricultural Commissioner's office for the actual cost of investigations, inspections, or other required non-routine responses to the site that are not funded by other sources.

Significance after Mitigation

The project applicant would be required to adhere to the terms of the comprehensive reclamation plan that would restore the VEGA SES 5 Project site to preexisting (pre-project) conditions following decommissioning of the project (after its use for solar generation activities). In addition, the VEGA SES 5 Project would be required to implement a weed and pest management control plan per Mitigation Measure AG-1. Compliance with these measures would reduce this impact to a level less than significant.

3.3.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

In any land restoration project, it is necessary to minimize disruption to topsoil or stockpiled topsoil for later use during restoration following project decommissioning. With the implementation of the VEGA SES 5 Project, it is possible that the physical and chemical makeup of the soil materials within the upper soil horizon may change during construction and associated stockpiling operations. Improper soil stockpiling and management of the stockpiles could result in increased decomposition of soil organic materials, increased leaching of plant-available nitrogen, and depletion of soil biota communities (e.g., Rhizobium or Frankia). Each of these circumstances could have an adverse effect on the future productivity of the restored soils. Any reductions in agricultural productivity could significantly limit the types of crops (deeper rooting crops, orchards, etc.) that may be grown within the project site in the future. As a condition of project approval (CUP condition), the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of its lifespan. The reclamation plan includes restoration of the site to pre-project conditions. With implementation of the site reclamation plan, this impact is considered less than significant.

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Residual

The VEGA SES 5 Project would temporarily convert Farmland of Local Importance to non-agricultural uses. However, as a condition of project approval (CUP condition), the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of its lifespan. The reclamation plan includes the removal, recycling, and/or disposal of all solar arrays, inverters, transformers, and other structures on the project site, as well as restoration of the site to pre-project conditions. This shall be made a condition of approval and included in the CUP. Implementation of the reclamation plan would reduce the impact associated with the temporary conversion of Farmland of Local Importance to non-agricultural uses to a level less than significant. Based on these circumstances, the VEGA SES 5 Project would not result in any residual significant and unmitigable impacts to agricultural resources.

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3.4 Air Quality

This section includes an overview of the existing air quality within the project area and identifies applicable local, state, and federal policies related to air quality. The impact assessment provides an evaluation of potential adverse effects on air quality based on criteria derived from the CEQA Guidelines and Imperial County Air Pollution Control District's (ICAPCD) Air Quality Handbook in conjunction with actions proposed in Chapter 2, Project Description, of this EIR. ECORP Consulting, Inc. prepared an *Air Quality and Greenhouse Gas Assessment* that evaluates the potential air quality and climate change impacts of the VEGA SES 2, 3 & 5 Solar Energy Projects. This report is included in Appendix D of this EIR.

3.4.1 Existing Conditions

Regional Setting

The project area is located in Imperial County within the Salton Sea Air Basin (SSAB). The SSAB consists of all of Imperial County and a portion of Riverside County. Both the ICAPCD and South Coast Air Quality Management District (SCAQMD) have jurisdiction within the SSAB. The ICAPCD has full jurisdiction within all Imperial County and SCAQMD only has jurisdiction within Riverside County. As an arid desert region, the SSAB's climate is largely governed by the large-scale sinking and warming of air within the semi-permanent subtropical high-pressure center over the Pacific Ocean. When the fringes of mid-latitude storms pass through the Imperial Valley in winter, the coastal mountains create a strong "rain shadow" effect that makes Imperial Valley the second driest location in the U.S.

The lack of clouds and atmospheric moisture creates strong diurnal and seasonal temperature variations ranging from an average summer maximum of 108 degrees (°) Fahrenheit down to a winter morning minimum of 38° Fahrenheit. The most pleasant weather occurs from about mid-October to early May when daily highs are in the 70s and 80s with very infrequent cloudiness or rainfall. Imperial County experiences significant rainfall an average of only 4 times per year. The local area usually has three days of rain in winter and one thunderstorm day in August. The annual rainfall in this region is less than three inches per year (Appendix D of this EIR).

Temperature inversions and light nighttime winds trap any local air pollution emissions near the ground. As a result, the area is subject to frequent hazy conditions at sunrise, followed by rapid daytime dissipation as winds pick up and the temperature warms. During periods of strong solar heating and intense convection, turbulent motion creates good mixing and low levels of air pollution. The SSAB experiences surface inversions almost every day of the year. These inversions often last for long periods of time, which allows for air stagnation and buildup of pollutants, including ozone (O_3).

Winds in the area are driven by a complex pattern of local, regional, and global forces, but primarily reflect the temperature difference between the cool ocean to the west and the heated interior of the entire desert southwest. For much of the year, winds flow predominantly from the west to the east. In summer, intense solar heating in the Imperial Valley creates a more localized wind pattern, as air comes up from the southeast via the Gulf of California.

Imperial County is predominately agricultural land, which is a factor in the cumulative air quality of the SSAB. Agricultural production generates dust and small particulate matter through the use of agricultural equipment on unpaved roads, land preparation, and harvest practices. Imperial County

experiences unhealthful air quality from photochemical smog and from dust because of extensive surface disturbance and the very arid climate (Appendix D of this EIR).

Major Air Pollutants

Criteria Pollutants

Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health with a determined margin of safety. Ozone, coarse particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2) are considered to be local pollutants because they tend to accumulate in the air locally. PM is also considered a local pollutant. Health effects commonly associated with criteria pollutants are summarized in Table 3.4-1.

Table 3.4-1. Criteria Air Pollutants- Summary of Common Sources and Effects

Pollutant	Major Manmade Sources	Human Health and Welfare Effects
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO_2	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O_3	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (N2O) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
PM_{10} and $PM_{2.5}$	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze)
SO_2	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, and locomotives.	Respiratory irritant. Aggravates lung and heart problems. Can damage crops and natural vegetation. Impairs visibility.

Source: Appendix D of this EIR

Toxic Air Contaminants

Toxic air contaminants (TAC) are substances that have the potential to be emitted into the ambient air and that have been determined to present some level of acute or chronic health risk (cancer or non-

cancer) to the general public. These pollutants may be emitted in trace amounts from various types of sources, including combustion sources. There are almost 200 compounds that have been designated as TACs in California. The 10 TACs posing the greatest known health risk in California, based primarily on ambient air quality data, are acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, formaldehyde, methylene chloride, para-dichlorobenzene, perchloroethylene, and diesel particulate matter (DPM).

Most recently, CARB identified DPM as a TAC. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine (U.S. EPA 2002). Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs; due to their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung (Appendix D of this EIR).

Total organic gases (TOG) emissions are compounds of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. Specifically, TOG emissions include all organic gas compounds emitted to the atmosphere, including the low reactivity compounds (methane, ethane, various chlorinated fluorocarbons, acetone, perchloroethylene, volatile methyl siloxanes, etc.). TOG emissions also include low volatility or "low vapor pressure" organic compounds (e.g., some petroleum distillate mixtures). TOG includes all organic compounds that can become airborne (through evaporation, sublimation, as aerosols, etc.), excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. Various subsets of TOG cause headaches, dizziness, upper respiratory tract irritation, nausea, and cancer. Vehicular traffic traveling on area roadways, such as SR 98, are sources of TOG (Appendix D of this EIR).

Attainment Status

The U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB) designate air basins or portions of air basins and counties as being in “attainment” or “nonattainment” for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. The National Ambient Air Quality Standards (NAAQS) (other than O_3, PM_{10} and $PM_{2.5}$ and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The NAAQS for O_3, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards (CAAQS) are not to be exceeded during a three-year period.

The attainment status for the portion of the SSAB encompassing the project area is shown in Table 3.4-2. As shown in Table 3.4-2, the Imperial County portion of the SSAB is currently designated as nonattainment for O_3 and PM_{10} under State standards. Under federal standards, the Imperial County portion of the SSAB is in nonattainment for O_3, PM_{10}, and $PM_{2.5}$. The area is currently in attainment or unclassified status for CO, NO_2, and SO_2.

Table 3.4-2. Attainment Status of Criteria Pollutants in the Imperial County Portion of the Salton Sea Air Basin

Pollutant	State Designation	Federal Designation
O_3	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Nonattainment
$PM_{2.5}$	Attainment	Nonattainment
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	Unclassified/Attainment

Source: Appendix D of this EIR

Local Ambient Air Quality

Ambient air quality within the project area can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. CARB maintains more than 60 monitoring stations throughout California. Ozone, PM_{10} and $PM_{2.5}$ are the pollutants most potently affecting the project region. As described above, the project region is designated as a nonattainment area for the federal O_3, $PM_{2.5}$ and PM_{10} standards and is also a nonattainment area for the State standards for O_3 and PM_{10}. The Niland-English Road air quality monitoring station (7711 English Road, Niland), located approximately 7.27 miles west of the project area, monitors ambient concentrations of O_3 and PM_{10}. The Brawley-Main Street #2 air quality monitoring station (220 Main Street, Brawley), located approximately 17.8 miles southwest of the project area, monitors ambient concentrations of $PM_{2.5}$. Ambient emission concentrations will vary due to localized variations in emission sources and climate and should be considered "generally" representative of ambient concentrations in the project area.

Table 3.4-3 summarizes the published data concerning O_3, $PM_{2.5}$ and PM_{10} from the Niland-English Road and Brawley-Main Street #2 monitoring stations for monitoring years 2019-2021. As shown in Table 3.4-3, O_3, PM_{10} and $PM_{2.5}$ are the pollutants most potently affecting the project region.

Table 3.4-3. Summary of Local Ambient Air Quality Data

Pollutant Standards	2019	2020	2021
O_3 – Niland-English Road			
Max 1-hour concentration (ppm)	0.060	0.054	0.065
Max 8-hour concentration (ppm) (state/federal)	0.055 / 0.054	0.046 / 0.045	0.055 / 0.055
Number of days above 1-hour standard (state/federal)	0/0	0/0	0/0
Number of days above 8-hour standard (state/federal)	0/0	0/0	0/0

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Table 3.4-3. Summary of Local Ambient Air Quality Data

Pollutant Standards	2019	2020	2021
PM_{10} – Niland-English Road			
Max 24-hour concentration (µg/m^3) (state/federal)	156.3 / 155.7	241.3 / 239.8	218.2 / 211.2
Number of days above 24-hour standard (state/federal)	49.3 / 1.0	68.9 / 1.0	86.0 / 4.0
$PM_{2.5}$ – Brawley-Main Street			
Max 24-hour concentration (µg/m^3) (state/federal)	28.9 / 28.9	23.7 / 23.7	24.4 / 24.4
Number of days above federal 24-hour standard	0	0	*

Source: Appendix D of this EIR
Notes:
µg/m^3 = micrograms per cubic meter; ppm = parts per million
** = Insufficient data available*

Sensitive Receptors

High concentrations of air pollutants pose health hazards for the general population, but particularly for the young, the elderly, and the sick. Typical health problems attributed to smog include respiratory ailments, eye and throat irritations, headaches, coughing, and chest discomfort. Certain land uses are considered to be more sensitive to the effects of air pollution. Schools, hospitals, residences, and other facilities where people congregate, especially children, the elderly and infirm, are considered particularly sensitive to air pollutants.

The nearest existing sensitive land use to the project area is a single-family residence located approximately 523 feet from the southwestern corner of the VEGA SES 5 project site (APN 025-260-022).

3.4.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the projects.

Federal

Clean Air Act

The Federal Clean Air Act (CAA), passed in 1970 and last amended in 1990, is the primary federal law that governs air quality. The Federal CAA delegates primary responsibility for clean air to the U.S. EPA. The U.S. EPA develops rules and regulations to preserve and improve air quality and delegates specific responsibilities to state and local agencies. Under the act, the U.S. EPA has established the NAAQS for six criteria air pollutants that are pervasive in urban environments and for which state and national health-based ambient air quality standards have been established. Ozone, CO, NO_2, SO_2, Pb, and PM (Including both PM_{10}, and $PM_{2.5}$) are the six criteria air pollutants. Ozone is a secondary pollutant, nitrogen oxides (NO_x) and volatile organic compounds (VOCs) are of particular interest as they are precursors to ozone formation. In addition, national standards exist for Pb. The NAAQS

standards are set at levels that protect public health with a margin of safety and are subject to periodic review and revision.

The Federal CAA requires U.S EPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The federal standards are summarized in Table 3.4-4.

State

California Clean Air Act

The California Clean Air Act (CCAA) was adopted by CARB in 1988. The CCAA is responsible for meeting the state requirements of the Federal CAA and for establishing the CAAQS. CARB oversees the functions of local air pollution control districts and air quality management districts, which, in turn, administer air quality activities at the regional and county levels. The CCAA, as amended in 1992, requires all air districts of the state to achieve and maintain the CAAQS by the earliest practical date.

The CCAA requires CARB to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous 3 calendar years. As shown in Table 3.4-4, the CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as nonattainment.

California State Implementation Plan

The CAA mandates that the state submit and implement a State Implementation Plan (SIP) for areas not meeting the NAAQS. These plans must include pollution control measures that demonstrate how the standards will be met. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the U.S. EPA for approval and publication in the Federal Register. The Code of Federal Regulations Title 40, Chapter I, Part 52, Subpart F, Section 52.220 lists all of the items which are included in the California SIP.

Table 3.4-4. Ambient Air Quality Standards

Air Pollutant	Averaging Time	California Standard	National Standard
O_3	1-hour 8-hour	0.09 ppm 0.070 ppm	-- 0.070 ppm
PM_{10}	24-hour Mean	50 µg/m^3 20 µg/m^3	150 µg/m^3 --
$PM_{2.5}$	24-hour Mean	-- 12 µg/m^3	35 µg/m^3 12.0 µg/m^3
CO	1-hour 8-hour	20 ppm 9.0 ppm	35 ppm 9 ppm

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Table 3.4-4. Ambient Air Quality Standards

Air Pollutant	Averaging Time	California Standard	National Standard
NO_2	1-hour Mean	0.18 ppm 0.030 ppm	100 ppb 0.053 ppm
SO_2	1-hour 24-hour	0.25 ppm 0.04 ppm	75 ppb --
Pb	30-day Rolling 3-month	1.5 µg/m^3	-- 0.15 µg/m^3
Sulfates	24-hour	25 µg/m^3	No federal standard
Hydrogen sulfide	1-hour	0.03 ppm	
Vinyl chloride	24-hour	0.01 ppm	
Visibility-reducing particles	8-hour	Extinction coefficient of 0.23 per kilometer, visibility of 10 miles or more because of particles when relative humidity is less than 70 percent	

Source: CARB 2016

Notes:

CO – carbon monoxide; mean – annual arithmetic mean; NO_2 – nitrogen dioxide; O_3 – ozone; Pb – lead; $PM_{2.5}$ – particulate matter less than 2.5 microns in diameter; PM_{10} - particulate matter less than 10 microns in diameter; ppb – parts per billion; ppm - parts per million; $S0_2$ – sulfur dioxide; µg/m^3 – micrograms per cubic meter

Toxic Air Contaminants Regulation

TAC sources include industrial processes, dry cleaners, gasoline stations, paint and solvent operations, and fossil fuel combustion sources. The TACs that are relevant to the implementation of the projects include DPM and airborne asbestos.

In August 1998, ARB identified DPM emissions from diesel-fueled engines as a TAC. In September 2000, ARB approved a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel fueled engines and vehicles. The goal of the plan is to reduce diesel PM_{10} (inhalable particulate matter) emissions and the associated health risk by 75 percent in 2010 and by 85 percent by 2020. The plan identified 14 measures that target new and existing on-road vehicles (e.g., heavy duty trucks and buses, etc.), off-road equipment (e.g., graders, tractors, forklifts, sweepers, and boats), portable equipment (e.g., pumps, etc.), and stationary engines (e.g., stand-by power generators, etc.).

Tanner Air Toxics Act & Air Toxics "Hot Spots" Information and Assessment Act

CARB's Statewide comprehensive air toxics program was established in 1983 with Assembly Bill (AB) 1807, the Toxic Air Contaminant Identification and Control Act (Tanner Air Toxics Act of 1983). AB 1807 created California's program to reduce exposure to air toxics and sets forth a formal procedure

for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an airborne toxics control measure (ATCM) for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions.

CARB also administers the state's mobile source emissions control program and oversees air quality programs established by state statute, such as AB 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment (HRA) and, if specific thresholds are exceeded, required to communicate the results to the public in the form of notices and public meetings. In September 1992, the "Hot Spots" Act was amended by Senate Bill (SB) 1731, which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

Regional

Imperial County Air Pollution Control District

The ICAPCD is the agency responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards in the district. ICAPCD is responsible for regulating stationary sources of air emissions in Imperial County. Stationary sources that have the potential to emit air pollutants into the ambient air are subject to the Rules and Regulations adopted by ICAPCD. ICAPCD is responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases. Monitoring of ambient air quality in Imperial County began in 1976. Since that time, monitoring has been performed by ICAPCD, CARB, and by private industry. There are six monitoring sites in Imperial County from Niland to Calexico. The ICAPCD has developed the following plans to achieve attainment for air quality ambient standards.

- 2009 Imperial County Plan for PM_{10}
- 2013 Imperial County Plan for 2006 24-hour $PM_{2.5}$ for Moderate Nonattainment Area
- 2017 Imperial County Plan for 2008 8-hour Ozone Standard
- 2018 Imperial County Plan for PM_{10}
- 2018 Redesignation Request and Maintenance Plan for PM_{10}
- 2018 Imperial County Plan for $PM_{2.5}$

In addition to the above plans, the ICAPCD is working cooperatively with counterparts from Mexico to implement emissions reductions strategies and projects for air quality improvements at the border. The two countries strive to achieve these goals through local input from states, county governments, and citizens. Within the Mexicali and Imperial Valley area, the Air Quality Task Force has been organized to address those issues unique to the border region known as the Mexicali/Imperial air shed. The Air Quality Task Force membership includes representatives from federal, State, and local governments from both sides of the border, as well as representatives from academia, environmental organizations, and the general public. This group was created to promote regional efforts to improve

the air quality monitoring network, emissions inventories, and air pollution transport modeling development, as well as the creation of programs and strategies to improve air quality.

Imperial County Air Pollution Control District Rules and Regulations

ICAPCD has the authority to adopt and enforce regulations dealing with controls for specific types of sources, emissions or hazardous air pollutants, and New Source Review. The ICAPCD Rules and Regulations are part of the SIP and are separately enforceable by the EPA.

Rule 106 – Abatement. The Board may, after notice and a hearing, issue, or provide for the issuance by the Hearing Board, of an order for abatement whenever the District finds that any person is in violation of the rules and regulations limiting the discharge of air contaminants into the atmosphere.

Rule 107 – Land Use. The purpose of this rule is to provide ICAPCD the duty to review and advise the appropriate planning authorities within the District on all new construction or changes in land use which the Air Pollution Control Officer believes could become a source of air pollution problems.

Rule 201 – Permits Required. The construction, installation, modification, replacement, and operation of any equipment which may emit or control Air Contaminants require ICAPCD permits.

Rule 207 – New and Modified Stationary Source Review. Establishes preconstruction review requirements for new and modified stationary sources to ensure the operations of equipment does not interfere with attainment or maintenance of ambient air quality standards.

Rule 208 – Permit to Operate. The ICAPCD would inspect and evaluate the facility to ensure the facility has been constructed or installed and will operate to comply with the provisions of the Authority to Construct permit and comply with all applicable laws, rules, standards, and guidelines.

Rule 310 – Operational Development Fee. The purpose of this rule is to provide ICAPCD with a sound method for mitigating the emissions produced from the operation of new commercial and residential development projects throughout the County of Imperial and incorporated cities. All project proponents have the option to either provide off-site mitigation, pay the operational development fee, or do a combination of both. This rule will assist ICAPCD in attaining the state and federal ambient air quality standards for PM_{10} and O_3.

Rule 401 – Opacity of Emissions. Sets limits for release or discharge of emissions into the atmosphere, other than uncombined water vapor, that are dark or darker in shade as designated as No.1 on the Ringelmann Chart[1] or obscure an observer's view to a degree equal to or greater than smoke does as compared to No.1 on the Ringelmann Chart, for a period or aggregated period of more than three minutes in any hour.

Rule 403 – General Limitations on the Discharge of Air Contaminants. Rule 403 sets forth limitations on emissions of pollutants, including particulate matter, from individual sources.

Rule 407 – Nuisance. Rule 407 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

[1] The Ringelmann scale is a scale for measuring the apparent density or opacity of smoke.

Rule 801 – Construction and Earthmoving Activities. Rule 801 aims to reduce the amount of PM_{10} entrained in the ambient air as a result of emissions generated from construction and other earthmoving activities by requiring actions to prevent, reduce, or mitigate PM_{10} emissions. This rule applies to any construction and other earthmoving activities, including, but not limited to, land clearing, excavation related to construction, land leveling, grading, cut and fill grading, erection or demolition of any structure, cutting and filling, trenching, loading or unloading of bulk materials, demolishing, drilling, adding to or removing bulk of materials from open storage piles, weed abatement through disking, back filling, travel on-site and travel on access roads to and from the site.

Regulation VIII – Fugitive Dust Rules. Regulation VIII sets forth rules regarding the control of fugitive dust, including fugitive dust from construction activities. The regulation requires implementation of fugitive dust control measures to reduce emissions from earthmoving, unpaved roads, handling of bulk materials, and control of track-out/carry-out dust from active construction sites. Best Available Control Measures to reduce fugitive dust during construction and earthmoving activities include but are not limited to:

- Phasing of work in order to minimize disturbed surface area
- Application of water or chemical stabilizers to disturbed soils
- Construction and maintenance of wind barriers
- Use of a track-out control device or wash down system at access points to paved roads.

Compliance with Regulation VIII is mandatory for all construction sites, regardless of size; however, compliance with Regulation VIII does not constitute mitigation under the reductions attributed to environmental impacts. In addition, compliance for a project includes: (1) the development of a dust control plan for the construction and operational phase; and (2) notification to the Air District is required 10 days prior to the commencement of any construction activity. Furthermore, any use of engine(s) and/or generator(s) of 50 horsepower or greater may require a permit through ICAPCD.

Southern California Association of Governments – 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy

The Southern California Association of Governments (SCAG) is the designated metropolitan planning organization for Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial Counties. CEQA requires that regional agencies like SCAG review projects and plans throughout its jurisdiction. SCAG, as the region's "Clearinghouse," collects information on projects of varying size and scope to provide a central point to monitor regional activity. SCAG has the responsibility of reviewing dozens of projects, plans, and programs every month. Projects and plans that are regionally significant must demonstrate to SCAG their consistency with a range of adopted regional plans and policies.

On September 3, 2020, SCAG adopted the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (SCAG 2020). The RTP/SCS or "Connect SoCal" includes a strong commitment to reduce emissions from transportation sources to comply with Senate Bill 375, improve public health, and meet the NAAQS as set forth by the federal CAA. The following SCAG goal is applicable to the VEGA SES 2, 3 & 5 projects:

- Reduce greenhouse gas emissions and improve air quality

As a solar generation facility, the proposed projects would improve air quality by reducing the use of fossil fuels in energy production. With mitigation, construction of the proposed projects would not exceed any ICAPCD thresholds or result in significant impacts to air quality. Additionally, all construction projects within Imperial County must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. PM_{10} emissions associated with construction of the projects would be reduced through compliance with ICAPCD Regulation VIII. Operation of the proposed projects would not exceed any ICAPCD thresholds or result in significant impacts to air quality. Therefore, the proposed projects would be consistent with this SCAG goal.

Imperial County General Plan

The Imperial County General Plan serves as the overall guiding policy for the County. The Conservation and Open Space Element includes objectives for helping the County achieve the goal of improving and maintaining the quality of air in the region. Table 3.4-5 summarizes the projects' consistency with the applicable air quality goal and objectives from the Conservation and Open Space Element. While this EIR analyzes the projects' consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

Table 3.4-5. Project Consistency with Applicable Plan Policies

Applicable Policies	Consistency Determination	Analysis
Conservation and Open Space Element		
Protection of Air Quality and Addressing Climate Change Goal 7: The County shall actively seek to improve the quality of air in the region.	Consistent	The proposed projects would be required to comply with all applicable ICAPCD rules and requirements during construction and operation to reduce air emissions. Overall, the proposed projects would not significantly impact air quality and would reduce GHG emissions by reducing the amount of emissions that would be generated in association with electricity production from fossil fuel burning facilities. Therefore, the proposed projects are consistent with this goal.
Objective 7.1: Ensure that all project and facilities comply with current Federal, State and local requirements for attainment of air quality objectives.	Consistent	The proposed projects would comply with current federal and State requirements for attainment for air quality objectives through conformance with all applicable ICAPCD rules and requirements to reduce fugitive dust and emissions. Further, the projects would comply with the ICAPCD Air Quality CEQA Handbook's Mandatory Standard, Discretionary and Enhanced Air Quality Measures (Mitigation Measure AQ-1). Therefore, the proposed projects are consistent with this objective.

Table 3.4-5. Project Consistency with Applicable Plan Policies

Applicable Policies	Consistency Determination	Analysis
Objective 7.2: Develop management strategies to mitigate fugitive dust. Cooperate with all federal and state agencies in the effort to attain air quality objectives.	Consistent	The Applicant would cooperate with all federal and State agencies in the effort to attain air quality objectives through compliance with the ICAPCD Air Quality CEQA Handbook's Mandatory Standard, Discretionary and Enhanced Air Quality Measures (Mitigation Measure AQ-1). Therefore, the proposed projects are consistent with this objective.

Source: County of Imperial 2016

3.4.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to air quality, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to air quality are considered significant if any of the following occur:

- Conflict with or obstruct implementation of the applicable air quality plan
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O_3 precursors)
- Expose sensitive receptors to substantial pollutant concentrations
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people

Imperial County Air Pollution Control District

ICAPCD amended the Air Quality Handbook: Guidelines for the Implementation of CEQA on December 12, 2017 (ICAPCD 2017b). ICAPCD established significance thresholds based on the state CEQA thresholds. The handbook was used to determine the proper level of analysis for the project.

Significance thresholds for evaluation of construction and operational air quality impacts are listed in Table 3.4-6.

Projects that are predicted to exceed Tier I thresholds require implementation of applicable ICAPCD standard mitigation measures to be considered less than significant. Projects exceeding Tier II thresholds are required to implement applicable ICAPCD standard mitigation measures, as well as applicable discretionary mitigation measures. Projects that exceed the Tier II thresholds after implementation of standard and discretionary mitigation measures would be considered to have a potentially significant impact to human health and welfare.

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual

emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

Table 3.4-6. Imperial County Air Pollution Control District Significance Thresholds – Pounds per Day

Criteria Pollutant and Precursors	Construction Activities	Tier 2 Thresholds	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	
		Tier I Threshold	Tier II Threshold
ROG	75	<137	>137
NO_x	100	<137	>137
PM_{10}	150	<150	>150
$PM_{2.5}$	N/A	<550	>550
CO	550	<550	>550
SO_2	N/A	<150	>150

Source: ICAPCD 2017b

Notes:

CO – carbon monoxide; NO_x – nitrogen oxide; O_3 – ozone; Pb – lead; $PM_{2.5}$ – particulate matter less than 2.5 microns in diameter; PM_{10} - particulate matter less than 10 microns in diameter; ROG - reactive organic gas; S0x – sulfur oxide

Methodology

Air quality impacts were assessed in accordance with methodologies recommended by the ICAPCD. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2020.4.0.[2] Project construction-generated air pollutant emissions were calculated using CalEEMod model defaults for Imperial County as well as timing and equipment identified by the project proponent. For instance, construction is estimated to take 12-18 months. According to the Traffic Impact Study prepared for the projects (Appendix K1 and K2 of this EIR), the number of on–site construction workers for the VEGA SES 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the VEGA SES 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on–site construction workers for the VEGA SES 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the VEGA SES 5 battery storage facility and substation is not expected to exceed 50 workers at any one time (Appendix D of this EIR).

Construction workers would access the project area from McDonald Road, a paved road off SR 111. The VEGA SES 5 project site is located at the eastern end of McDonald Road. As such, vehicle travel to the VEGA SES 5 project site would not occur on any unpaved roads. Access to the VEGA SES 2

[2] CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects.

and 3 project sites would require an additional 1.65 miles of travel on Wiest Road and Flowing Wells Road, both of which are unpaved.

Operational air pollutant emissions account for a conservative estimate of two worker trips per day. Such visits include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules if needed to maintain power generation efficiency.

Impact Analysis

Impact 3.4-1 Would the project conflict with or obstruct implementation of the applicable air quality plan?

The air quality attainment plan (AQAP) for the SSAB, through the implementation of the AQMP (previously AQAP) and SIP for PM_{10}, sets forth a comprehensive program that will lead the SSAB into compliance with all federal and state air quality standards. The AQMP control measures and related emission reduction estimates are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Conformance with the AQMP for development projects is determined by demonstrating compliance with local land use plans and/or population projections, meeting the land use designation set forth in the local General Plan, and comparing assumed emissions in the AQMP to proposed emissions.

The projects must demonstrate compliance with all ICAPCD applicable rules and regulations, as well as local land use plans and population projections. As the projects do not contain a residential component, the projects would not result in an increase in the regional population. While the projects would contribute to energy supply, which is one factor of population growth, the proposed projects are solar energy projects and would not significantly increase employment or growth within the region. Moreover, development of the proposed projects would increase the amount of renewable energy and help California meet its Renewable Portfolio Standard (RPS).

As shown in Table 3.4-5, the projects are consistent with the applicable air quality goal and objectives from the Conservation and Open Space Element of the General Plan. The proposed projects would be required to comply with all applicable ICAPCD rules and requirements during construction and operation to reduce air emissions. Overall, the proposed projects would improve air quality by reducing the amount of emissions that would be generated in association with electricity production from fossil fuel burning facilities.

Furthermore, the thresholds of significance adopted by the air district (ICAPCD), determine compliance with the goals of the attainment plans in the region. As such, emissions below the ICAPCD thresholds presented in Table 3.4-6 would not conflict with or obstruct implementation of the applicable air quality plans. The following analysis is broken out by a discussion of potential impacts during construction of the projects followed by a discussion of potential impacts during operation of the projects.

Construction Emissions

Air emissions are generated during construction through activities. Two basic sources of short-term emissions will be generated through project construction: operation of heavy-duty equipment (i.e., excavators, loaders, haul trucks) and the creation of fugitive dust during clearing and grading, and committing on any exposed surfaces. Construction activities such as excavation and grading operations, construction vehicle traffic, and wind blowing over exposed soils would generate exhaust

emissions and fugitive PM emissions that affect local air quality at various times during construction. Construction emissions vary from day-to-day depending on the number of workers, number, and types of active heavy-duty vehicles and equipment, level of activity, the prevailing meteorological conditions, and the length over which these activities occur.

The construction of each individual project is anticipated to take approximately 12 to 18 months from the commencement of the construction process to complete. Construction is anticipated to begin in 2023. Construction activities would primarily involve demolition and grubbing, grading of the project sites to establish access roads and pads for electrical equipment, trenching for underground electrical collection lines, and the installation of solar equipment and security fencing. The construction emissions were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements.

The total unmitigated emissions generated within each year of project construction are shown in Table 3.4-7.

Table 3.4-7. Unmitigated Project Construction-Generated Emissions

Construction Year	Pollutant (pounds per day)					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction of VEGA SES 2 and 3 (2023)	5.46	35.12	50.94	0.08	1,210.25	122.54
Construction of VEGA SES 5 (2024)	3.96	32.64	41.48	0.07	11.51	5.14
ICAPCD Significance Threshold	75	100	550	—	150	—
Exceed ICAPCD Significance Threshold?	**No**	**No**	**No**	**No**	**Yes**	**No**

Source: Appendix D of this EIR.
Notes:
Pounds per day taken from the season (summer or winter) with the highest output.

VEGA SES 2 AND 3

As shown in Table 3.4-7, the VEGA SES 2 and 3 projects' daily construction emissions would not exceed the ICAPCD thresholds for ROG, NOx, CO, SO_2, and $PM_{2.5}$. However, emissions of PM_{10} would exceed the ICAPCD significance threshold on the peak day(s). The predominant source of the projects' PM_{10} emissions is workers commuting to and from the project sites on unpaved roads. Commute vehicles traveling over the exposed soils of unpaved roads generates substantial amounts of fugitive PM_{10} emissions. The access route on McDonald Road leading to the VEGA SES 2 and 3 project sites are paved; however, there are approximately 1.65 miles of unpaved roadway that would be used by commuting workers and vendors, specifically Wiest Road and Flowing Wells Road.

Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII – Fugitive Dust Control Measures. The project must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. Regulation VIII requires all unpaved roadways, on- and off-site, to be conditioned and maintained with soil stabilizers to reduce

dust opacity to no more than 20 percent; all unpaved disturbed surfaces, on- and off-site, to be stabilized with a dust suppressant, watering, or soil stabilizers to reduce opacity to no greater than 20 percent; and to reduce vehicle speed to no greater than 15 mph on all unpaved surfaces. Table 3.4-8 shows the projects' emissions with implementation of the Regulation VIII fugitive dust control measures (Mitigation Measure AQ-1). With implementation of Mitigation Measure AQ-1, the project would not exceed the ICAPCD's thresholds of significance for PM_{10} emissions.

In addition, as described in Mitigation Measure AQ-2, construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at the project site by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit. The equipment list shall be submitted periodically to ICAPCD to perform a NO_x analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds.

Table 3.4-8. Mitigated Project Construction-Generated Emissions

Construction Year	Pollutant (pounds per day)					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction of VEGA SES 2 and 3 (2023)	5.46	35.12	50.94	0.08	115.51	13.52
Construction of VEGA SES 5 (2024)	3.96	32.64	41.48	0.07	5.89	2.91
ICAPCD Significance Threshold	75	100	550	—	150	—
Exceed ICAPCD Significance Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Appendix D of this EIR.
Notes:
Pounds per day taken from the season with the highest output.

VEGA SES 5

As shown in Table 3.4-7, the VEGA SES 5 project's daily construction emissions would not exceed the ICAPCD thresholds and a less than significant impact is identified. However, pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII – Fugitive Dust Control Measures. The VEGA SES 5 must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. Therefore, implementation of the Regulation VIII fugitive dust control measures (Mitigation Measure AQ-1) is required for the VEGA SES 5 project.

In addition, as described in Mitigation Measure AQ-2, construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at the project site by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit. The

equipment list shall be submitted periodically to ICAPCD to perform a NO_x analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds.

Operational Emissions

VEGA SES 2, 3 AND 5

Although limited, implementation of the projects would result in long-term operational emissions of criteria air pollutants such as PM_{10}, $PM_{2.5}$, CO, and SO_2 as well as O_3 precursors such as ROG and NOx. Project-generated increases in emissions would be predominately associated with motor vehicle use for routine maintenance work and site security as well as panel upkeep and cleaning. Long-term combined operational emissions attributable to the projects are identified in Table 3.4-9 and compared to the operational significance thresholds promulgated by the ICAPCD.

Table 3.4-9. Project Operational Emissions

Emission Source	Pollutant (pounds per day)					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer Emissions						
Area	50.85	0.00	0.24	0.00	0.00	0.00
Energy	0.66	6.05	5.08	0.03	0.46	0.46
Mobile	0.01	0.01	0.10	0.00	3.54	0.35
Total	**51.52**	**6.06**	**5.42**	**0.03**	**4.00**	**0.81**
ICAPCD Significance Threshold	137	137	150	550	550	150
Exceed ICAPCD Significance Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Winter Emissions						
Area	50.85	0.00	0.24	0.00	0.00	0.00
Energy	0.66	6.05	5.08	0.03	0.46	0.46
Mobile	0.00	0.01	0.08	0.00	3.54	0.35
Total	**51.51**	**6.06**	**5.42**	**0.03**	**4.00**	**0.81**
ICAPCD Significance Threshold	137	137	150	550	550	150

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Table 3.4-9. Project Operational Emissions

Emission Source	Pollutant (pounds per day)					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Exceed ICAPCD Significance Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Appendix D of this EIR.

Notes:

Operational emissions account for two vehicle trips per day. It is noted that this is a conservative estimate as many days will have no operational related vehicle trips. Additionally, it accounts for the energy usage used for the battery energy storage system and the pumping of 32-acre feet of water per year.

As shown in Table 3.4-9, the projects' combined operational emissions would not exceed the ICAPCD thresholds for CO, ROG, NO_x, $PM_{10,}$ SO_2 and $PM_{2.5}$. Although no significant air quality impact would occur during operation, the project applicant is required to submit a Dust Suppression Management Plan for both construction and operation in order to reduce fugitive dust emissions. Implementation of Mitigation Measures AQ-3, AQ-4, and AQ-5 would ensure that a Dust Suppression Management Plan is implemented, thereby ensuring that this potential impact would remain less than significant.

As solar generation facilities, the proposed projects would improve air quality by reducing the use of fossil fuels in energy production. The energy produced by the projects would displace the criteria pollutant emissions which would otherwise be produced by existing business-as-usual power generation resources (including natural gas and coal).

Table 3.4-10 shows the emissions that would potentially be displaced by the proposed projects. Displacement of fossil fuel emissions has a direct beneficial effect on human health for those receptors downwind of the location of the fossil fuel power plants. As shown in Table 3.4-10, the projects would potentially displace approximately 148 tons of NO_x, 11 tons of CO, 19 tons of SO_2, 18 tons of PM_{10}, and 8 tons of $PM_{2.5}$ over the course of 30 years.

Table 3.4-10. Proposed Project Displaced Criteria Pollutant Emissions (Tons)

Source of Displaced Emissions	Emissions (tons)					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Emissions Displaced Annually (tons)						
Displaced Natural Gas-Source Emissions	0	0.61	0.19	0.42	0.58	0.23
Displaced Coal-Source Emissions	0	4.31	0.18	0.20	0.03	0.02
Total	**0**	**4.92**	**0.37**	**0.62**	**0.61**	**0.26**
Emissions Displaced over 30 Years (tons)						
Displaced Natural Gas-Source Emissions	0	18.36	5.56	12.61	17.43	7.05

PC ORIGINAL PKG

Table 3.4-10. Proposed Project Displaced Criteria Pollutant Emissions (Tons)

Source of Displaced Emissions	Emissions (tons)					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Displaced Coal-Source Emissions	0	129.38	5.39	6.15	0.91	0.65
Total	**0**	**147.74**	**10.95**	**18.76**	**18.34**	**7.69**

Source: Appendix D of this EIR.

As described above, conformance with the AQMP for development projects is determined by demonstrating compliance with local land use plans and/or population projections and comparing assumed emissions in the AQMP to proposed emissions. Because the proposed projects comply with local land use plans and population projections and would not exceed ICAPCD's regional mass daily emissions thresholds during construction (with implementation of Mitigation Measure AQ-1) and operation, the proposed projects would not conflict with or obstruct implementation of the applicable air quality plan. Furthermore, the projects would also have a direct beneficial effect on human health by displacing criteria pollutants. Impacts would be than significant impact with mitigation incorporated.

Mitigation Measure(s)

AQ-1 **Fugitive Dust Control.** During construction activities, the constructor contractor shall employ the following PM_{10} reducing measures:

1. All unpaved roads associated with construction shall be effectively stabilized of dust emissions using Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant before the commencement of construction, and every 30 days thereafter until the end of all construction activities. Unpaved roads associated with construction include:
    - The 1.65 miles of unpaved road on Weist Road and Flowing Wells Road to the VEGA SES 2 and 3 project sites. Monthly application of Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant shall be applied at a rate of 0.1 gallon/square yard of chemical dust suppressant.
2. Prior to any earthmoving activity, the applicant shall submit a construction dust control plan and obtain Imperial County Air Pollution Control District and Imperial County Planning and Development Services Department (ICPDS) approval.
3. Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII – Fugitive Dust Control Measures. Whereas these Regulation VIII measures are mandatory and are not considered project environmental mitigation measures, the ICAPCD CEQA Handbook's required additional standard and enhanced mitigation measures listed below shall be implemented prior to and during construction. ICAPCD will verify implementation and compliance with these measures as part of the grading permit review/approval process.

ICAPCD Standard Measures for Fugitive Dust (PM_{10}) Control

- All disturbed areas, including bulk material storage, which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material, such as vegetative ground cover.
- All on-site and off-site unpaved roads will be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material.
- All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.
- Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.
- The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants, and/or watering.

ICAPCD “Discretionary” Measures for Fugitive Dust (PM_{10}) Control

- Water exposed soil only in those areas where active grading and vehicle movement occurs with adequate frequency to control dust.
- Replace ground cover in disturbed areas as quickly as possible.
- Automatic sprinkler system installed on all soil piles.
- Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site.
- Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees.
- Implement a shuttle service to and from retail services and food establishments during lunch hours.

Standard Mitigation Measures for Construction Combustion Equipment

- Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum.
- Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

Enhanced Mitigation Measures for Construction Equipment

To help provide a greater degree of reduction of PM emissions from construction combustion equipment, ICAPCD recommends the following enhanced measures.

- Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways.
- Implement activity management (e.g., rescheduling activities to reduce short-term impacts).

AQ-2 **Construction Equipment.** Construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at the project sites by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit. The equipment list shall be submitted periodically to ICAPCD to perform a NO_x analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds. The Planning and Development Services Department and ICAPCD shall verify implementation of this measure.

AQ-3 **Dust Suppression.** The project applicant shall employ a method of dust suppression (such as water or chemical stabilization) approved by ICAPCD. The project applicant shall apply chemical stabilization as directed by the product manufacturer to control dust between the panels as approved by ICAPCD, and other non-used areas (exceptions will be the paved entrance and parking area, and Fire Department access/ emergency entry/exit points as approved by Fire/Office of Emergency Services [OES] Department).

AQ-4 **Operational Dust Control Plan.** Prior to issuance of a Certificate of Occupancy, the applicant shall submit an operations dust control plan and obtain ICAPCD and ICPDS approval.

ICAPCD Rule 301 Operational Fees apply to any project applying for a building permit. At the time that building permits are submitted for the proposed projects, ICAPCD shall review the project to determine if Rule 310 fees are applicable to the projects.

Significance After Mitigation

With implementation of the Regulation VIII fugitive dust control measures (Mitigation Measure AQ-1), the projects would not exceed the ICAPCD's thresholds of significance for PM_{10} emissions. Mitigation Measures AQ-2 through AQ-4 would provide additional reduction strategies to further improve air quality and reductions in criteria pollutants (O_3 precursors) and ensure that this potential impact would remain less than significant. Given the above, the proposed projects would not conflict with implementation of applicable air quality plans, and impacts would be less than significant impact.

Impact 3.4-2 Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O_3 precursors)?

VEGA SES 2, 3 AND 5

As shown in Table 3.4-2, the criteria pollutants for which the project area is in State non-attainment under applicable air quality standards are O_3 and PM_{10}. The ICAPCD's application of thresholds of significance for criteria air pollutants is relevant to the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality. As discussed above in Impact 3.4-1, the projects' daily construction emissions would not exceed the ICAPCD thresholds for ROG, NOx, CO, SO_2, and $PM_{2.5}$. However, the VEGA SES 2 and 3 projects would exceed the ICAPCD threshold for PM_{10}. To mitigate the potential impacts associated with construction-generated emissions with regard to PM_{10}, the VEGA SES 2 and 3 projects would adhere to the requirements of ICAPCD Regulation VIII for the control of fugitive dust. As shown in Table 3.4-8, with implementation of the Regulation VIII fugitive dust control measures, the VEGA SES 2 and 3 projects would not exceed the ICAPCD's threshold of significance for PM_{10} emissions. Although, the VEGA SES 5 project's construction emissions would not exceed the ICAPCD thresholds, it must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. Therefore, implementation of the Regulation VIII fugitive dust control measures (Mitigation Measure AQ-1) is required for the VEGA SES 5 project. Furthermore, implementation of Mitigation Measures AQ-1 through AQ-4 will ensure compliance with ICAPCD rules and regulations and applicable air quality plan control measures. Therefore, the projects' potential to result in a cumulatively considerable net increase of any criteria pollutant is considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.4-3 Would the project expose sensitive receptors to substantial pollutant concentrations?

VEGA SES 2, 3 AND 5

The nearest existing sensitive land use to the project area is a single-family residence located approximately 523 feet from the southwestern corner of the VEGA SES 5 project site (APN 025-260-022).

Construction-Generated Air Contaminants. Construction of the projects would result in temporary, short-term project-generated emissions of DPM, ROG, NO_x, CO, and PM_{10} from the exhaust of off-road, heavy-duty diesel equipment; soil hauling truck traffic; paving; and other miscellaneous activities.

The portion of the SSAB which encompasses the project area is designated as a nonattainment area for federal O_3, $PM_{2.5}$ and PM_{10} standards and is also a nonattainment area for the state standards for O_3 and PM_{10}. Thus, existing O_3 and PM_{10} levels in the SSAB are at unhealthy levels during certain periods. However, as shown in Table 3.4-8, the projects would not exceed the ICAPCD significance thresholds for construction emissions with mitigation incorporated.

The health effects associated with O_3 are generally associated with reduced lung function. Because the projects would not involve construction activities that would result in O_3 precursor emissions (ROG or NO_x) in excess of the ICAPCD thresholds, the projects are not anticipated to substantially contribute to regional O_3 concentrations and the associated health impacts.

CO tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. The projects would not involve activities that would result in CO emissions in excess of the ICAPCD thresholds. Thus, the projects' CO emissions would not contribute to the health effects associated with this pollutant.

Particulate matter (PM_{10} and $PM_{2.5}$) contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. For construction-type activity, DPM is the primary TAC of concern. PM_{10} exhaust is considered a surrogate for DPM as all diesel exhaust is considered to be DPM.

As with O_3 and NO_x, the projects would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed the ICAPCD's thresholds with implementation of mitigation. Accordingly, the projects' PM_{10} and $PM_{2.5}$ emissions are not expected to cause any increase in related regional health effects for these pollutants.

Operational Air Contaminants. Operation of the proposed projects would not result in the development of any substantial sources of air toxics. There would be no stationary sources associated project operations; nor would the projects attract additional mobile sources that spend long periods queuing and idling at the site. Onsite combined project emissions would not result in significant concentrations of pollutants at nearby sensitive receptors as the predominant operational emissions associated with the proposed projects would be routine maintenance work and site security as well as panel upkeep and cleaning. Therefore, the projects would not be a substantial source of TACs. The proposed projects would not result in a high carcinogenic or non-carcinogenic risk during operation.

CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours. CO concentration in the SSAB is designated as an attainment area. Detailed modeling of Project-specific CO "hot spots" is not necessary and thus this potential impact is addressed qualitatively.

The proposed project is anticipated to result in no more than two daily traffic trips. It is noted that this is a conservative estimate, and many days will have no operational related vehicle trips. Thus, the proposed projects would not generate traffic volumes at any intersection of more than 100,000 vehicles

per day (or 44,000 vehicles per day) and there is no likelihood of the project traffic exceeding CO values.

In summary, project construction and operations would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants. Impacts would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.4-4 Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

VEGA SES 2, 3 AND 5

An odor impact depends on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies.

Among possible physical harms is inhalation of VOCs that cause smell sensations in humans. These odors can affect human health in four primary ways:

- The VOCs can produce toxicological effects
- The odorant compounds can cause irritations in the eye, nose, and throat
- The VOCs can stimulate sensory nerves that can cause potentially harmful health effects
- The exposure to perceived unpleasant odors can stimulate negative cognitive and emotional responses based on previous experiences with such odors

Land uses commonly considered to be potential sources of odorous emissions include wastewater treatment plants, sanitary landfills, food processing facilities, chemical manufacturing plants, rendering plants, paint/coating operations, and concentrated agricultural feeding operations and dairies. The operation of a solar farm is not an odor producer.

During construction, the proposed projects present the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the sites. However, these emissions are short-term in nature and would rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the project area. Therefore, odors generated during project construction would not adversely affect a substantial number of people to odor emissions. Impacts would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

3.4.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

If at the end of the PPA term, no contract extension is available for a power purchaser, no other buyer of the energy emerges, or there is no further funding of the projects, the projects will be decommissioned and dismantled. Similar to construction activities, decommissioning and restoration of the projects would generate air emissions. A summary of the daily combined mitigated construction emissions for the project is provided in Table 3.4-8. Solar equipment has a lifespan of approximately 30 years. The emissions from on- and off-road equipment during decommissioning are expected to be significantly lower than project construction emissions, as the overall activity would be anticipated to be lower than project construction activity. No significant air quality impacts are anticipated during decommissioning and restoration of the project sites. However, all construction projects within Imperial County must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. In addition, the ICAPCD's Air Quality Handbook lists additional feasible mitigation measures that may be warranted to control emissions of fugitive dust and combustion exhaust. Mitigation Measures AQ-1 through AQ-4 would provide additional reduction strategies to further improve air quality. Therefore, a less than significant impact is identified during decommissioning and site restoration of the project sites.

Residual

The proposed projects would not result in short-term significant air quality impacts during construction. Implementation of Mitigation Measure AQ-1 would reduce NO_x emissions to levels below the significance threshold. Implementation of Mitigation Measures AQ-1 and AQ-2 would provide additional reduction strategies to reduce ROG, NOx, PM_{10}, and CO emissions during construction. Operation of the projects, subject to the approval of CUPs, would be consistent with applicable federal, state, regional, and local plans and policies. Implementation of Mitigation Measures AQ-3, AQ-4, and AQ-5 would ensure that fugitive dust emissions would be reduced during construction and operations. The projects would not result in any residual operational significant and unavoidable impacts with regards to air quality.

The proposed project's daily construction emissions would not exceed the ICAPCD's thresholds for ROG, NOx, CO, SO_2, and $PM_{2.5}$. However, the VEGA SES 2 and 3 projects would exceed the ICAPCD's threshold for $PM_{10.}$ To mitigate the potential impacts associated with construction-generated emissions with regard to $PM_{10,}$ the projects would adhere to the requirements of ICAPCD Regulation VIII for the control of fugitive dust (Mitigation Measure AQ-1). Thus, the VEGA SES 2 and 3 projects would not result in short-term significant air quality impacts during construction. Although, the VEGA SES 5 project's construction emissions would not exceed the ICAPCD thresholds, it must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. Therefore, implementation of the Regulation VIII fugitive dust control measures (Mitigation Measure AQ-1) is required for the VEGA SES 5 project. Furthermore, implementation of Mitigation Measure AQ-2 would ensure construction equipment will be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). ICAPCD will utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds. Operation of the projects, subject to the approval of CUPs, would be consistent with applicable federal, state, regional, and local plans and policies. Implementation of Mitigation Measures AQ-1, AQ-3, and AQ-4 would ensure that fugitive dust emissions would be reduced during construction and operations. The projects would not result in any residual operational significant and unavoidable impacts with regards to air quality.

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3.5 Biological Resources

This section identifies the biological and jurisdictional aquatic resources that may be impacted by the proposed VEGA SES 2, 3, and 5 projects. The following identifies the existing biological and jurisdictional aquatic resources in the project area, analyzes potential impacts of the proposed projects, and recommends mitigation measures to avoid or reduce potential impacts of the proposed projects.

The information for this section is summarized from the following technical reports:

- *Biological Resources Technical Report for the Vega SES 2 and 3 Solar Projects* prepared by ECORP Consulting, Inc. (Appendix E1 of this EIR)
- *Biological Resources Technical Report for the Vega SES 5 Solar Project* prepared by ECORP Consulting, Inc. (Appendix E2 of this EIR)
- *Aquatic Resources Delineation Report for the Vega SES 2 and 3 Solar Projects* prepared by ECORP Consulting, Inc. (Appendix F1 of this EIR)
- *Aquatic Resources Delineation Report for the Vega SES 5 Solar Project* prepared by ECORP Consulting, Inc. (Appendix F2 of this EIR)

The analysis of biological resources in this section is separated into two distinct segments: 1) the VEGA SES 2 and 3 project sites, and 2) the VEGA SES 5 project site, where applicable.

As part of the Biological Resources Technical Reports prepared for the projects, ECORP Consulting Inc. conducted a literature review, small unmanned aircraft system survey, and biological reconnaissance survey of the project sites to document existing biological resources, assess habitat suitability for sensitive plant and wildlife species, and determine potential impacts of the projects on biological resources.

For the purposes of this EIR, the term biological study area (BSA) refers to the project sites' boundaries and a 500-foot buffer around the project sites' boundaries.

The Aquatic Resources Delineation Reports identify the aquatic resources occurring within the project sites that may be regulated by the Porter-Cologne Water Quality Act, California Fish and Game Code Sections 1600 and 1602, and the U.S. Army Corps of Engineers (USACE) pursuant to Sections 401 and 404 of the federal Clean Water Act (CWA).

3.5.1 Existing Conditions

Project Location

VEGA SES 2 and 3

The VEGA SES 2 and 3 project sites consist of undeveloped land traversed by an extensive alluvial fan system and associated riparian community. This system begins at the Chocolate Mountains to the northeast and heads southwest across the VEGA SES 2 and 3 project sites. The BSA is bordered by an active railroad right-of-way to the southwest, agricultural land to the west, and undeveloped land to the north, south, and east.

Topography generally consists of gentle slopes with a gradual increase in elevation from the western extent to the eastern extent of the VEGA SES 2 and 3 project sites.

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VEGA SES 5

The VEGA SES 5 project site consists of an old agricultural field and undeveloped land that appears to have been historically altered. The northeastern section is comprised of an ephemeral drainage and associated wetland and riparian habitats on undeveloped land. The northern border of the site appears to have been graded and/or filled in several areas near the railroad tracks. An intermittent drainage flows south under the railroad track via a concrete underpass and riparian habitat lines the banks and bed of the intermittent drainage directly north and east of the East Highland Canal. Wetlands exist within the riparian habitat directly south of the railroad right-of-way, abutting the ephemeral drainages, connected with Siphon 5. The southern portion of the VEGA SES 5 project site consists of a fallow agricultural field with ruderal vegetation. The fallow field is bordered to the north and south by two offshoot canals and a wetland associated with the East Highland Canal to the northeast. The site is surrounded to the west, south, and north by agricultural fields and undeveloped land to the east (Appendix E2 of this EIR).

Topography throughout the VEGA SES 5 project site is relatively flat, but gently slopes from northeast to southwest away from the railroad right-of-way.

Vegetation Communities and Land Cover Types

VEGA SES 2 and 3

The majority of vegetation communities and land cover types mapped within the VEGA SES 2 and 3 BSA consist of creosote bush scrub and blue palo verde/ironwood woodland. Vegetation communities and land cover types within the BSA for the VEGA SES 2 and 3 projects are depicted on Figure 3.5-1. The acreage of each vegetation community and land cover type within the VEGA SES 2 and 3 project sites is summarized in Table 3.5-1.

Table 3.5-1. Vegetation Communities or Land Cover Types within the VEGA SES 2 and 3 Project Sites

Vegetation Community or Land Cover Type	Acres within VEGA SES 2 and 3 Project Sites[a]
Bush Seepweed Scrub	7.44
Creosote Bush Scrub	881.97
Disturbed Creosote Bush Scrub	11.30
Blue Palo Verde/Ironwood Woodland	230.73
Tamarisk Thickets	1.57
Urban/Developed Roads	8.50

Table 3.5-1. Vegetation Communities or Land Cover Types within the VEGA SES 2 and 3 Project Sites

Vegetation Community or Land Cover Type	Acres within VEGA SES 2 and 3 Project Sites[a]
Project Area Total	**1,141.51**

Source: Appendix E1 of this EIR
Notes:
[a] Vegetation and land cover type acreages are rounded to the nearest hundredth of an acre.

VEGA SES 5

The majority of vegetation communities and land cover types mapped within the VEGA SES 5 BSA consist of creosote bush scrub and fallow agricultural land. Vegetation communities and land cover types within the VEGA SES 5 BSA are depicted on Table 3.5-2. The acreage of each vegetation community and land cover type within the VEGA SES 5 project site is summarized in Table 3.5-2.

Table 3.5-2. Vegetation Communities or Land Cover Types within the VEGA SES 5 Project Site

Vegetation Community or Land Cover Type	Acres within the VEGA SES 5 Project Site[a]
Bush Seepweed Scrub	60.25
Creosote Bush Scrub	103.26
Fallow Agricultural Land	101.27
Tamarisk Thickets	1.54
Urban/Developed	2.49
Urban/Developed Roads	0.30
Project Area Total	**269.11**

Source: Appendix E2 of this EIR
Notes:
[a] Vegetation and land cover type acreages are rounded to the nearest hundredth of an acre.

PC ORIGINAL PKG

Figure 3.5-1. Vegetation Communities and Land Cover Types in the VEGA SES 2 and 3 BSA

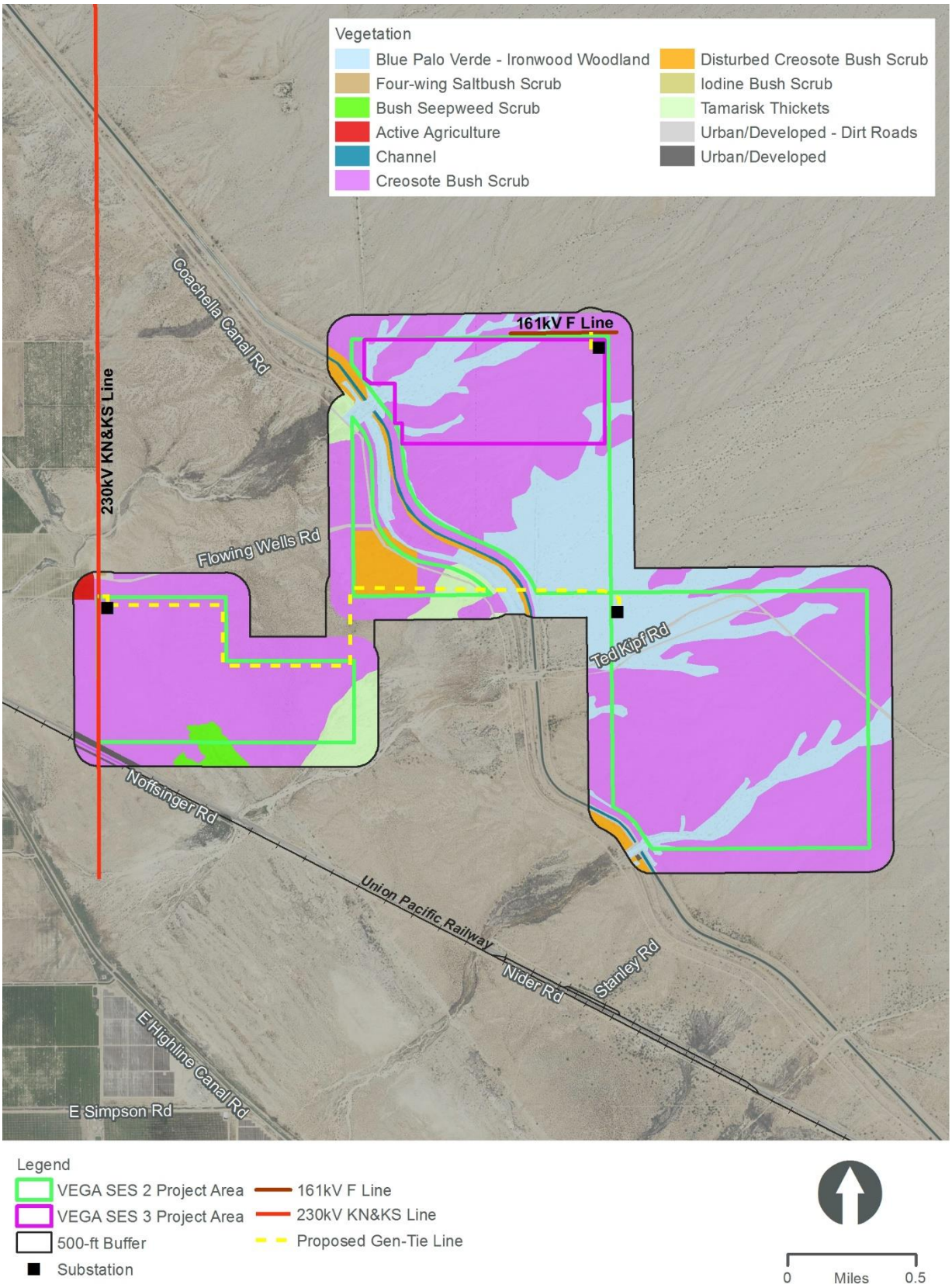

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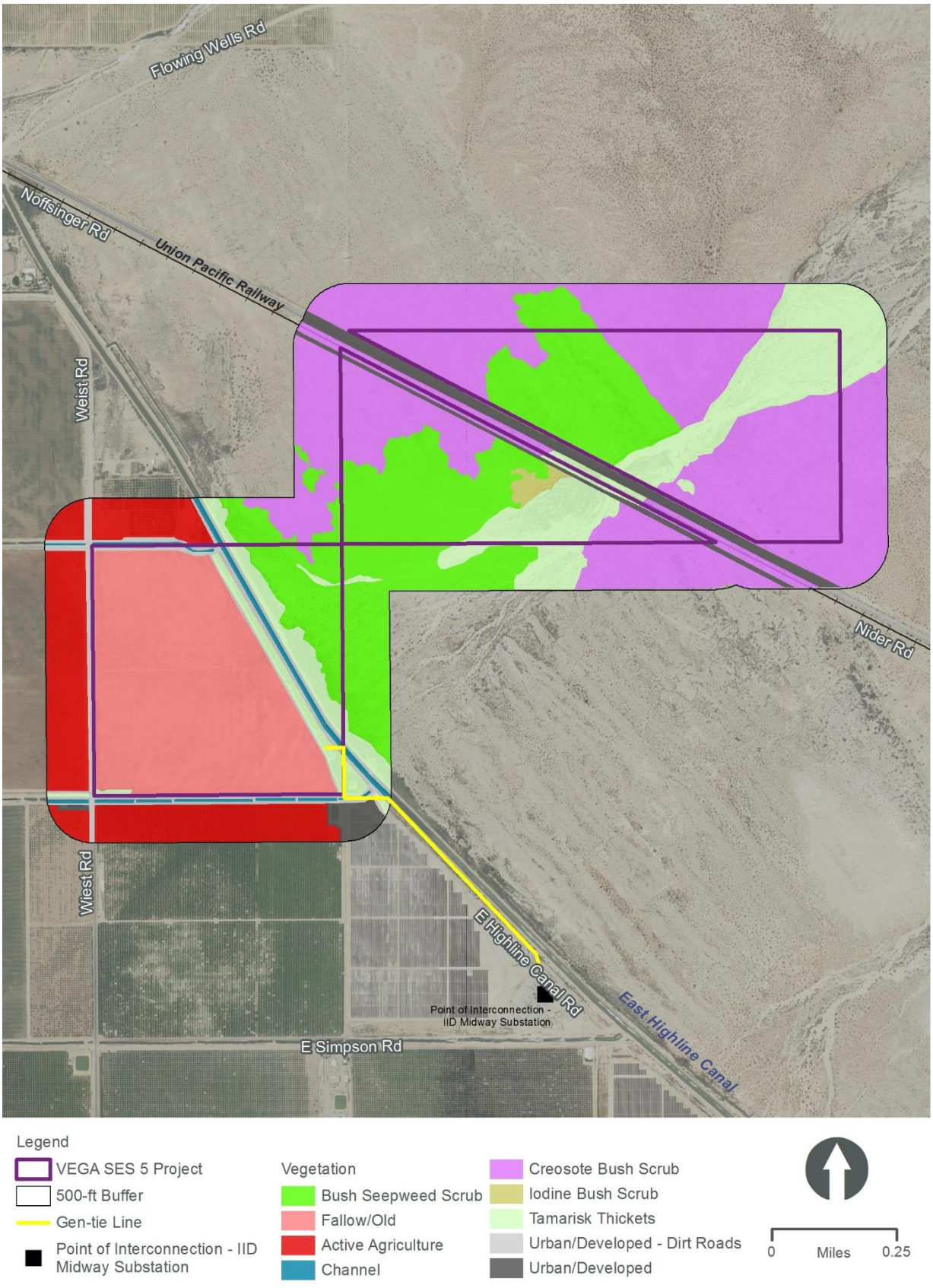
Figure 3.5-2. Vegetation Communities and Land Cover Types in the VEGA SES 5 BSA



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Detailed descriptions of the applicable vegetation communities and land cover types occurring within the BSAs are described below.

BUSH SEEPWEED SCRUB (*SUAEDA [MOQUINII] NIGRA* SHRUBLAND ALLIANCE)

Bush sweepweed scrub is found on flat to gently sloping valley bottoms, bajadas, and toe slopes adjacent to alluvial fans. Bush seepweed scrub is dominated by bush seepweed, a USFWS Wetland Inventory obligate species (see Appendix E2 of this EIR), and can be co-dominant with four-wing saltbush (*Atriplex canescens*) and/or alkali goldenbush (*Isocoma acradenia*). This vegetation community typically has a sparse to intermittent herbaceous layer. Within the VEGA SES 2, 3, and 5 BSAs, bush seepweed dominated the shrub cover with occasional occurrences of four-wing saltbush, arrow weed (*Pluchea sericea*), big saltbush (*Atriplex lentiformis*), alkali goldenbush, and tamarisk.

CREOSOTE BUSH SCRUB (*LARREA TRIDENTATA* SHRUBLAND ALLIANCE)

Creosote bush scrub is the most characteristic vegetation of the California desert and is found on alluvial fans, bajadas, upland slopes, and washes. Creosote bush scrub is dominated by a nearly monotypic stand of creosote bush with an open canopy and an herbaceous layer of seasonal annuals and perennials. This community was dominant in the VEGA SES 2, 3, and 5 BSAs. Other species that were observed within this community included burrobush (*Ambrosia dumosa*), four-wing saltbush, big saltbush, narrow leaved cryptantha (*Cryptantha angustifolia*), desert plantain (*Plantago ovata*), Mediterranean grass (*Schismus barbatus*), and occasional bush seepweed on the banks of established drainages.

DISTURBED CREOSOTE BUSH SCRUB (DISTURBED *LARREA TRIDENTATA* SHRUBLAND ALLIANCE)

Disturbed creosote bush is creosote bush scrub that has been previously altered. Within the VEGA SES 2 and 3 BSA, this vegetation cover is characterized as sparser with a high percentage of non-native plant species including common Mediterranean grass and Saharan mustard (*Brassica tournefortii*). Within the VEGA SES 5 BSA, creosote was typically dominant in the shrub canopy, but occasionally was co-dominant with white bursage, with an absent to intermittent herbaceous layer of seasonal annuals.

BLUE PALO VERDE/IRONWOOD WOODLAND (PARKINSONIA FLORIDA - OLNEYA TESOTA WOODLAND ALLIANCE)

Blue palo verde/ironwood woodland is characterized by blue palo verde or ironwood as a dominant or co-dominant plant species in the tree or tall shrub canopy that is open to continuous. The shrub layer is intermittent or open, while the herbaceous layer is sparse with seasonal annuals. It occurs in desert arroyo margins, seasonal watercourses, desert washes, bottomlands, bajadas, alluvial fans, and lower slopes. Blue palo verde/ironwood woodland take up large portions of the VEGA SES 2 and 3 BSAs. Other plant species observed within this community included creosote bush, cheesebush (*Ambrosia salsola*), and burrobush.

TAMARISK THICKETS (TAMARIX SPP. SHRUBLAND SEMI-NATURAL ALLIANCE)

Tamarisk thickets are characterized by a weedy monoculture of tamarisk. This habitat is typically in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. Within the VEGA SES 2, 3, and 5 BSAs, tamarisk was often the dominant species, with arrow weed occasionally as a co-dominant plant species. Other species observed within this community included four-wing saltbush,

bis saltbush, popcorn flower (*Cryptantha* spp.), screw bean mesquite (*Prosopis pubescens*), bush seepweed, and Mediterranean grass.

IODINE BUSH SCRUB (*ALLENROLFEA OCCIDENTALIS* SHRUBLAND ALLIANCE)

Iodine bush scrub is found on playas perched above drainages, seep, and dry lakebed margins. Iodine bush, a USFWS Wetland Inventory obligate species (see Appendix E2 of this EIR), is dominant in the shrub and herbaceous layers in an open to continuous canopy in the VEGA SES 5 BSA. Other plant species observed within this community include four-wing saltbush, tamarisk, and bush seepweed.

OTHER LAND COVER TYPES

Fallow Agricultural Land. Fallow agricultural lands include remnant signs of row crops with open space between rows. Agricultural lands often occur in upland areas with high soil quality, or floodplains and are almost always artificially irrigated. This land cover was observed in the southern portion of the VEGA SES 5 project site where the area consisted primarily of ruderal vegetation including bush seepweed, amaranth (*Amaranthus* sp.), and sudangrass (*Sorghum bicolor* ssp. *drummondii*) and occasional big saltbush.

Active Agricultural Land. Active agriculture consists of row crops that include planted, typically monotypic rows of crops of annual and perennial species with open space between rows. Species composition frequently changes by season and year. Row crops often occur in upland areas with high soil quality or floodplains and are almost always artificially irrigated (see Appendices E1 and E2 of this EIR). Active agricultural land was observed in the western portion of the VEGA SES 2 and 3 BSA, and the western and southern portion of the VEGA SES 5 BSA.

Urban/Developed. Areas mapped as developed have been constructed upon or otherwise physically altered to an extent that natural vegetation communities are no longer supported. In the VEGA SES 2, 3, and 5 BSAs, this land cover consisted primarily of compacted dirt roads and structures (see Appendices E1 and E2 of this EIR).

Sensitive Natural Communities

Iodine bush scrub, bush seepweed scrub, tamarisk thickets, and blue palo verde-ironwood woodland occur within the project sites and are considered sensitive natural communities by the California Department of Fish and Wildlife (CDFW).

Special-Status Species

Literature Review

Prior to conducting field surveys, a literature search was conducted to identify special-status plant and wildlife species with potential to occur within the BSAs. Special-status plants were evaluated for their potential to occur within the project sites (project footprint) where impacts could potentially occur. Special-status wildlife species were evaluated for their potential to occur within the BSAs, a broader area, where direct and indirect impacts could potentially occur.

Using information from the literature review and observations in the field, a list of special-status plant and animal species that have potential to occur within the BSAs was generated. For the purposes of this assessment, special-status species are defined as plants or wildlife that:

- have been designated as either rare, threatened, or endangered by CDFW, CNPS, or the USFWS, and/or are protected under either the federal or California Endangered Species Acts (ESAs);
- are candidate species being considered or proposed for listing under the federal or California ESAs;
- are fully protected by the California Fish and Game Code (FGC) Sections 3511, 4700, 5050, or 5515; and
- are of expressed concern to resource and regulatory agencies or local jurisdictions.

Biological Reconnaissance Survey

A biological reconnaissance survey was conducted by ECORP Consulting Inc. on September 29 and 30, 2020 for the VEGA SES 2 and 3 project sites and on September 29 and 30 and November 9 through 13, 2020 for the VEGA 5 project site by walking the BSAs to determine the existing vegetation communities and wildlife habitats on the project sites. The biologists documented the plant and wildlife species present and the conditions within the BSAs were assessed for their potential to provide habitat for special-status plant and wildlife species, including those identified in the literature review. All plant and wildlife species observed during the survey, including special-status species, were recorded (see Appendices E1 and E2 of this EIR).

Special-Status Plant Species

VEGA SES 2 AND 3

Of the 22 special-status plant species analyzed for their potential to occur, 1 was present within the project sites and 17 additional species were identified as having the potential to occur within the vicinity of the VEGA SES 2 and 3 project sites. The remaining 9 species are presumed absent from the VEGA SES 2 and 3 project sites due to a lack of suitable habitat (Appendix E1 of this EIR).

Present. One special-status plant species was observed within the VEGA SES 2 and 3 BSA during the biological reconnaissance survey:

- Munz's cholla (*Cylindropuntia munzii,* California Rare Plant Rank [CRPR][1] 1B.3)

Potential to Occur. The remaining 17 special-status plant species with potential to occur within the VEGA SES 2 and 3 project sites and their sensitivity statuses are:

- Gravel milk-vetch (*Astragalus sabulonum,* CRPR 2B.2)
- Wiggins' croton (*Croton wigginsii,* CRPR 2B.2)
- Glandular ditaxis (*Ditaxis claryana,* CRPR 2B.2)

[1] California Rare Plant Rank (CRPR) 1B=Plants rare, threatened, or endangered in California and elsewhere; CRPR 2B=Plants rare, threatened or endangered in California but more common elsewhere; CRPR 3=Plants needing more information; CRPR 4=Plants of limited distribution. Threat ranks: 0.1=Seriously endangered in California. 0.2=Fairly endangered in California.

- Sand food (*Pholisma sonorae,* CRPR 1B.2)
- Salton milk-vetch (*Astragalus crotalariae*, CRPR 4.3)
- Harwood's milk-vetch (*Astragalus insularis var. harwoodii*, CRPR 2B.2)
- Borrego milk-vetch (*Astragalus lentiginosus var. borreganus*, CRPR 4.3)
- pink fairy-duster (*Calliandra eriophylla*, CRPR 2B.3)
- sand evening-primrose (*Chylismia arenaria*, CRPR 2B.2)
- spiny abrojo (*Condalia globosa var. pubescens*, CRPR 4.2)
- Abrams' spurge (*Euphorbia abramsiana*, CRPR 2B.2)
- ribbed cryptantha (*Johnstonella costata*, CRPR 4.3)
- slender-spined all thorn (*Koeberlinia spinosa var. tenuispina*, CRPR 2B.2)
- slender cottonheads (*Nemacaulis denudata var. gracilis*, CRPR 2B.2)
- roughstalk witch grass (*Panicum hirticaule var. hirticaule*, CRPR 2B.1)
- Coves' cassia (*Senna covesii*, CRPR 2B.1)
- Mecca-aster (*Xylorhiza cognata*, CRPR 1B.2)

VEGA SES 5

Of the 22 special-status plant species analyzed for their potential to occur, all were identified as having the potential to occur within the vicinity of the VEGA SES 5 project site (Appendix E2 of this EIR).

Potential to Occur. The 22 special-status plant species with potential to occur within the VEGA SES 5 project site and their sensitivity statuses are:

- Gravel milk-vetch (CRPR 2B.2)
- Glandular ditaxis (CRPR 2B.2)
- Salton milk-vetch (CRPR 4.3)
- Borrego milk-vetch (CRPR 4.3)
- Spiny abrojo (CRPR 4.2)
- Abrams' spurge (CRPR 2B.2)
- Ribbed cryptantha (CRPR 4.3)
- Slender-spined all thorn (CRPR 2B.2)
- Slender cottonheads (CRPR 2B.2)
- Sand food (CRPR 1B.2)
- Mecca-aster (CRPR 1B.2)
- chaparral sand-verbena (CRPR 1B.1)
- Harwood's milk-vetch (*Astragalus insularis* var. *harwoodii*, CRPR 2B.2)
- Peirson's milk-vetch (CRPR 1B.2)

- pink fairy-duster (CRPR 2B.3)
- sand evening-primrose (CRPR 2B.2)
- Wiggins' croton (CRPR 2B.2)
- Munz's cholla (CRPR 1B.3)
- Algodones Dunes sunflower (CRPR 1B.2)
- giant Spanish-needle (CRPR 1B.3)
- roughstalk witch grass (CRPR 2B.1)
- Coves' cassia (CRPR 2B.1)

Special-Status Wildlife Species

VEGA SES 2 AND 3

The literature search documented 27 special-status wildlife species in the vicinity of the VEGA SES 2 and 3 project sites, 4 of which are federally and/or state listed. Of the 27 special-status wildlife species identified in the literature review, 2 were present within the project sites and 15 additional species were found to have the potential to occur. The remaining 10 species are presumed absent from the VEGA SES 2 and 3 project sites due to a lack of suitable habitat (Appendix E1 of this EIR).

Present. The following species were observed on the VEGA SES 2 and 3 project sites during the biological reconnaissance survey:

- Black-tailed gnatcatcher (*Polioptila melanura*, CDFW Watch List [WL])
- Loggerhead shrike (*Lanius ludovicianus*, USFWS Bird of Conservation Concern [BCC], CDFW Species of Special Concern [SSC])

Potential to Occur. Of the 27 special-status wildlife species identified in the literature review, 15 have the potential to occur in the vicinity of the VEGA SES 2 and 3 project sites.

- Burrowing owl (*Athene cunicularia,* BCC, SSC, and Imperial County Species of Conservation Focus)
- Flat-tailed horned lizard (*Phrynosoma mcallii,* SSC and Imperial County Species of Conservation Focus])
- Desert tortoise (*Gopherus agassizii*, federally and state threatened)
- Northern harrier (*Circus hudsonius,* SSC)
- California horned lark (*Eremophila alpestris ssp. actia,* WL)
- Merlin (*Falco columbarius,* WL)
- Crissal thrasher (*Toxostoma crissale,* SSC)
- California black rail (*Laterallus jamaicensis coturniculus*, USFWS BCC, state threatened, and CDFW fully protected)
- Yuma hispid cotton rat (*Sigmodon hispidus eremicus,* SSC)
- Palm Springs pocket mouse (*Perognathus longimembris bangsi,* SSC)

- mountain plover (*Charadrius montanus*, BCC, SSC)
- Gila woodpecker (*Melanerpes uropygialis*, USFWS BCC, and state endangered)
- Yuma Ridgway's rail (*Rallus obsoletus yumanensis*, federally endangered, state threatened, and CDFW fully protected)
- California leaf-nosed bat (*Macrotus californicus*, SSC)
- pallid bat (*Antrozous pallidus*, SSC)
- western yellow bat (*Lasiurus xanthinus*, SSC)

VEGA SES 5

The literature search documented 23 special-status wildlife species in the vicinity of the VEGA SES 5 project site, 3 of which are federally and/or state listed. Of the 23 special-status wildlife species identified in the literature review, 3 were present within the VEGA SES 5 project site and 11 were found to have the potential to occur. The remaining 9 species are presumed absent from the VEGA SES 5 project site due to a lack of suitable habitat (Appendix E2 of this EIR).

Present. The following 3 species were observed on the VEGA SES 5 project site during the biological reconnaissance survey:

- Burrowing owl (BCC, SSC, and Imperial County Species of Conservation Focus)
- Black-tailed gnatcatcher (WL)
- Loggerhead shrike (BBC, SSC)

Potential to Occur. Of the 23 special-status wildlife species identified in the literature review, 11 have the potential to occur in the vicinity of the VEGA SES 5 project site.

- Mountain plover (*Charadrius montanus,* BCC and SCC)
- California black rail (BCC, state threatened, CDFW fully protected)
- Merlin (WL)
- Yuma hispid cotton rat (*Sigmodon hispidus eremicus,* SSC)
- desert tortoise (federally and state threatened)
- flat-tailed horned lizard (SSC)
- northern harrier (SSC)
- Yuma Ridgway's rail (*Rallus obsoletus ssp. yumanensis*, federally endangered, state threatened, and CDFW fully protected)
- California leaf-nosed bat (*Macrotus californicus*, SSC)
- pallid bat (*Antrozous pallidus*, SSC)
- western yellow bat (*Lasiurus xanthinus*, SSC)

Aquatic Resources

The boundaries of aquatic resources were delineated through standard field methods (e.g., paired sample set analyses) and aerial photograph interpretation. Field data was recorded on Wetland Determination Data Forms - Arid West Region and Arid West Ordinary High Water Mark (OHWM) Datasheets (see Appendix F1 of this EIR). ESRI© and sUAS aerial imagery were used to assist with mapping and ground-truthing.

Where jurisdictional features were present, the extent of potential Waters of the State and CDFW-regulated streambed and top-of-bank limits were determined using the OHWM in accordance with USACE requirements and guidelines, as well as SWRCB and CDFW delineation guidance (see Appendix F1 of this EIR for details). Streambed widths were based on evidence of an OHWM as observed during the field survey. In addition, each of the drainages were evaluated for the presence or absence of sediment deposits, litter/debris, water stains, soil shelving, and/or exposed roots indicating active hydrology within the channel. Streambed widths and other lateral limits of jurisdiction were calculated and recorded. The extent of associated riparian habitat was based on the extent of the canopy of the riparian community within or directly adjacent to the feature. Bank-to-bank width measures were also recorded and used as a measure of CDFW jurisdictional boundary where features lacked riparian vegetation.

VEGA SES 2 and 3

A total of 50.83 acres of aquatic resources were mapped within the Vega 2 and 3 BSAs. Aquatic resources are summarized in Appendix F1 of this EIR and depicted on Figure 4 in Appendix F1. These results are subject to agency verification.

Features identified as an aquatic resource had wetland indicators present and/or physical evidence of flow including OHWM, defined bed and bank, presence of a clear and natural line impressed on the bank, the presence or absence of sediment deposits, litter/debris, and/or exposed roots indicating active hydrology within the channel. Associated riparian habitat identified within the project sites consisted of hydrophytic vegetation and hydrological indicators but lacked hydric soil indicators.

WETLAND FEATURES

No wetlands were delineated within the VEGA SES 2 or 3 project sites.

OTHER AQUATIC RESOURCES (NON-WETLAND WATERS)

Ephemeral Drainages

Ephemeral drainages are linear features that exhibit a bed and bank and an OHWM. These features typically convey runoff for short periods of time, during and immediately following rain events, and are not influenced by groundwater sources at any time during the year. The VEGA SES 2 and 3 project sites and adjacent upslope areas are within an alluvial fan drainage system that produces ephemeral conditions with surface waters flowing in direct response to large rain events for short durations. A number of these ephemeral drainages were determined to be inactive, as they do not actively transport water during rain events and are therefore assumed to be relic features on the landscape. Drainages determined to be active transport surface flow water from the direction of the Chocolate Mountains to the southwest and have connectivity to the intermittent drainages within the VEGA SES 2 and 3 project sites.

At the time of the field assessment, all ephemeral features contained no surface flow. The OHWM was delineated in the field primarily by the changes in sediment texture, vegetation, a natural scour line, bank erosion, and the presence of litter and debris. Some of the ephemeral drainages are associated with the Siphons and contained no surface flow at the time of the field assessment and had sparse vegetation within the bed. The ephemeral drainage systems divert surface flow from the direction of the Chocolate Mountains to the southwest, bypassing the Coachella Canal and railroad right-of-way and ultimately connecting to the East Highline Canal and/or associated wetlands. The East Highline Canal supplies water to the Imperial Valley via smaller lateral canals and drains that ultimately drain to the Salton Sea.

MANMADE FEATURES

Canals

The Coachella Canal is adjacent to and outside of the VEGA SES 2 and 3 project sites and is assumed to flow perennially. This concrete-lined canal is used for the purpose of year-round water transport throughout the Coachella Valley. It is maintained by the Coachella Valley Water District to be free of vegetation for water conveyance efficiency and ultimately flows into the Lake Cahuilla storage reservoir. Lake Cahuilla is an artificial soil-cement-lined temporal reservoir that is not connected to a traditional navigable water.

POTENTIAL CDFW REGULATED HABITATS

The following vegetation communities or habitat features could be regulated by CDFW but are not expected to be regulated by the USACE because they do not appear to meet the current definition of waters of the U.S.

Alkali Sinks

Alkali sinks are composed of poorly drained soils with high salinity and/or alkalinity from evaporation of water that accumulates in closed drainages. These sinks are often seasonally inundated and lose water through evaporation. Alkali sink habitat occurs within the southwestern portion of the VEGA SES 2 project site. Plant species observed included bush seepweed and wetland hydrology indicators (soil surface cracks) were observed.

Riparian Habitat

Riparian habitat associated with the drainage systems throughout the VEGA SES 2 and 3 project sites consists of blue palo verde-ironwood woodland and tamarisk thickets. This habitat is typically found in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. There were scattered riparian trees associated with active ephemeral drainages within the creosote scrub habitat due to the alluvial nature of the sites.

VEGA SES 5

A total of 1.54 acres of aquatic resources were mapped within the VEGA SES 5 project BSA. Aquatic resources are summarized in Appendix F2 of this EIR and depicted on Figure 4 of Appendix F2. These results are subject to agency verification.

WETLAND FEATURES

Freshwater Forested/Shrub Wetland

Freshwater forested/shrub wetlands are dominated by woody vegetation such as shrubs, young trees (saplings), and trees or shrubs that are stunted due to environmental conditions. In seasonally flooded wetlands, surface water is present for extended periods, particularly in the early growing season, but is absent by the end of the growing season in most years. The water table can be variable after a flooding event, and ranges from saturation at the ground surface to a water table well below the ground surface.

Three freshwater forested/shrub wetlands were identified and mapped within the VEGA SES 5 project site. Two of these features are located adjacent to the East Highline Canal in the southwest parcel, and one feature is associated with the ephemeral drainage in the northeast parcel of the VEGA SES 5 project site. Freshwater forested/shrub wetlands within the project site were sparsely vegetated and dominated by hydrophytic vegetation characterized as tamarisk scrub and contained the F8 (redox depressions) hydric soil indicator. Hydrologic indicators within each wetland feature primarily included surface soil cracks (B6) with some areas exhibiting water marks (B1) and sediment deposits (B3) as primary indicators.

Freshwater Pond

Freshwater ponds are non-tidal wetlands that are typically dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens. They consist of unconsolidated substrates with less than 75 percent cover of stones, boulders, or bedrock and less than 30 percent cover of vegetation. In intermittently flooded wetlands, substrate is usually exposed but surface water is present for variable periods without detectable seasonal periodicity. Weeks, months, or years may pass between periods of inundation.

One freshwater pond was identified and mapped within the northeast portion of the VEGA SES 5 project site. The pond was dominated by hydrophytic vegetation, tamarisk and iodine bush, and contained the hydric soil indicator for redox depressions (F8). Wetland hydrology indicators met included surface soil cracks (B6).

OTHER AQUATIC RESOURCES (NON-WETLAND WATERS)

Ephemeral Drainage

The VEGA 5 project site and adjacent upslope areas are within an alluvial fan drainage system. Multiple ephemeral drainages that are part of this system flow through the VEGA SES 5 project site and appear to transport surface water from the direction of the Chocolate Mountains to the East Highline Canal, the ephemeral drainage (ED-3001), and/or the freshwater forested/shrub wetland directly northeast of the East Highline Canal. These features lack connectivity to the intermittent system further upstream due to the presence of the railroad right-of-way.

At the time of the field assessment, these features contained no surface flow. The OHWM was delineated in the field primarily by the changes in vegetation, sediment changes, and the break in bank slope. Other features observed included mud cracks and surface relief caused by flowing water. Channel surface features within ephemeral drainages indicated weak bed and bank along with a narrow, scoured area that varied in width. Other indicators present included drainage patterns and sediment deposits.

MANMADE FEATURES

Canals

One major canal, the East Highline Canal, is located within the VEGA SES 5 project site. The East Highline Canal is managed by the Imperial Irrigation District (IID) and was constructed for the purposes of water delivery. It is an unvegetated, concrete (or other impervious material)-lined channel that transports water year-round. Within the VEGA SES 5 project site, lateral canals transport water from the East Highline Canal east towards active agricultural land within the buffer area. The East Highline Canal ultimately flows into the Salton Sea through a series of lateral canals and drains.

Irrigation Channels

Features classified as irrigation channels include concrete-lined lateral canals and concrete-lined irrigation ditches. The irrigation channels within the VEGA SES 5 project site are used for agricultural purposes and are part of a larger interconnected system that supplies water throughout the Imperial Valley.

Lateral Canals

The lateral canals within the VEGA SES 5 project site are managed by IID and supply water to irrigation ditches that are used by private farming operations. The concrete-lined lateral canals are managed by IID to be free of vegetation and therefore lack habitat for wildlife species. Lateral canals that fall within the VEGA SES 5 project site include the O Lateral along the northern end and the N Lateral along the southern end of the VEGA SES 5 project site.

Irrigation Ditches

There is one concrete-lined irrigation ditch within the VEGA SES 5 project site that is associated with a fallow agricultural field and is no longer in use. This irrigation ditch runs parallel to the East Highline Canal and associated wetlands. The concrete-lined irrigation ditch is free of vegetation and therefore lacks habitat for wildlife species.

POTENTIAL CDFW REGULATED HABITATS

The following vegetation communities or habitat features could be regulated by CDFW but are not expected to be regulated by the USACE because they do not appear to meet the current definition of waters of the U.S.

Alkali Sink

Alkali sink habitat was documented within the VEGA SES 5 project site. Hydrophytic vegetation within the akali sink included iodine bush, arrow weed, bush seepweed, and big saltbush. Wetland hydrologic indicators observed within the akali sink habitat included soil cracks (B6), with secondary indicators of sediment deposits (B2), drift deposits (B3), and drainage patterns (B10). No hydric soil indicators were observed within the akali sink habitat.

Riparian Habitat

Riparian habitat associated with the drainage systems throughout the VEGA SES 5 project site consists of tamarisk thickets. This habitat is typically found in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. Throughout the VEGA SES 5 project site, other species observed included four-wing saltbush and arrow weed. There is additional riparian habitat within the

southwest portion of the VEGA SES 5 project site near the N Lateral canal that is not associated with an active aquatic feature. This habitat likely established opportunistically in areas that were recently left fallow and consists of tamarisk thickets. This area was determined to be remnant of a relic unlined irrigation channel that is no longer in use.

Wildlife Movement Corridors, Linkages, and Significant Ecological Areas

The concept of habitat corridors addresses the linkage between large blocks of habitat that allow the safe movement of mammals and other wildlife species from one habitat area to another. In general, a corridor is described as a linear habitat, embedded in a dissimilar matrix, which connects two or more large blocks of habitat. Wildlife movement corridors are critical for the overall health and function of ecological systems for several reasons. Corridors can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas provides for the potential of genetic exchange between wildlife species populations, thereby maintaining genetic variability and adaptability to maximize the success of wildlife responses to changing environmental conditions, which is especially critical for small populations subject to loss of variability from genetic drift and effects of inbreeding. The nature of corridor use and wildlife movement patterns varies greatly among species. The VEGA SES 2, 3, 5 BSAs were assessed for their ability to function as wildlife corridors.

VEGA SES 2 and 3

The VEGA SES 2 and 3 BSAs have an alluvial fan system, which stems from the Chocolate Mountains and spreads across the landscape in the lowland areas. This interconnected drainage system has associated riparian corridors, which occur throughout the BSAs. These areas provide cover for migrating and nesting birds, and also provide foraging habitat for raptors and small and large mammals, including rodents, felids, and canids.

The large drainages and canal lined with tamarisk thickets and blue palo verde/ironwood woodlands are likely utilized by wildlife moving through the area. During field surveys, a lone bobcat was spotted using the tamarisk thickets for movement. Therefore, these features and associated riparian habitat would be considered linkages between natural habitat areas.

A portion of the BSA is restricted by the Coachella Canal and railroad tracks. Due to the location between the canal and railroad, the VEGA SES 2 and 3 project sites are already disconnected and act as more of a buffer between agricultural lands and wildlands to the northeast, but not as a corridor for mammals.

The blue palo verde – ironwood woodland provides shelter and good-quality foraging habitat. This habitat would function as a corridor for wildlife movement from the Chocolate Mountains. The bush seepweed scrub provides moderate shelter and little to moderate-quality foraging habitat. The creosote bush scrub habitats offer little shelter, but moderate-quality foraging habitat. The eastern portion of the BSA, east of Coachella Canal, currently provides wildlife movement opportunities because it consists of open and relatively unimpeded land.

VEGA SES 5

The VEGA SES 5 project site has an ephemeral drainage braided system with an associated riparian corridor in the eastern section of the site that provides cover for migrating and nesting birds. It also provides foraging habitat for raptors and small and large mammals, including rodents and canids. The tamarisk thicket-dominated wetlands located near the East Highline Canal boundaries are likely

utilized by wildlife moving through the area. Therefore, these features and associated riparian habitat would be considered necessary linkages between natural habitat areas to the north and east. The southern portion is restricted by the East Highline Canal, off-shoot channels, roads, and agricultural fields. Although the canals, roads, and agricultural fields inhibit or deter large mammal movement, avian species and small mammals may forage and pass through these features.

The bush seepweed scrub, iodine scrub, and creosote bush scrub habitats offer little shelter, but moderate-quality foraging habitat. This natural pocket of habitat is semi-open with barriers to the north and south, leaving the terrain accessibility constrained for wildlife access. The eastern portion of the site currently provides wildlife movement opportunities to the northwest and southeast because it consists of open and relatively unimpeded land. However, this portion of the site would not be considered a wildlife movement corridor that would need to be preserved to allow wildlife to move between important natural habitat areas due to the lack of conserved natural lands in the immediate vicinity and the site's proximity to farmlands. The VEGA SES 5 project site is surrounded to the north, west, and south by agriculture. The scrub habitat within the project site is exposed and does not contain any major features that would be considered critical movement corridors for wildlife. Therefore, the scrub habitat acts as more of a buffer between agricultural lands and wildlands to the northeast, but not as a corridor for mammals.

Habitat Conservation Plans

The VEGA SES 2, 3, and 5 project sites are not located in a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

3.5.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the proposed projects.

Federal

Bald and Golden Eagle Protection Act of 1940

The Bald Eagle Protection Act of 1940 protects bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this Act. 'Take' is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." 'Disturb' is defined as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior" (72 *Federal Register* [FR] 31132; 50 CFR 22.3). All activities that may disturb or incidentally take an eagle or its nest as a result of an otherwise legal activity must be permitted by the USFWS under this Act.

Federal Endangered Species Act

The Federal ESA protects federally listed threatened and endangered species and their habitats from unlawful take and ensures that federal actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Under the Federal ESA, "take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or

collect, or to attempt to engage in any such conduct. USFWS regulations define harm to mean “an act which actually kills or injures wildlife” (50 CFR 17.3).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the kill or transport of native migratory birds, or any part, nest, or egg of any such bird unless allowed by another regulation adopted in accordance with the MBTA. The prohibition applies to birds included in the respective international conventions between the U.S. and Great Britain, the U.S. and Mexico, the U.S. and Japan, and the U.S. and Russia. Disturbances that cause nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the MBTA. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

Section 404 Permit (Clean Water Act)

The purpose of the CWA is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Section 404 of the CWA prohibits the discharge of dredge and fill material into waters of the U.S., including wetlands, without a permit from the USACE. Activities regulated under this program include fills for development, water resource projects (e.g., dams and levees), infrastructure development (e.g., highways and airports), and conversion of wetlands to uplands for farming and forestry. Either an individual 404 permit or authorization to use an existing USACE Nationwide Permit will need to be obtained if any portion of the construction requires fill into a river, stream, or stream bed that has been determined to be a jurisdictional waterway.

Farmland Protection Policy Act

The Farmland Protection Policy Act is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It also stipulates that federal programs be compatible with state, local, and private efforts to protect farmland. The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) is charged with oversight of the Farmland Protection Policy Act.

State

California Endangered Species Act

Provisions of the California ESA protect state-listed threatened and endangered species. CDFW regulates activities that may result in “take” of individuals (“take” means “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”). Habitat degradation or modification is not expressly included in the definition of “take” under the California FGC. Additionally, California FGC contains lists of vertebrate species designated as “fully protected” (California FGC Sections 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], and 5515 [fish]). Such species may not be taken or possessed.

In addition to state-listed species, CDFW has also produced a list of Species of Special Concern to serve as a “watch list.” Species on this list are of limited distribution or the extent of their habitats has

been reduced substantially such that threats to their populations may be imminent. Species of Special Concern may receive special attention during environmental review, but they do not have statutory protection.

Birds of prey are protected in California under California FGC. Section 3503.5 states it is "unlawful to take, possess, or destroy any birds of prey (in the order Falconiformes or Strigiformes) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment.

California Fish and Game Code Section1600 et. seq (as amended)

The California FGC Section 1600 et. seq. requires that a Notification of Lake or Streambed Alteration be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant is the Streambed Alteration Agreement (SAA). Often, projects that require an SAA also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the SAA may overlap.

California Fish and Game Code Sections 3503, 3503.5, and 3513

Under Sections 3503, 3503.5, and 3513 of the California FGC, activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking or possessing of any migratory nongame bird as designated by the MBTA, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the MBTA, or the taking of any non-game bird pursuant to FGC Section 3800 are prohibited. Additionally, the state further protects certain species of Fully Protected fish, mammals, amphibians, reptiles, birds, and mammals by prohibiting any take or possession of classified species.

California Fish and Game Code Sections 1900-1913 (Native Plant Protection Act)

California's Native Plant Protection Act prohibits the taking, possessing, or sale within the state of any plant listed by CDFW as rare, threatened, or endangered. This allows CDFW to salvage listed plant species that would otherwise be destroyed.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, all projects proposing to discharge waste that could affect waters of the State must file a waste discharge report with the appropriate Regional Water Quality Control Board (RWQCB). The project falls under the jurisdiction of the Colorado River RWQCB.

California Environmental Quality Act

Title 14 CCR, Section 15380 requires the identification of endangered, rare, or threatened species or subspecies of animals or plants that may be impacted by a project. If any such species are found, appropriate measures should be identified to avoid, minimize, or mitigate the potential effects of projects.

Local

Imperial County General Plan

The Conservation and Open Space Element of the Imperial County General Plan provides detailed plans and measures for the preservation and management of biological resources. The purpose of this element is to recognize that natural resources must be maintained for their ecological value for the direct benefit to the public and to protect open space for the preservation of natural resources, the managed production of resources, outdoor recreation, and for public health and safety. In addition, the purpose of this element is to promote the protection, maintenance, and use of the County's natural resources with particular emphasis on scarce resources, and to prevent wasteful exploitation, destruction, and neglect of the state's natural resources. Table 3.5-3 analyzes the consistency of the VEGA SES 2, 3, and 5 projects with specific policies contained in the Imperial County General Plan associated with biological resources.

Table 3.5-3. Project Consistency with General Plan Goals and Policies

General Plan Policies	Consistency with General Plan	Analysis
Conservation and Open Space Element - *Open Space and Recreation Conservation* **Policy No. 2 -** The County shall participate in conducting detailed investigations into the significance, location, extent, and condition of natural resources in the County. **Program:** Notify any agency responsible for protecting plant and wildlife before approving a project which would impact a rare, sensitive, or unique plant or wildlife habitat.	Consistent	A biological assessment has been conducted at the project sites to evaluate the proposed projects' potential impacts on biological resources. Although special-status plant species and habitat for special-status wildlife species were identified within the projects' BSAs, implementation of Mitigation Measures BIO-1 through BIO-8 would reduce potential impacts on these species to a level that is less than significant. Applicable agencies responsible for protecting plants and wildlife will be notified of the proposed projects and provided an opportunity to comment on this EIR prior to the County's consideration of any approvals for the projects. As described in Chapter 2, Project Description, implementation of the projects would require the approval of CUPs by the County to allow for the construction and operation of the projects.
Conservation of Environmental Resources for Future Generations **Goal 1 -** Environmental resources shall be conserved for future generations by minimizing environmental impacts in all land use decisions and educating the public on their value. **Objective 1.6 -** Promote the conservation of ecological sites and preservation of cultural resource sites through scientific investigation and public education.	Consistent	A biological assessment has been conducted at the project sites to evaluate the projects' potential impacts on biological resources. Although special-status plant species and habitat for special-status wildlife species were identified within the BSA, implementation of Mitigation Measures BIO-1 through BIO-8 would reduce potential impacts on these species to a level that is less than significant. With implementation of Mitigation Measures BIO-1 through BIO-8, the projects would not result in residual significant and unmitigable impacts on biological resources.

Source: County of Imperial 2016
BLM=Bureau of Land Management; CDFW – California Department of Fish and Wildlife; EIR – environmental impact report; USFWS – U.S. Fish and Wildlife Service

3.5.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering the respective project's impacts on biological resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to biological resources are considered significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on state or federally protected wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

Methodology

This analysis evaluates the potential for the projects, as described in Chapter 2, Project Description, to interact with local biological resources on the project sites. Based on the extent of these interactions, this analysis considers whether these conditions would result in an exceedance of one or more of the applied significance criteria as identified above.

Biological resources technical reports (Appendices E1 and E2) and aquatic resources delineation reports (Appendices F1 and F2) were prepared for each project. The information obtained from the sources was reviewed and summarized to present the existing conditions and to identify potential environmental impacts, based on the significance criteria presented in this section. Impacts associated with biological resources that could result from project construction and operational activities were evaluated qualitatively based on on-site conditions; expected construction practices; and materials, locations, and duration of project construction and related activities.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not

substantially diminish, or result in the permanent loss of an important resource on a population-wide or region-wide basis.

Impact Analysis

Impact 3.5-1 Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

Construction

VEGA SES 2 and 3

SPECIAL-STATUS PLANTS

The literature review identified 18 special-status plant species that have the potential to occur within the VEGA SES 2 and 3 project sites. A total of 13 plant species have a low potential to occur due to the limited suitable habitat within the VEGA SES 2 and 3 project sites. A total of 4 plant species have a moderate potential to occur due to the presence of suitable habitat within the VEGA SES 2 and 3 project sites: gravel milk-vetch, Wiggins' croton, glandular ditaxis, and sand food. One rare plant species, Munz's cholla (CRPR 1B.3), was found to be present within the VEGA SES 2 and 3 project sites. Potential impacts that may occur on special-status species during construction of the VEGA SES 2 and 3 projects include loss of individuals, habitat, and seedbank. Depending on the size of the population, impacts on special-status plant species within the project impact area may be considered significant. Implementation of Mitigation Measures BIO-1a, BIO-2, and BIO-3 would reduce potential impacts on special-status plant species to a level less than significant.

SPECIAL-STATUS WILDLIFE

The literature review identified 27 special-status wildlife species that have the potential to occur within the VEGA SES 2 and 3 BSA. Fifteen (15) of these species have a low or no potential to occur due to the lack of suitable and/or limited habitat within the BSA. Of the 27 special-status species identified, 10 species have a moderate or high potential to occur on the VEGA SES 2 and 3 project sites: flat-tailed horned lizard, Mojave desert tortoise, northern harrier, California horned lark, merlin, Crissal thrasher, California black rail, Yuma hispid cotton rat, Palm Springs pocket mouse, and burrowing owl. Additionally, two special-status wildlife species were observed onsite during the habitat assessment; loggerhead shrike and black-tailed gnatcatcher were observed in the tamarisk thickets, bush seepweed scrub, blue palo verde-ironwood woodland, and creosote bush scrub on the VEGA SES 2 and 3 project sites. Direct impacts on these species that could occur include injury, mortality, nest failures, and loss of young. Indirect impacts include loss of nesting and foraging habitat and an increase in anthropogenic effects (i.e., noise levels, introduction of invasive and non-native species, increase in human activity, increase in dust). Potential impacts on these special-status wildlife species may be considered significant. Implementation of Mitigation Measures BIO-2, BIO-3, BIO-4, BIO-5, BIO-6a, and BIO-7a would reduce potential impacts on special-status wildlife species to a level less than significant.

VEGA SES 5

SPECIAL-STATUS PLANTS

The literature review identified 22 special-status plant species that have the potential to occur within the VEGA SES 5 project site. Eleven (11) of these plant species have a low potential to occur due to the limited suitable habitat within the site. There is moderate or high potential for 11 rare plant species to occur on the VEGA SES 5 project site: Salton's milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster. Suitable habitat for these species is present within the existing washes and creosote bush scrub habitats. Potential impacts that may occur on these species include loss of individuals, habitat, and seedbank. Depending on the size of the population, potential impacts may be considered significant. Implementation of Mitigation Measure BIO-1b, BIO-2, and BIO-3 would reduce potential impacts on special-status plant species to a level less than significant.

SPECIAL-STATUS WILDLIFE

The literature review identified 23 special-status wildlife species that have the potential to occur within the VEGA SES 5 project site. Sixteen (16) of these species have a low or no potential to occur due to the lack of suitable and limited habitat on the site. The following four species have a moderate or high potential to occur onsite: mountain plover, merlin, California black rail, and Yuma hispid cotton rat. Additionally, 3 special-status wildlife species were observed onsite during the habitat assessment. Black-tailed gnatcatchers, burrowing owl, and loggerhead strikes were observed in the tamarisk thickets and creosote bush scrub in the northern portion of the VEGA SES 5 project site.

Direct impacts on these species that could occur include injury, mortality, nest failures, and loss of young. Indirect impacts include loss of nesting and foraging habitat, increase in anthropogenic effects (i.e., noise levels, introduction of invasive/non-native species, increase in human activity, increase in dust). Potential impacts on these species may be considered significant. Implementation of Mitigation Measures BIO-2, BIO-3, BIO-4, BIO-5, BIO-6b, and BIO-7b would reduce potential impacts on special-status wildlife species to a level less than significant.

Operation

VEGA SES 2, 3 and 5

All electrical components on the project sites shall be either underground or protected so that there will be no exposure to wildlife and therefore no potential for electrocution. Additionally, based on the Avian Powerline Interaction Committee's (APLIC) 1996 report on power line electrocution in the U.S., avian electrocution risk is highest along distribution lines (generally less than 69 kV) where the distance between energized phases, ground wires, transformers, and other components of an electrical distribution system are less than the length or skin-to-skin contact distance of birds. The distance between energized components along transmission lines (greater than 69 kV) is generally insufficient to present avian electrocution risk. Therefore, no impact on avian species is anticipated to occur due to electrocution along the proposed gen-tie line.

Mitigation Measure(s)

BIO-1a **Rare Plant Surveys.** Prior to initiating ground disturbance, rare plant surveys shall be conducted within suitable habitat on the VEGA SES 2 and 3 project sites during the appropriate blooming period for gravel milk-vetch, Wiggins' croton, glandular ditaxis,

sand food, and Munz's cholla. The surveys shall be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If project-related impacts to rare plants on the project sites are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements.

BIO-1b **Rare Plant Surveys.** Prior to initiating ground disturbance, rare plant surveys shall be conducted within suitable habitat on the VEGA SES 5 project site during the appropriate blooming period for Salton milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster. The surveys shall be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If project-related impacts to rare plants on the project sites are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements.

BIO-2 **General Impact Avoidance and Minimization Measures.** The following measures will be applicable throughout the life of the projects:

- To reduce the potential indirect impact on migratory birds, bats and raptors, the project shall comply with the APLIC 2012 Guidelines for overhead utilities, as appropriate, to minimize avian collisions with transmission facilities (APLIC 2012)
- All electrical components on the project sites shall be either undergrounded or protected so that there will be no exposure to wildlife and therefore no potential for electrocution.
- The project proponent shall designate a Project Biologist who shall be responsible for overseeing compliance with protective measures for biological resources during vegetation clearing and work activities within and adjacent to areas of native habitat. The Project Biologist shall be familiar with the local habitats, plants, and wildlife. The Project Biologist shall also maintain communications with the Contractor to ensure that issues relating to biological resources are appropriately

and lawfully managed and shall monitor construction. The Project Biologist shall monitor activities within construction areas during critical times, such as vegetation removal, the implementation of Best Management Practices (BMPs), and installation of security fencing to protect native species. The Project Biologist shall ensure that all wildlife and regulatory agency permit requirements, conservation measures, and general avoidance and minimization measures are properly implemented and followed.

- The boundaries of all areas to be newly disturbed (including solar facility areas, staging areas, access roads, and sites for temporary placement of construction materials and spoils) shall be delineated with stakes and flagging prior to disturbance. All disturbances, vehicles, and equipment shall be confined to the flagged areas.
- No potential wildlife entrapments (e.g., trenches, bores) shall be left uncovered overnight. Any uncovered pitfalls will be excavated to 3:1 slopes at the ends to provide wildlife escape ramps. Alternatively, man-made ramps may be installed. Covered pitfalls will be covered completely to prevent access by small mammals or reptiles.
- To avoid wildlife entrapment (including birds), all pipes or other construction materials or supplies shall be covered or capped in storage or laydown areas, and at the end of each work day in construction, quarrying and processing/handling areas. No pipes or tubing of sizes or inside diameters ranging from 1 to 10 inches shall be left open either temporarily or permanently.
- No anticoagulant rodenticides, such as Warfarin and related compounds (indandiones and hydroxycoumarins), shall be used within the project sites, on off-site project facilities and activities, or in support of any other project activities.
- Avoid wildlife attractants. All trash and food-related waste shall be placed in self-closing containers and removed regularly from the sites to prevent overflow. Workers shall not feed wildlife. Water applied to dirt roads and construction areas for dust abatement shall use the minimal amount needed to meet safety and air quality standards to prevent the formation of puddles, which could attract wildlife. Pooled rainwater or floodwater within retention basins shall be removed to avoid attracting wildlife to the active work areas.
- To minimize the likelihood for vehicle strikes on wildlife, speed limits shall not exceed 15 miles per hour when driving on access roads. All vehicles required for O&M must remain on designated access/maintenance roads.
- Avoid nighttime construction lighting or if nighttime construction cannot be avoided, use shielded directional lighting pointed downward and towards the interior of the project sites, thereby avoiding illumination of adjacent natural areas and the night sky.
- All construction equipment used for the projects shall be equipped with properly operating and maintained mufflers.
- Hazardous materials and equipment stored overnight, including small amounts of fuel to refuel hand-held equipment, shall be stored within secondary containment

when within 50 feet of open water to the fullest extent practicable. Secondary containment shall consist of a ring of sand bags around each piece of stored equipment/structure. A plastic tarp/visqueen lining with no seams shall be placed under the equipment and over the edges of the sandbags, or a plastic hazardous materials secondary containment unit shall be utilized by the Contractor.

- The Contractor will be required to conduct vehicle refueling in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species. Any fuel containers, repair materials, including creosote-treated wood, and/or stockpiled material that is left on site overnight, shall be secured in secondary containment within the work area and staging/assembly area and covered with plastic at the end of each work day.
- In the event that no activity is to occur in the work area for the weekend and/or a period of time greater than 48 hours, the Contractor shall ensure that all portable fuel containers are removed from the project sites.
- All equipment shall be maintained in accordance with manufacturer's recommendations and requirements.
- Equipment and containers shall be inspected daily for leaks. Should a leak occur, contaminated soils and surfaces will be cleaned up and disposed of following the guidelines identified in the Stormwater Pollution Prevention Plan or equivalent, Materials Safety Data Sheets, and any specifications required by other permits issued for the projects.
- The Contractor shall utilize off-site maintenance and repair shops as much as possible for maintenance and repair of equipment.
- If maintenance of equipment must occur onsite, fuel/oil pans, absorbent pads, or appropriate containment will be used to capture spills/leaks within all areas. Where feasible, maintenance of equipment shall occur in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species.
- Appropriate BMPs shall be used by the Contractor to control erosion and sedimentation and to capture debris and contaminants from construction to prevent their deposition in waterways.
- Erosion and sediment control devices used for the proposed projects, including fiber rolls and bonded fiber matrix, shall be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.
- Firearms, open fires, and pets shall be prohibited at all work locations and access roads. Smoking shall be prohibited along the project alignment.
- Cross-country vehicle and equipment use outside of approved designated work areas and access roads shall be prohibited to prevent unnecessary ground and vegetation disturbance.
- Any injured or dead wildlife encountered during project-related activities shall be reported to the project biologist, biological monitor, CDFW, or a CDFW-approved veterinary facility as soon as possible to report the observation and determine the

best course of action. For special-status species, the Project Biologist shall notify the County, USFWS, and/or CDFW, as appropriate, within 24 hours of the discovery.

- Stockpiling of material shall only be allowed within established work areas.
- The Contractor shall actively manage the spread of noxious weeds.
- The ground beneath all parked equipment and vehicles shall be inspected for wildlife before moving.

BIO-3 **Worker Environmental Awareness Program.** Prior to project construction, a Worker Environmental Awareness Program shall be developed and implemented by a qualified biologist and shall be available in both English and Spanish. Handouts summarizing potential impacts on special-status biological resources and the potential penalties for impacts on these resources shall be provided to all construction personnel. At a minimum, the education program shall including the following:

- the purpose for resource protection;
- a description of special-status species including representative photographs and general ecology;
- occurrences of USACE, RWQCB, and CDFW regulated features in the project study area;
- regulatory framework for biological resource protection and consequences if violated
- sensitivity of the species to human activities;
- avoidance and minimization measures designed to reduce the impacts on special-status biological resources
- environmentally responsible construction practices;
- reporting requirements;
- the protocol to resolve conflicts that may arise at any time during the construction process; and
- workers sign acknowledgement form indicating that the Environmental Awareness Training and Education Program that has been completed, which shall be kept on record.

BIO-4 **Burrowing Owl Avoidance and Minimization.** Take avoidance (pre-construction) surveys for burrowing owl shall be completed prior to project construction. Surveys shall be conducted as detailed within Appendix D of the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game [CDFG] 2012). If burrowing owl is not detected, construction may proceed.

- If burrowing owl is identified during the non-breeding season (September 1 through January 31), then a 50-meter buffer will be established by the biological monitor. Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until a CDFW-approved exclusion plan has been implemented. The buffer distance may be reduced if noise attenuation

buffers such as hay bales are placed between the occupied burrow and construction activities.

- If burrowing owl is identified during the breeding season (February 1 through August 31), then an appropriate buffer will be established by the biological monitor in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until young have fledged. The buffer distance may be reduced in consultation with CDFW if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities.

BIO-5 **Pre-Construction Nesting Bird Survey.** If construction or other project activities are scheduled to occur during the bird breeding season (typically February 1 through August 31 for raptors and March 15 through August 31 for the majority of migratory bird species), a pre-construction nesting-bird survey shall be conducted by a qualified avian biologist to ensure that active bird nests, including those for loggerhead shrike, black-tailed gnatcatcher, and burrowing owl, will not be disturbed or destroyed. The survey shall be completed no more than three days prior to initial ground disturbance. The nesting-bird survey shall include the project site and adjacent areas where project activities have the potential to affect active nests, either directly or indirectly, due to construction activity or noise. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist. If construction activities cease for a period of greater than three days during the bird breeding season, a pre-construction nesting bird survey shall be conducted prior to the commencement of activities. Final construction buffers or setback distances shall be determined by the qualified biologist in coordination with USFWS and CDFW on a case-by-case basis, depending on the species, season in which disturbance shall occur, the type of disturbance, and other factors that could influence susceptibility to disturbance (e.g., topography, vegetation, existing disturbance levels, etc.).

BIO-6a **Pre-Construction Survey for Special-Status Species.** A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 2 and 3 project sites or that were identified as having a high potential to occur on the sites. These species include, but are not limited to, burrowing owl, loggerhead shrike, and black-tailed gnatcatcher. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.

BIO-6b **Pre-Construction Survey for Special-Status Species.** A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place

no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 5 project site or that were identified as having a high potential to occur on the site. These species include, but are not limited to, mountain plover, California black rail, merlin, Yuma hispid cotton rat, burrowing owl, black-tailed gnatcatcher, and loggerhead strike. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.

BIO-7a **Sensitive Habitat Avoidance.** To the greatest extent possible, plans should avoid impacts on blue palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets habitats within the VEGA SES 2 and 3 project sites to minimize potential impacts on special-status species. Excluding these habitats from the projects should also minimize mitigation and permitting requirements to meet the less-than-significance threshold.

BIO-7b **Sensitive Habitat Avoidance.** To the greatest extent possible, plans should avoid impacts on bush seepweed scrub and tamarisk thicket habitats within the VEGA SES 5 project site to minimize potential impacts to special-status species. Excluding these habitats from the project should also minimize mitigation and permitting requirements to meet the less-than-significance threshold.

Significance After Mitigation

Project construction has the potential to directly impact special-status plant and wildlife species. However, implementation of Mitigation Measures BIO-1 through BIO-7 would reduce potential impacts on special-status plant and wildlife species to a level less than significant.

Impact 3.5-2 Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?

VEGA SES 2 and 3

Riparian Habitat

Both alkali sinks and riparian habitat are present within the VEGA SES 2 and 3 BSAs. These sensitive natural communities are regulated under Section 1600 of the California FGC. Impacts on features that fall under the definition of streambed and associated riparian habitat would trigger the need for Streambed Alteration Notification and the VEGA SES 2 and 3 projects may need to enter into formal Agreements with CDFW. This is a potentially significant impact. However, implementation of Mitigation Measures BIO-7a, BIO-8, and BIO-9 would reduce potential impacts on riparian habitat to a level less than significant (see Appendix E1 of this EIR).

Sensitive Natural Communities

Blue palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets occur within the VEGA SES 2 and 3 project sites and are considered sensitive natural communities by CDFW. During project construction, sensitive natural communities would be directly impacted by grading activities. However, the proposed project would comply with mitigation requirements recommended through

consultation with CDFW, including the in-kind replacement of palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets. Implementation of BIO-7a, BIO-8, and BIO-9 is recommended to reduce potential impacts on sensitive natural communities to a level less than significant.

VEGA SES 5

Riparian Habitat

Both alkali sinks and riparian habitat are present within the VEGA SES 5 BSA. These sensitive natural communities are regulated under Section 1600 of the California FGC. Impacts on features that fall under the definition of streambed and associated riparian habitat would trigger the need for Streambed Alteration Notification and the VEGA SES 5 project may need to enter into formal Agreements with CDFW. This is a potentially significant impact. However, implementation of Mitigation Measures BIO-7b, BIO-8, and BIO-9 would reduce potential impacts on riparian habitat to a level less than significant (see Appendix E2 of this EIR).

Sensitive Natural Communities

Bush seepweed scrub and tamarisk thickets occur within the VEGA SES 5 project site and are considered sensitive natural communities by CDFW. During project construction, sensitive natural communities would be directly impacted by grading activities. However, the proposed project would comply with mitigation requirements recommended through consultation with CDFW, including the in-kind replacement of bush seepweed scrub and tamarisk thickets. Implementation of BIO-7b, BIO-8, and BIO-9 is recommended to reduce potential impacts on sensitive natural communities to a level less than significant.

Mitigation Measure(s)

BIO-8 **Aquatic Resources Regulatory Permitting.** If project-related impacts occur to the riparian areas that may also fall under the jurisdiction of the USACE, CDFW, or RWQCB a regulatory permit with those agencies will be needed prior to the impact occurring. Refer to the ECORP Jurisdiction Delineation Report (2022) for preliminary determination of regulatory limits of areas that may be regulated by the USACE, CDFW, or RWRCB. Permitting includes preparation and submittal of a Pre-Construction Notification under Section 404 of the federal CWA, an Application for Water Quality Certification under Section 401 of the federal CWA, and a Notification of Lake or Streambed Alteration under Section 1600 of the California Fish and Game Code. A completed CEQA document, and Notice of Determination, will be necessary to submit along with the applications. Other items such as finalized project plans, quantities of fill material, supporting technical studies, etc., are also submitted along with the applications. As a part of this process, the projects must also identify and approve mitigation through the respective agencies. Mitigation can include onsite or offsite options or could include purchase of credits from an existing mitigation or conservation bank or payment of an in-lieu fee to a conservation organization. Types of mitigation can include restoration, creation, rehabilitation, enhancement, or other types of habitat improvement. Typically, the type of mitigation and acreage of mitigation is negotiated with the regulatory agencies during the permitting process.

BIO-9 **Minimization of Impacts to Wetland/Riparian Habitat.** Solar panels, structures, and new access roads should not be placed within 50 feet of wetland and riparian habitat boundaries. A construction buffer of 300 feet shall be established around the wetlands and riparian habitat during the bird breading season (February 1 – August 31). Prior to construction, fencing should be installed approximately 10 feet from the wetland and riparian habitat boundaries within 50 feet of the projects. Fencing should be easily visible to construction. The extensive alluvial fan systems should not be used as access roads between the projects.

Significance After Mitigation

Construction of the VEGA SES 2, 3, and 5 projects has the potential to directly impact riparian habitat and sensitive natural communities. However, implementation of Mitigation Measures BIO-7 through BIO-9 would reduce potential impacts to a level less than significant.

Impact 3.5-3 ***Would the project have a substantial adverse effect on state or federally-protected wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means?***

Construction

VEGA SES 2 AND 3

The Aquatic Resources Delineation report prepared for the VEGA SES 2 and 3 projects identified numerous aquatic resources on the project site (see Appendix F1 of this EIR). Construction of the project has the potential to directly impact these resources; this is a potentially significant impact. However, impacts on aquatic features may require permits from several regulatory agencies pursuant to federal and State laws. Wetlands and perennial drainages connected to navigable waters would require a permit pursuant to Section 404 of the CWA (USACE), certification compliance with Section 401 of the CWA (USACE) and the Porter-Cologne Act (RWQCB), and an agreement pursuant to California FGC Sections 1600 and 1602 (CDFW). Ephemeral drainages are only subject to state and local jurisdiction, and associated riparian habitats are subject to an agreement pursuant to California FGC Sections 1600 and 1602 (CDFW). With implementation of Mitigation Measures BIO-7a, BIO-8, and BIO-9, which ensure the project's adherence to applicable permitting requirements for impacts on jurisdictional waters and which implement avoidance and minimization measures, the project's construction-related impacts on jurisdictional waters would be reduced to a level less than significant.

VEGA SES 5

The Aquatic Resources Delineation report prepared for the VEGA SES 5 project identified numerous aquatic resources on the project site (see Appendix F2 of this EIR). Construction of the project has the potential to directly impact these resources; this is a potentially significant impact. However, impacts on aquatic features may require permits from several regulatory agencies pursuant to federal and State laws. Wetlands and perennial drainages connected to navigable waters would require a permit pursuant to Section 404 of the CWA (USACE), certification compliance with Section 401 of the CWA (USACE) and the Porter-Cologne Act (RWQCB), and an agreement pursuant to California FGC Sections 1600 and 1602 (CDFW). Ephemeral drainages are only subject to state and local jurisdiction, and associated riparian habitats are subject to an agreement pursuant to California FGC Sections 1600 and 1602 (CDFW). With implementation of Mitigation Measures BIO-7b, BIO-8, and BIO-9, which

ensure the project's adherence to applicable permitting requirements for impacts on jurisdictional waters and which implement avoidance and minimization measures, the project's construction-related impacts on wetlands and other jurisdictional waters would be reduced to a level less than significant.

Operation

VEGA 2, 3, AND 5

Project operations would result in minimal, if any, disturbance to protected wetlands on the VEGA SES 2, 3, and 5 project sites. During ongoing operations, personnel would only visit the site as needed for maintenance. Additionally, the proposed project would comply with the necessary permitting requirements of the USACE, CDFW, and RWQCB, per Mitigation Measures BIO-7a, BIO-7b, BIO-8, and BIO-9, which include coordination with the applicable regulatory agency. Therefore, project operations are not expected to have a substantial adverse effect on any state or federally protected wetlands. Implementation of mitigation measures would reduce potential operations impacts on state or federally protected wetlands to a level less than significant.

Mitigation Measure(s)

No additional mitigation measures beyond Mitigation Measures BIO-7a, BIO-7b, BIO-8, and BIO-9 are required.

Significance After Mitigation

Project construction has the potential to directly impact state and federally protected wetlands. However, implementation of Mitigation Measures BIO-7a, BIO-7b, BIO-8, and BIO-9 would reduce potential operations related impacts on state and federally protected wetlands to a level less than significant.

Impact 3.5-4 Would the project interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Construction

VEGA 2 AND 3

As previously indicated, the project site was assessed for its ability to function as a wildlife corridor. The VEGA SES 2 and 3 BSAs are located adjacent to areas containing existing disturbances (i.e., roads, railroad tracks, and active agricultural land). The majority of the project sites do not contain suitable vegetation or cover to support wildlife movement and are nestled between agricultural and development; therefore, wildlife movement opportunities connecting the project sites to large, undeveloped natural areas is limited. However, the existing riparian corridor could act as a potential corridor and nursey site for migrating wildlife species. Implementation of Mitigation measures BIO-2, BIO-4, BIO-5, BIO-6a, and BIO-7a would reduce potential construction-related impacts on wildlife movement to a level less than significant.

Foraging habitat for a number of raptor species and breeding habitat for numerous passerine species that are protected by the MBTA occurs throughout the project sites. The sites provide nesting habitat for ground-nesting species as well as species that nest in riparian scrub habitat. The presence of large ironwood and palo verde trees within the BSA provides suitable nesting habitat for raptor species.

Additionally, northern harriers are ground nesters, and the existing tamarisk thickets and other dense habitats provide potential nesting habitat for this species. Project construction has the potential to result in both direct and indirect impacts on nesting birds. Direct impacts on nesting avian species include injury, mortality, loss of young, and nest failure. Indirect impacts include loss of foraging and nesting habitat for passerine and raptors species, increase in noise and human activities, and potential introduction of invasive or non-native species. Impacts on species protected by the MBTA would be potentially significant during project construction. However, implementation of Mitigation Measures BIO-2, BIO-4, BIO-5, and BIO-7a would reduce potential construction-related impacts on species protected by the MBTA to a level less than significant.

VEGA 5

As previously indicated, the project site was assessed for its ability to function as a wildlife corridor. The VEGA SES 5 BSA is located adjacent to areas containing existing disturbances (i.e., roads, railroad tracks, and active agricultural land). The majority of the project site does not contain suitable vegetation or cover to support wildlife movement and are nestled between agricultural and development; therefore, wildlife movement opportunities connecting the project site to large, undeveloped natural areas is limited. However, the existing riparian corridor could act as a potential corridor and nursey site for migrating wildlife species. Implementation of Mitigation Measures BIO-2, BIO-4, BIO-5, BIO-6b, and BIO-7b would reduce potential construction-related impacts on wildlife movement to a level less than significant.

Foraging habitat for a number of raptor species and breeding habitat for numerous passerine species that are protected by the MBTA occurs throughout the VEGA SES 5 BSA. The site provides nesting habitat for ground-nesting species as well as species that nest in creosote scrub and riparian scrub habitats. Due to the lack of large trees within the BSA, there is no suitable nesting habitat for tree-nesting raptor species. However, project construction has the potential to result in both direct and indirect impacts on nesting birds. Direct impacts on nesting avian species include injury, mortality, loss of young, and nest failure. Indirect impacts include loss of foraging and nesting habitat for passerine species, increase in noise and human activities, potential introduction of invasive/non-native species. Impacts on species protected by the MBTA would be potentially significant during project construction. However, implementation of Mitigation Measures BIO-2, BIO-4, BIO-5, and BIO-7b would reduce potential construction-related impacts on species protected by the MBTA to a level less than significant.

Operation

VEGA 2, 3, AND 5

Project operations would result in minimal, if any, disturbance to the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors and nursery sites. During ongoing operations, personnel would only visit the site as needed for maintenance. Following construction of the project, ground dwelling wildlife will continue to be able to move locally through the area using the surrounding agricultural lands, undeveloped lands, and margins of the irrigation canals. Operation impacts on wildlife movement would be considered less than significant.

Mitigation Measure(s)

No mitigation measures beyond Mitigation Measures BIO-2, BIO-4, BIO-5, BIO-6a, BIO-6b, BIO-7a, and BIO-7b are required.

Significance After Mitigation

Project construction has the potential to directly interfere with the movement of native resident or migratory wildlife species, established native resident or migratory wildlife corridors, and impede the use of native wildlife nursery sites. However, implementation of Mitigation Measures BIO-2, BIO-4, BIO-5, BIO-6a, BIO-6b, BIO-7a, and BIO-7b would reduce potential construction-related impacts on wildlife movement and species protected by the MBTA to a level less than significant.

Impact 3.5-5 Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

VEGA 2, 3, AND 5

The proposed projects consist of the construction and operation of solar energy facilities and associated electrical transmission lines. Development of the solar facilities would be subject to the County's zoning ordinance.

The VEGA SES 2, 3, and 5 projects are located on seven privately owned legal parcels zoned Heavy Agriculture with a Renewable Energy Zone Overlay (A-3-RE), General Agriculture with a Renewable Energy Zone Overlay A-2-RE, and Open Space/Preservation with a Renewable Energy Zone Overlay (S-2-RE). Pursuant to Title 9, Division 5, Chapter 9, "Solar Energy Plants" and "Transmission lines, including supporting towers, poles microwave towers, utility substations" are uses that are permitted in the A-3 Zone, subject to approval of a CUP from Imperial County.

As demonstrated in Table 3.5-3 and discussed further in Section 3.11, Land Use Planning, with approval of a CUP and General Plan Amendment, the projects would be consistent with Imperial County General Plan, and with biological resources policies contained therein. Therefore, implementation of the proposed projects would not result in a significant impact associated with the projects' potential to conflict with local policies protecting biological resources.

Mitigation Measure(s)

No mitigation is required.

Impact 3.5-6 Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

VEGA 2, 3, AND 5

The VEGA SES 2, 3, and 5 project sites are not located in a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Implementation of the proposed projects would result in no impact associated with the potential to conflict with local conservation plans. No impact would occur.

Mitigation Measure(s)

No mitigation is required.

3.5.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

If at the end of the PPA term, no contract extension is available for a power purchaser, no other buyer of the energy emerges, or there is no further funding of the projects, the projects will be decommissioned and dismantled. Project decommissioning activities will require construction vehicles to drive across the solar facility, transmission line, and access roads. Concrete footings, foundations, and pads would be removed using heavy equipment and recycled at an off-site location. All remaining components would be removed, and all disturbed areas would be reclaimed and recontoured. Similar to project construction, decommissioning activities have the potential to directly impact special-status species, sensitive vegetation and habitats, aquatic resources, and wildlife habitat linkages. This is a potentially significant impact; however, implementation of Mitigation Measures BIO-1 through BIO-9 at the time of decommissioning would reduce potential impacts to a level less than significant.

Residual

With implementation of Mitigation Measures BIO-1 through BIO-9, the projects would not significantly impact state or federally protected wetlands, conflict with any local policies or ordinances protecting biological resources, or conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

With the implementation of Mitigation Measures BIO-1 through BIO-9, potential impacts on special-status species, sensitive vegetation and habitats, aquatic resources, and wildlife habitat linkages would be reduced to a level less than significant.

Therefore, the VEGA SES 2, 3, and 5 projects would not result in residual significant and unmitigable impacts related to biological resources.

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3.6 Cultural Resources

This section discusses cultural resources that may be potentially impacted by the proposed projects. The following identifies the existing cultural resources within the project sites, analyzes potential impacts of the proposed projects, and recommends mitigation measures to avoid or reduce potential impacts of the proposed projects.

Information for this section is summarized from the Archaeological and Built Environment Resources Inventory Report for the VEGA SES 2, 3, 5 Solar Energy Storage Projects prepared by ECORP Consulting, Inc. This report is included as Appendix G of this EIR. The cultural resources inventory included a records search, literature review, and field survey.

The Area of Potential Effects (APE), or project area, consists of the horizontal and vertical limits of a project and includes the area within which significant impacts to historical resources or historic properties could occur as a result of the project. The APE is defined for projects subject to regulations implementing Section 106 (federal law and regulations). For projects subject to CEQA and for the purposes of this EIR, the term “project area” is used rather than APE.

The horizontal limit of the project area includes areas proposed for construction, vegetation removal, grading, trenching, stockpiling, staging, and paving. The horizontal limit of the VEGA SES 2 and 3 project area measures approximately 1,553 acres. The horizontal limit of the VEGA SES 5 project area measures approximately 410 acres.

The vertical limit of the project area is described as the maximum depth below the surface to which excavations for project foundations and facilities will extend. Therefore, the vertical limit includes all subsurface areas where archaeological deposits could be affected. The subsurface vertical limit varies across the project, depending on the depth of the grading or trenching for installation of facilities. The Cultural Resources Inventory assumes it could extend as deep as 10 feet below the current surface; therefore, review of geologic and soils maps was necessary to determine the potential for buried archaeological sites that cannot be seen on the surface.

The vertical limit also is described as the maximum height of structures that could impact the physical integrity and integrity of setting of cultural resources, including districts and traditional cultural properties. The Archaeological and Built Environment Resources Inventory Report assumes the above-surface vertical limit is up to 7.5 feet above the surface, which his anticipated to be the maximum height of the solar arrays.

3.6.1 Existing Conditions

Cultural Setting

Regional Pre-contact History

EARLY HOLOCENE (10,000-6,500 BP) AND MIDDLE HOLOCENE (6,500-3,500 BP)

The Salton Trough area of the Colorado Desert has little archaeological material dating to the Early and Middle Holocene. The only indications of use of this area during this period of time consist of large bifacial dart points found on relic lake beds of Lake Cahuilla and on desert pavement. These include projectile point types common in the Mojave Desert such as Lake Mojave, Pinto, and Elko (Schaefer and Laylander 2007:249). The sparse occupation during the Middle Holocene may be

related to extremely arid climatic conditions and of the lack of water in the Salton Trough (absence of Lake Cahuilla). The Salton Sea Naval Test Base study (Apple et al. 1997) has produced evidence for Archaic occupation on the west side of the Salton Trough. Pinto and Elko series projectile points recovered during investigations at the Test Base yielded a date of 5,840 ±250 years BP (Apple et al. 1997). This data suggests that the desert area of southeastern California was not entirely abandoned during the Middle Holocene. While the population of the region was probably sparse, small bands of mobile people most likely moved among areas where water (at springs) and plant food resources were available (Appendix G of this EIR).

LATE ARCHAIC PERIOD (3,000 TO 1,300 BP)

A few temporary camps with living surfaces and hearths dating to the period 3,000 to 1,300 BP (Late Archaic Period) are located away from the lakebed in canyons and in the upper Coachella Valley above the maximum lake level. However, two temporary camps dating to the first millennium BC that contain fish and waterfowl bone in the Coachella Valley along the maximum Lake Cahuilla shoreline indicate there may have been a lake stand during this period ([Schaefer and Laylander 2007:249], [Appendix G of this EIR]).

LATE PERIOD (1,300 BP TO CONTACT)

Higher population and greater numbers of sites appear to correlate with the presence of Lake Cahuilla, which filled the Salton Trough when water flowed into the trough from the Colorado River. When water ceased to flow from the river, the lake dried, markedly reducing the availability of resources. When the lake was present, lacustrine resources such as fish, shellfish, and waterfowl were available. When the lake was absent, very few resources were available and human population was low. To the northwest, in the Coachella Valley, the intermittent Whitewater River entered Lake Cahuilla near Point Happy between what is now Indian Wells and Indio. Several late pre-contact archaeological sites have been investigated along the ancient Lake Cahuilla shoreline in this area. To the south, the entire Imperial Valley between East Mesa and West Mesa was underwater when Lake Cahuilla was present (Appendix G of this EIR).

During the Late Period, the northern part of the Salton Trough (northern Salton Sea area and the Coachella Valley) was occupied by ancestors of the Takic-speaking Cahuilla. They also occupied the adjacent Santa Rosa and San Jacinto mountains. Floral remains indicated use of these sites during all four seasons. These large multi-seasonal residential bases were likely occupied during the three Lake Cahuilla lake stands between AD 1200 and 1680 (Schaefer and Laylander 2007), along the ancient shorelines in the Coachella Valley. These sites also contain abundant fish bone, waterfowl bone, and shell from freshwater shellfish which indicate use of both lowland and upland resources. Typical artifacts at these sites include cottonwood and desert side-notched arrow points, buff ware ceramics, and late pre-contact marine shell beads (Warren 1984: 407).

The Colorado Desert area northeast of the Salton Trough, including the Chuckwalla Valley area, was probably used intermittently prior to AD 1200 by small groups of Yuman-speaking hunter-gatherers who had residential bases or villages along the Colorado River. These sites would consist of small temporary camps and lithic scatters. Ancestors of the Numic-speaking Chemehuevi moved into the southeastern Mojave Desert and northeastern Colorado Desert (including Chuckwalla Valley) on the west side of the Colorado River about AD 1200 (Sutton et al, 2007: 244). Because the Chemehuevi did not have access to the Colorado River Valley, which was still occupied by Yuman speakers, their use of the desert area was more intensive. Therefore, temporary camps used by ancestors of the Chemehuevi as well as lithic scatters, should be larger than those dating

prior to AD 1200. Pottery is present in some of the temporary camps and consists of either locally made brown ware or buff ware that was obtained through trade with the Colorado River groups.

The southern part of the Salton Trough was occupied by ancestors of the Yuman-speaking Tipai, Kumeyaay, or Kamia (Schaefer and Laylander 2007). This area included the Imperial Valley, the Yuha Desert, and the mountains to the west and east. The lower Colorado River area was occupied by ancestors of the Yuman-speaking Quechan. However, Late Prehistoric archaeological sites in this area belong to the Patayan. Patayan I begins about 1,300 BP and is indicated archaeologically by the presence of small arrow points and by the appearance of Black Mesa Buff and Colorado Beige ceramics along the Colorado River. Patayan ceramics first appeared about 1,200 BP on the east shore of Lake Cahuilla and were probably introduced by Yuman people from the Colorado River. Within other areas of the the southern Salton Trough, ceramics first appear about 1,000 BP at the beginning of Patayan II. Later Patayan II (AD 1000 – 1700) and III (AD 1700 – 1850) ceramics include Tumco Buff and Colorado Buff (Schaefer and Laylander 2007: 252).

Along the lower Colorado River, the Patayan settlement-subsistence system consisted of horticulture, hunting, and gathering in riparian habitats. People lived in multi-seasonal residential bases along the river. When Lake Cahuilla was present in the Salton Trough, they also occupied temporary camps for fishing, hunting, and gathering on the eastern shore of Lake Cahuilla. On the west side of the Salton Trough, the Patayan pattern consisted of a seasonal round among upland and lowland habitats. When Lake Cahuilla was present, seasonal residential bases and temporary camps were occupied on the western shore of Lake Cahuilla in order to obtain lacustrine resources including fish, shellfish, and waterfowl (Schaefer and Laylander 2007: 253).

Obsidian from the Obsidian Butte source on the southeast margin of the Salton Sea was used for making flaked-stone tools throughout southern California during the Late Period. However, obsidian from Obsidian Butte could only be obtained when lake levels were low, since it is at an elevation of -40 meters (130 feet) below sea level. It is possible that the Imperial Valley Yumans traded obsidian for food resources from other groups when lacustrine resources from Lake Cahuilla were not available. Exchange patterns are also indicated by the presence of numerous marine shell beads (made in the coastal Chumash area) in late pre-contact Takic-speaking Cahuilla sites, but not in Yuman-speaking areas (Schaefer and Laylander 2007: 253).

Ethnohistory

The Kumeyaay (also known as Ipai and Tipai) are the Yuman-speaking native people of central and southwestern Imperial County, central and southern San Diego County, and the northern Baja Peninsula in Mexico (Luomala 1978). The ancestral lands of the Kumeyaay extend north from Todos Santos Bay near Ensenada, Mexico to Agua Hedionda Lagoon in north San Diego County, and east to the Imperial Valley. Village locations were selected for seasonal use and were occupied by exogamous, patrilineal clans or bands. Kumeyaay lived in residential bases during the winter and subsisted on stored resources. No permanent houses were built. Brush shelters were temporary and were not reused the next year. Ceremonies, including rites of passage and ceremonies were held in the winter residential bases (Christenson 1990: 58, 62). The Kumeyaay were geographically and linguistically divided into western and eastern Kumeyaay (Chistenson 1990: 64). The western Kumeyaay lived along the coast and in the valleys along the drainages west of the mountains. The eastern Kumeyaay lived in the canyons and desert east of the mountains. The eastern and western Kumeyaay met in the mountains in the fall, where they gathered black oak acorns, traded, and held ceremonies ([Luomala 1978], [Appendix G of this EIR]).

Beginning in 1775, the seminomadic life of the Kumeyaay began to change as a result of contact with Euro-Americans, particularly from the influence of the Spanish missions. Through successive Spanish, Mexican, and Anglo-American control, the Kumeyaay were forced to adopt a sedentary lifestyle and accept Christianity (Luomala 1978).

Regional History

In September of 1771, Father Francisco Garcés followed the Gila River west to its confluence with the Colorado River, traveled south to the Laguna de Salada in Baja California, then turned northwest until he reached the southern end of Imperial Valley. Garcés and his party were the first Europeans to see the Salton Sink region. After his return to Mexico, Garcés talked of his discovery to Captain Juan Bautista de Anza, the commander of the Spanish presidio at Tubac, in what is now southern Arizona. Anza wrote to the Viceroy of Mexico, Antonio María Bucareli Ursúa, and received permission to mount an expedition to cross the Colorado River into California (Bannon 1974; Dowd 1960; Hoyt 1948; Pourade 1971).

The Anza expedition crossed the Colorado River near Yuma, entering the Colorado Desert. Rather than crossing or skirting the extensive sand dunes that lie west of Yuma, Anza followed the river south into Baja California, then turned north. After about three weeks of hardship, the expedition reached Imperial Valley west of the future site of Calexico. After crossing Borrego Valley and the Santa Rosa Mountains, Anza and his men reached Mission San Gabriel in Los Angeles on March 22, 1774, having become the first Europeans to cross the Colorado Desert and what would later be known as Imperial Valley ([Bannon 1974; Dowd 1960; Hoyt 1948; Pourade 1971], [Appendix G of this EIR]).

The first proposal to irrigate the Colorado Desert for agriculture came from Dr. Oliver M. Wozencraft after he saw Indians cultivating plots during an exploratory trip in May of 1849. Wozencraft secured the rights to 1,600 square miles of desert land in the Salton Sink from the California Legislature in 1859 with engineer Charles R. Rockwood directing operations. In 1891, the Colorado River Irrigation Company was formed. In 1896, Rockwood formed the California Development Company and Canadian capitalist George Chaffey, the founder of Ontario, California, provided funding and promotion for the company in 1900. By 1902, the Central Main Canal (Imperial Canal) had been built and water began flowing from the Colorado River just south of the U.S.-Mexico border, via the Alamo River, to the canal (Athens 2007a; Cory 1915; De Stanley 1966; Fitch 1961; Harris 1956-58; Kennan 1917; Nordland 1977; Simon 2007a)

Agricultural development of the sink as a result of irrigation and real estate promotion by Chaffey and the California Development Company exceeded expectations. The population of 2,000 in 1902 grew to 7,000 by 1903 and to more than 10,000 by 1904; and from little or no cultivation in 1900, agriculture in the Salton Sink grew to 120,000 acres under cultivation by January of 1905 (Fitch 1961; Kennan 1917). During the winter of 1904-1905, greater than usual rainfall in the watershed area of the Gila River caused a high rate of discharge into the Colorado River and resulted in the clogging of canal intake systems with a disproportionate amount of silt. After four floods, the Alamo River-Imperial Canal system overflowed, and the entire discharge of the Colorado River began to pour into the Salton Sink, creating the Salton Sea. Agricultural development resumed in Imperial Valley after the flooding of the Salton Sea was brought under control in early 1907 (Cory 1915; Duke 1974; Fitch 1961; Kennan 1917; Simon 2007b; Woerner 1989).

With the increasing acreage under irrigation and cultivation, and the Southern Pacific Railroad reaching southward all the way through Imperial and El Centro to Calexico, the population of

Imperial Valley and the region surrounding it had grown to around 20,000 by 1907. After prominent Imperial Valley citizens petitioned for Imperial Valley to be separated from the County of San Diego, a vote was held on August 6, 1907; and on August 12, 1907, Imperial County was created (Farr 1918; Lusk 2007). Although Imperial was the first city to be established and incorporated in the region, El Centro was chosen by election to be the county seat later that year (Harris 1956-58; Lusk 2007).

The Imperial Irrigation District (IID) was established in July 1911 and was the largest irrigation district in the world at that time, covering an area of 817 square miles. In June 1916, the IID purchased the canal system built by the California Development Company. Today, the IID provides water for 6,471 square miles in Imperial Valley and is the most extensive irrigation district in the U.S. Agriculture, dairy farming, and cattle raising have been the economic staples of Imperial Valley since the early twentieth century. Although the Great Depression of the 1930s brought hardships to the area, it also brought many agricultural workers from the Oklahoma dust bowl who became permanent residents. The completion of Boulder (Hoover) Dam on the Colorado River in 1935, and the All-American Canal from the river to Imperial Valley in 1940, increased and secured the region's irrigation water supply, solidifying the Imperial Valley's economy (Athens 2007b; Hartshorn 1977; Simon 2007c).

Records Search

Records searches from the South Coastal Information Center (SCIC) of the CHRIS at San Diego State University were requested on November 6 and 16, 2020, to determine the extent of previous surveys within a 1-mile of the project area, and whether previously documented pre-contact or historic-period archaeological sites, architectural resources, or traditional cultural properties exist within project areas.

Previous Research

The results from the CHRIS records search revealed that 22 previous cultural resources investigations have been conducted within 1 mile of the project area between 1979 and 2016. Thirteen of those previous cultural resources investigations overlap the project area, and the records search indicates that portions of the project area have been previously surveyed as part of a cultural resources inventory. Though portions of the project areas were previously surveyed, these surveys took place more than 35 years ago for the VEGA SES 5 project site and over 5 years ago for the VEGA SES 2 and 3 project sites under obsolete standards. The length of time that has passed between the prior surveys and the present necessitated a resurvey of the project area.

Previously Recorded Resources

The CHRIS records search determined that 28 previously recorded cultural resources are located within 1 mile of the project area. Previously recorded resources comprise of dumps/trash scatters, trash scatter and foundation, a railroad, a canal, trash scatter and ceramic scatter (multi-component), lithic scatter, ceramic scatters, lithic and ceramic scatters, a village, and ceramic isolates on the VEGA SES 2 and 3 project area; as well as pre-contact resources consisting of lithic scatters, hearths, milling features, and cremation burials; and historic-period resources consisting of a railroad, refuse scatters, a canal, and the historic town site of Flowing Well on the VEGA SES 5 project area.

Four previously recorded resources which include the Coachella Canal, a pre-contact seasonal camp, a precontact fishing village, and a historic GLO survey marker with a glass shard and a plate are located within the VEGA SES 2 and 3 project area; and three previously recorded resources which include historic refuse scatters and the historic period East Highline Canal are located within the VEGA SES 5 project area. Table 3.6-1 details all 28 previously recorded resources and the seven resources within the project area.

Table 3.6-1. Previously Recorded Cultural Resources Within 1-Mile of the Project Area

Primary and/or Site No.	Description	Within Project Area?
P-13- /CA-IMP-000137	Village - hearths, rock rings, cremations (some with ollas), lithics	No
P-13- /CA-IMP-000147	Village – house pits, milling, pumice, hearths, lithics, cremation, shell beads and pendants	Yes (VEGA SES 5)
P-13- /CA-IMP-003093	Isolate - Ceramic scatter	No
P-13- /CA-IMP-003094	Isolate - Ceramic	No
P-13- /CA-IMP-003095	Ceramic scatter	No
P-13- /CA-IMP-003096	Isolate - Ceramic	No
P-13- /CA-IMP-003097	Isolate - Ceramic	No
P-13-003424	Southern Pacific Railroad	No
P-13-004251	Ceramic scatter	No
P-13-004934	Seasonal camp – milling, hearths, ceramics. All surface artifacts collected; site destroyed	Yes (VEGA SES 2 and 5)
P-13-005485	Lithic scatter, ceramic scatter	No
P-13-005487	Trash dump/scatter, historic-period refuse scatter	Yes (VEGA SES 5)
P-13-005488	Trash dump/scatter	Yes (VEGA SES 5)
P-13-006525	Lithic scatter, ceramic scatter	No
P-13-006526	Lithic scatter, ceramic scatter	No
P-13-006527	Ceramic scatters, pendant	No
P-13-006528	Lithic scatter, ceramic scatter	No
P-13-007858	Coachella Canal	Yes (VEGA SES 2 and 3)
P-13-008333/ CA-IMP-007835	East Highline Canal	Yes (VEGA SES 5)
P-13-008347/ CA-IMP-007830	Trash scatter, ceramic scatter	No

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Table 3.6-1. Previously Recorded Cultural Resources Within 1-Mile of the Project Area

Primary and/or Site No.	Description	Within Project Area?
P-13-008735/ CA-IMP-008217	Trash dump, historic-period refuse scatter	Yes (VEGA SES 5)
P-13-009177/ CA-IMP-008425	Privies/dumps/trash scatters	No
P-13-011192/ CA-IMP-010187	Privies/dumps/trash scatters	No
P-13-011350/ CA-IMP-010246	Dump/trash scatters	No
P-13-011375/ CA-IMP-010315	Lithic scatter	No
P-13-011376/ CA-IMP-010316	Foundation, trash scatter	No
P-13-011377/ CA-IMP-010317	GLO survey marker, one glass shard, one plate	Yes (VEGA SES 2 and 5)
P-13-011945	None	No

Source: Appendix G of this EIR

The National Register Information System did not list any eligible or listed properties within the project sites or one-mile vicinity. Additionally, no resources were identified as listed as California Historical Landmarks and by the OHP. A search of the Caltrans Local Bridge Inventory online shows the bridge at Flowing Wells Road and East Highline Canal (Bridge 58C0189), was built in 1950. The bridge is within 1 mile of the VEGA SES 2 and 5 project area, but does not overlap with the project area. No historic bridges were identified within or around the VEGA SES 5 project area.

General Land Office

A search of historic GLO land patent records revealed one historic-period resource in the VEGA SES 2 and 3 project area (Appendix G of this EIR). The Southern Pacific Railroad was granted Sections 9, 15, and 17. No GLO Patent information was available for portions of VEGA SES 2 and 3 within Sections 8, 7, and 18. GLO land patent records for VEGA SES 5 also identified land patent records revealed the eastern half of Section 19 and all of Section 17 was granted to the Southern Pacific Railroad Company on June 30, 1905 under the authority of the 1866 Atlantic and Pacific Railroad Land Grant (14 Stat. 292), which allowed for federal lands to be granted to complete the disconnected portions of the Atlantic and Pacific Railroad across the U.S. from southern California to Tulsa, Oklahoma.

Field Survey

Pedestrian surveys were conducted between November 18, 2020, and January 26.

At the time of the survey, the survey areas consisted of broad alluvial fan crossed by the Coachella Canal as well as vacant desert with sparse vegetation to the north of the East Highline Canal, and disused agricultural land with moderately sparse to dense vegetation south of the canal. The pedestrian survey was conducted by walking north-south and east-west transects across all accessible portions of the property and examining both permeable and impermeable surfaces

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throughout. The survey areas are located to the south and west of the Chocolate Mountains Aerial Gunnery Range, and the only permanent structures or development that remains on the Project property are canal related. Overall, the visibility throughout open areas of the survey areas was good to excellent (approximately 70 to 100 percent). Visible soil is all native soils that are either periodically inundated, undisturbed, or disturbed by agricultural or vegetation removal activities within the Study Areas.

VEGA SES 2

Two previously recorded resources were revisited and updated as part of this study. Additionally, 146 newly identified archaeological and built-environment resources were found as a result of the field survey, which comprised three pre-contact sites, three pre-contact isolated finds, 49 historic sites, and 102 historic period isolated finds summarized in section 5.3.1 of the Archaeological and Built Environment Resources Inventory Report prepared for this project (Appendix G of this EIR).

VEGA SES 3

No previously recorded archaeological and built environment resources are located within the Vega 3 survey area. Additionally, 9 newly identified archaeological and built-environment resources were found as a result of the field survey, which includes five historic sites and four historic period isolated finds summarized in section 5.3.2 of the Archaeological and Built Environment Resources Inventory Report prepared for this project (Appendix G of this EIR).

VEGA SES 5

Seven previously recorded resources were revisited and updated as part of this study. Additionally, 16 newly identified archaeological and built-environment resources were found as a result of the field survey, which comprised one GLO survey marker, one community, six refuse scatters, and eight isolated finds summarized in Section 5.3.2 of the Archaeological and Built Environment Resources Inventory Report prepared for this project (Appendix G of this EIR).

Summary

As summarized above, the inventories of the Study Areas resulted in confirmation of seven previously recorded sites (P-13-147, P-13-7858, P-13-4934, P-13-11377, P-13-8333, P-13-5487, and P-13-8735), 48 newly identified historic-era sites, 3 newly identified pre-contact sites, 114 historic isolated finds, and 3 pre-contact isolated finds. Only three of these resources (P-13-147, P-13-7858, and P-13-8333) have been previously determined to be eligible for the NRHP and CRHR; the rest remain unevaluated. The isolated finds, however, are not in primary context or do not have the potential for subsurface deposits and could be evaluated using survey level data alone, as follows.

One hundred seventeen newly identified isolated finds were recorded during the archaeological and built environment resources survey, including three pre-contact isolates and 114 historic-period isolates. Isolates are unassociated artifacts or minor features that represent either accidental inclusion or are otherwise disconnected from the human activity that produced them. Isolates typically do not individually contribute to the broad patterns of history because they cannot be connected to a particular event (NRHP Criterion A/CRHR Criterion 1). Isolates are similarly difficult to associate with specific individuals due to their lack of association with archaeological or historical sites, and generally no information exists in the archival record to associate isolates with important individuals in history (NRHP Criterion B/CRHR Criterion2). Isolates do not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or

possess high artistic values (NRHP Criterion C/CRHR Criterion 3). Finally, isolates in general do not provide important information in history or prehistory (NRHP Criterion D/CRHR Criterion 4). Therefore, the 116 isolates identified during the technical study do not meet the eligibility criteria for inclusion in the NRHP or CRHR as an individual resource. These isolated finds do not contribute to any known or suspected historic districts; and are neither considered to be Historic Properties for the purpose of Section 106 NHPA, nor Historical Resources under CEQA.

The 117 isolated finds identified during the survey are not individually eligible for the CRHR or the NRHP based on the criteria discussed above. However, a detailed evaluation of the other resources (sites) identified during the survey may lead to the conclusion that many or all of the isolated finds are constituents of a historic district based on the density and association of the isolated finds.

With the exception of resources P-13-147, P-13-7858, and P-13-8333, no other resources have been evaluated using NRHP and CRHR eligibility criteria, and therefore, it is not currently known whether any of these are considered Historical Resources under CEQA or Historic Properties under Section 106 NHPA (if applicable). If sites are not presumed eligible, then the process of evaluation requires a combination of archival research and archaeological excavation. If found to be eligible for the NRHP or CRHR, a determination would next need to be made about whether the Project would have a significant effect on the qualities that made them significant.

3.6.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the project.

Federal

National Historic Preservation Act

Federal regulations (36 CFR Part 800.2) define historic properties as "any prehistoric or historic district, site, building, structure, or object included, or eligible for inclusion in, in the National Register of Historic Places." Section 106 of the National Historic Preservation Act (NHPA) (Public Law 89-665; 80 Stat 915; USC 470, as amended) requires a federal agency with jurisdiction over a project to take into account the effect of the project on properties included in or eligible for the (NRHP, and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. The term "cultural resource" is used to denote a historic or prehistoric district, site, building, structure, or object, regardless of whether it is eligible for the NRHP.

State

California Office of Historic Preservation

The California Office of Historic Preservation (OHP) administers state and federal historic preservation programs and provides technical assistance to federal, state, and local government agencies, organizations, and the general public with regard to historic preservation programs designed to identify, evaluate, register, and protect California's historic resources.

Section 15064.5 of the CEQA Guidelines also requires that Native American concerns and the concerns of other interested persons and corporate entities, including but not limited to museums, historical commissions, associations, and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and

associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains (HSC Section 7050.5, PRC Sections 5097.94 et seq.).

CEQA Guidelines: Historical Resources Definition

CEQA Guidelines Section 15064.5(a) defines a historical resource as:

(1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR (PRC Section 5024.1; Title 14 CCR, Section 4850 et seq.).

(2) A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

(3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (PRC Section 5024.1; Title 14 CCR, Section 4852) including the following:

(A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Is associated with the lives of persons important to our past;

(C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(D) Has yielded, or may be likely to yield, information important in prehistory or history.[1]

(4) The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code Sections 5020.1(j) or 5024.1.

CEQA Guidelines: Archaeological Resources

Section 15064.5(c) of CEQA Guidelines provides specific guidance on the treatment of archaeological resources as noted below.

(1) When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subdivision (a).

[1] Ibid.

(2) If a lead agency determines that the archaeological site is an historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.

(3) If an archaeological site does not meet the criteria defined in subdivision (a), but does meet the definition of a unique archeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of Section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c–f) do not apply to surveys and site evaluation activities intended to determine whether the project location contains unique archaeological resources.

(4) If an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

CEQA Guidelines: Human Remains

Section 15064.5 of CEQA Guidelines provides specific guidance on the treatment of human remains pursuant to PRC § 5097.98, which provides specific guidance on the disposition of Native American burials (human remains), and fall within the jurisdiction of the NAHC:

(d) When an initial study identifies the existence of, or the probable likelihood, of Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the NAHC as provided in Public Resources Code Section 5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the NAHC. Action implementing such an agreement is exempt from:

(1) The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (HSC Section 7050.5).

(2) The requirements of CEQA and the Coastal Act.

(e) In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:

(1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

(A) The coroner or the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and

(B) If the coroner determines the remains to be Native American:

1. The coroner shall contact the NAHC within 24 hours.
2. The NAHC shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
3. The mostly descendent may make recommendations to the landowner of the person responsible for the excavation work, for means of treating or disposing of,

with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code section 5097.98, or

(2) Where the following conclusions occur the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

(A) The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.

(B) The descendant fails to make a recommendation; or

(C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

(f) As part of the objectives, criteria, and procedures required by Section 21082 of the Public Resources Code, a lead agency should make provisions for historical or unique archaeological resources accidentally discovered during construction. These provisions should include an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place."

California Health and Safety Code, Section 7050.5

California HSC 7050.5 makes it a misdemeanor to disturb or remove human remains found outside a cemetery. This code also requires a project owner to halt construction if human remains are discovered and to contact the County Coroner.

Local

Imperial County General Plan

The Imperial County General Plan provides goals, objectives, and policies for the identification and protection of significant cultural resources. The Conservation and Open Space Element of the General Plan includes goals, objectives, and policies for the protection of cultural resources and scientific sites that emphasize identification, documentation, and protection of cultural resources. While Section 3.11 Land Use Planning, of this EIR analyzes the project's consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors and Planning Commission ultimately make a determination as to the project's consistency with the General Plan. Goals and Objectives applicable to the proposed projects are summarized in Table 3.6-2.

Table 3.6-2. Project Consistency with Applicable General Plan Goals and Objectives

General Plan Policies	Consistency with General Plan	Analysis
Conservation and Open Space Element - *Open Space and Recreation Conservation* **Goal 1** - Environmental resources shall be conserved for future generations by minimizing environmental impacts in all land use decisions and educating the public on their value. **Objective 1.4** - Ensure the conservation and management of the County's natural and cultural resources.	Consistent	As discussed in Section 3.6.3 below, the proposed projects have the potential to encounter undocumented historical, archaeological resources, and human remains. Implementation of Mitigation Measures CR-1 through CR-4 would reduce potentially significant impacts on unknown cultural and archaeological materials to a less than significant level during construction. Implementation of Mitigation Measure CR-5 would reduce potential impacts on human remains to a level less than significant.
Objective 3.1 - Protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.	Consistent	

Source: County of Imperial 1993
Notes:
CR=cultural resource

3.6.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering proposed project impacts related to cultural and archeological resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to cultural resources are considered significant if any of the following occur:

- Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5
- Disturb any human remains, including those interred outside of dedicated cemeteries

Methodology

This analysis evaluates the potential for the proposed projects, as described in Chapter 2, Project Description, to interact with cultural resources within the project area. Based on the extent of these interactions, this analysis considers whether these conditions would result in an exceedance of one or more of the applied significance criteria as identified above.

As indicated in the environmental setting, the Archaeological and Built Environment Resources Inventory Report prepared for this project (Appendix G of this EIR). were prepared for the projects. The cultural resources inventories provide the results of a SCIC records search and field surveys which have been completed for the project area pursuant to CEQA.

The information from the cultural resources inventory was reviewed and summarized to present the existing conditions and to identify potential environmental impacts, based on the significance criteria presented in this section. Impacts associated with cultural resources that could result from project construction and operational activities were evaluated qualitatively based on site conditions; expected construction practices; materials, locations, and duration of project construction and related activities.

Impact Analysis

Impact 3.6-1 Would the project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section §15064.5?

Section 15064.5 of the CEQA Guidelines defines a historical resource as one that meets one or more of the following criteria:

- Is listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR; or
- Is included in a local register of historical resources or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code; or
- Is determined to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

Of the 168 resources within the VEGA SES 2 and 5 project area, the Old Coachella Canal (P-13-7858) and East Highline Canal (P-13-8333) have been previously evaluated for potential eligibility for listing in the NRHP and CRHR.

EAST HIGHLINE CANAL: P-13-8333

This historic-period earthen canal, built in 1914, runs a length of 45 miles from the Alamo River to just north of Niland, and a portion of it runs diagonally through the VEGA SES 5 project area. It was originally recorded in 1998 and multiple segments have been recorded multiple times since that time. It was incorporated into the All American Canal System in the 1940s, and in 2016 it was evaluated as eligible for the NRHP/CRHR under Criterion A/1 for association with the theme of Development of Irrigated Agriculture in the Imperial Valley, 1900-1942 and under NRHP and CRHR Criterion C/3 as an example of early engineering design of canal systems in Imperial County, at the local level. The Canal was assigned a period of significance of 1914 (when the canal was constructed) to 1942.

During the current inventory, the canal segment within the VEGA SES 5 project area was observed to be in similar condition to past descriptions of other portions of the canal. It is earthen, approximately 60 feet across, and lined with shallow vegetation on either side. It is currently functional and appears to be in good condition and subject to regular maintenance.

OLD COACHELLA CANAL: P-13-7858

This resource was originally recorded in 1997 by ASM Affiliates and is a branch of the All-American Canal, referred to as the Old Coachella Canal. It was replaced by the (new) Coachella Canal in 1980. In a 2014 site record update, Steven Brann and Dan Broockman of Cardno TEC recommended a portion of this resource as eligible for the NRHP.

During the current survey, the portions of this resource within the current project area was revisited and found to be in the same condition as in previous updates. Modern refuse and debris are present within the old canal. Overall construction does not appear to have been affected.

Neither the East Highline Canal (P-13-8333) or the Old Coachella Canal (P-13-7858) will be impacted by project construction. There were no new built environment resources recorded during field investigations. Implementation of the project would result in no adverse change in significance of a historical resources. A less that significant impact to historical resources is expected. No mitigation would be required.

Impact 3.6-2 Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

As identified in Section 3.6.1, there are 168 cultural resources within the project area identified during the sacred lands, Native American outreach, cultural resources records search, archival research, and intensive pedestrian survey. These resources are described in the Archaeological and Built Environment Resources Inventory Report prepared for this project (Appendix G of this EIR). This includes 48 historic-period archaeological sites, 3 pre-contact archaeological sites, and 117 isolated finds. The 51 sites have not been evaluated for the National Register of Historic Places or the California Register of Historical Resources under any criteria. The 117 isolated finds by their nature are not considered eligible for either the NHRP or CRHR.

Construction activities associated with the project as planned will include ground disturbing actions that would impact unevaluated archaeological resources within the project area. In addition, ground disturbing activities have the potential to disturb previously undocumented resources that could qualify as significant archaeological resources pursuant to CEQA. The potential impact is considered significant. Implementation of Mitigation Measures CR-1 through CR-4 would reduce the potential impact to less than significant.

Mitigation Measure(s)

CR-1 Cultural Resources Management Plan

Project proponent will develop a cultural resources management plan (CRMP) to outline the process for compliance with applicable cultural resources laws, management of resources during operation, and consideration of the effect of decommissioning., the CRMP should include the following: identification of California Native American tribes, identification of long and short term management goals for cultural resources within the project area, evaluation of eligibility for the CRHR and NRHP for all resources within the project area, description of measures to avoid, minimize, or significant impacts to historical resources and historic properties, unanticipated discovery procedures, monitoring needs, curation procedures, anticipated personnel requirements and qualifications. The draft CRMP should be reviewed and approved by the lead agency.

CR-2 Cultural Resources Training

Project proponent will provide cultural resources training for all project personnel regarding the laws protecting cultural resources, appropriate conduct in the field, and other project-specific issues identified in the CRMP.

CR-3 Construction Monitoring

A qualified Archaeologist shall be present on site for ground disturbing activities within 100-feet of all unevaluated or sites eligible for inclusion to the NRHP or CRHR. Ground disturbing activities include grubbing, trenching, and grading. Monitoring will be limited to natural surfaces and undisturbed sediments. Monitoring is not required for previously disturbed areas or fill. Monitors will complete daily monitoring reports documenting activities and results of the day. After construction activities have finished a comprehensive monitoring report shall be prepared.

CR-4 Unanticipated Discovery Procedures

In the event of the discovery of previously unidentified archaeological materials, the contractor shall immediately cease all work activities within approximately 100 feet of the discovery. After cessation of excavation, the contractor shall immediately contact the Imperial County Department of Planning and Development Services. Except in the case of cultural items that fall within the scope of the Native American Grave Protection and Repatriation Act, the discovery of any cultural resource within the project area shall not be grounds for a “stop work” notice or otherwise interfere with the project’s continuation except as set forth in this paragraph.

In the event of an unanticipated discovery of archaeological materials during construction, the applicant shall retain the services of a qualified professional archaeologist, meeting the Secretary of the Interior’s Standards for a Qualified Archaeologist, to evaluate the significance of the materials prior to resuming any construction related activities in the vicinity of the find. If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA and it cannot be avoided, the applicant shall implement an archaeological data recovery program.

Impact 3.6-3 Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

During the construction and operational phases of the proposed projects, grading, excavation and trenching will be required. Although the potential for encountering subsurface human remains within the project sites are low, there remains a possibility that human remains are present beneath the ground surface, and that such remains could be exposed during construction activities. The potential to encounter human remains is considered a significant impact. Implementation of Mitigation Measure CR-5 would ensure that the potential impact on previously unknown human remains does not rise to the level of significance pursuant to CEQA. A less than significant impact with implementation of mitigation is expected.

Mitigation Measure(s)

CR-5 Human Remains

If subsurface deposits believed to be human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist who meets the Secretary of the Interior's Standards for prehistoric and historic archaeology and is familiar with the resources of the region, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the find includes human remains, or remains that are potentially human, the professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Imperial County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented.
- If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC may mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the Imperial County Planning and Development Services Department, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

3.6.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

No impact is anticipated from restoration activities as the ground disturbance and associated impacts on cultural resources will have occurred during the construction phase of the proposed projects.

Residual

Implementation of Mitigation Measures CR-1 through CR-4 would reduce potentially significant impacts on unknown cultural and archaeological materials to a less than significant level during construction. Implementation of Mitigation Measure CR-5 would reduce potential impacts on human remains to a level less than significant. No unmitigable impacts on cultural resources would occur with implementation of the proposed projects.

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3.7 Geology and Soils

This section includes an evaluation of the projects in relation to existing geologic and soils conditions within the project sites. Information contained in this section is summarized from the Preliminary Geological and Geotechnical Hazard Evaluation Report prepared by HDR. This report is included as Appendix H of this EIR.

3.7.1 Existing Conditions

Regional Geology

The project sites are located in Imperial County in the Salton Trough portion of the Colorado Desert physiographic province. The Salton Trough is a topographic and geologic structural depression resulting from large scale regional faulting. The trough is bounded on the east and northeast by the San Andreas Fault and of the west by the San Jacinto Fault Zone. The Salton Trough represents the northward extension of the Gulf of California, and contains more than 15,000 feet of Miocene and younger, marine and non-marine sediments capped by approximately 100 feet of Pleistocene and later lacustrine deposits as a result of intermittent filling derived from periodic flooding of the Colorado River and Lake Cahuilla (Appendix H of this EIR). Tectonic activity that formed the trough continues at a high rate as evidenced by deformed young sedimentary deposits and high levels of seismicity.

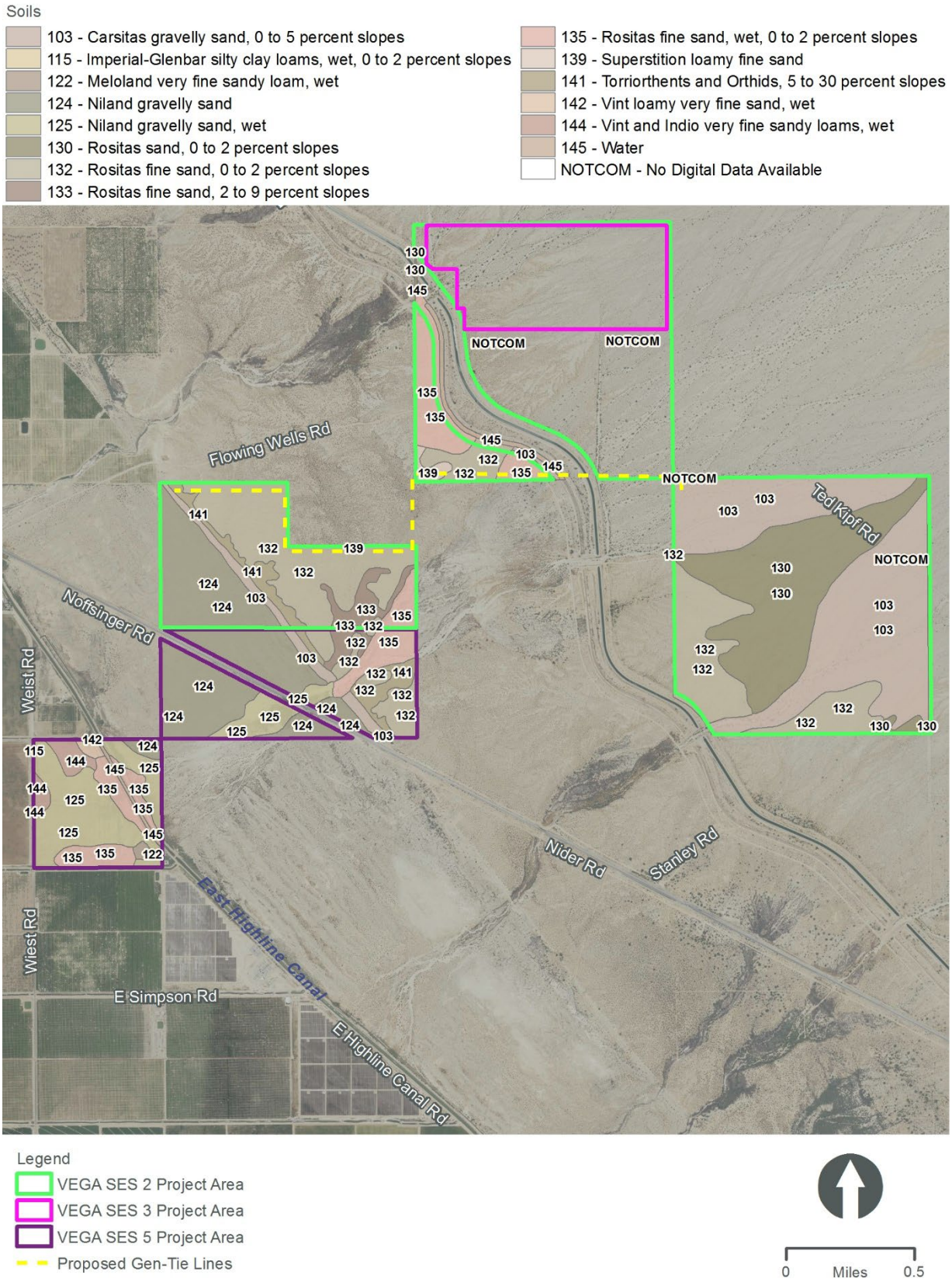
The geologic conditions present within the County contribute to a wide variety of hazards that can result in loss of life, bodily injury, and property damage. Fault displacement is the principal geologic hazard affecting public safety in Imperial County. The primary seismic hazard at the project sites is the potential for strong ground shaking. The project sites are located within a highly active seismic zone. The nearest active major fault that poses a risk contribution of greater than 1 percent is the Brawley Fault Zone, located approximately 13.1 miles (21 kilometers) west of the project sites (Appendix H of this EIR).

Surface Subgrade Soils and Groundwater Conditions

The project sites are generally underlain by stratified alluvial deposits, predominately consisting of interbedded layers of silt, sand, and clay. The near-surface soils are predominantly comprised of very fine to fine sand and occasionally gravelly sand (Appendix H of this EIR). As shown on Figure 3.7-1, soil series mapped on the project sites include:

- 103 – Carsitas gravelly sand, 0 to 5 percent slopes;
- 115 – Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes;
- 122 – Meloland very fine sand loam, wet;
- 124 – Nilan gravelly sand;
- 125 – Niland gravelly sand, wet;
- 130 – Rositas sand, 0 to 2 percent slopes;
- 132 – Rositas fine sand, 0 to 2 percent slopes;

Figure 3.7-1. Soils Mapped on the Project Sites



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- 133 - Rositas fine sand, 2 to 9 percent slopes;
- 135 – Rositas fine sand, wet, 0 to 3 percent slopes;
- 139 – Superstition loamy fine sand;
- 141 – Torriorthents and Orthids, 5 to 30 percent slopes;
- 142 – Vint loamy very fine sand, wet;
- 144 – Vint and Indio very fine sandy loams, wet; and
- 145 – Water.

There is one known groundwater well (Well No. 11S15E23M001S) within a one-mile radius of the VEGA SES 2 Project site (less than a mile south of APN 025-270-023). Groundwater at this well measured at 50 feet below ground surface level in March 2020; however, seasonal fluctuations of shallow groundwater should be expected during periods of rainfall, irrigation of adjacent properties, and site grading (Appendix H of this EIR).

Faulting and Seismicity

Earthquakes are the result of an abrupt release of energy stored in the earth. This energy is generated from the forces which cause the continents to change their relative position on the earth's surface, a process called “continental drift.” The earth’s outer shell is composed of a number of relatively rigid plates that move slowly over the comparatively fluid molten layer below. The boundaries between plates are where the more active geologic processes take place. Earthquakes are an incidental product of these processes.

Southern California straddles the boundary between two global tectonic plates known as the North American Plate (on the east) and the Pacific Plate (on the west). The main plate boundary is represented by the San Andreas Fault, which extends northwest from the Gulf of California in Mexico, through the desert region of the Imperial Valley, through the San Bernardino region, and into Northern California, where it eventually trends offshore, north of San Francisco (Appendix H of this EIR).

In Southern California, the plate boundary is a complex system of numerous faults known as the San Andreas Fault System that spans a 150-mile-wide zone from the main San Andreas Fault in the Imperial Valley westward to offshore of San Diego (Appendix H of this EIR).

The project sites are located in the seismically active Southern California region, with numerous mapped faults traversing the region including the San Andreas, San Jacinto, and Elsinore Fault Zones. Under the current understanding of regional seismology and tectonics, the largest maximum earthquake to impact the project sites would most likely be generated by the Brawley Seismic Zone, which has an estimated maximum magnitude (M) of 7.4. Table 3.7-1 lists faults with a risk contribution greater than 1 percent (Appendix H of this EIR). Figure 3.7-2 identifies faults within the project region.

Table 3.7-1. Faults with a Risk Contribution of Greater than One Percent

Fault Name	Approximate Distance from Project Site (km)	Maximum Magnitude (M)
Brawley Seismic Zone	21.0	7.4
Elmore Ranch	21.6	6.5

Source: Appendix H of this EIR
Notes:
km=kilometers; M=maximum magnitude

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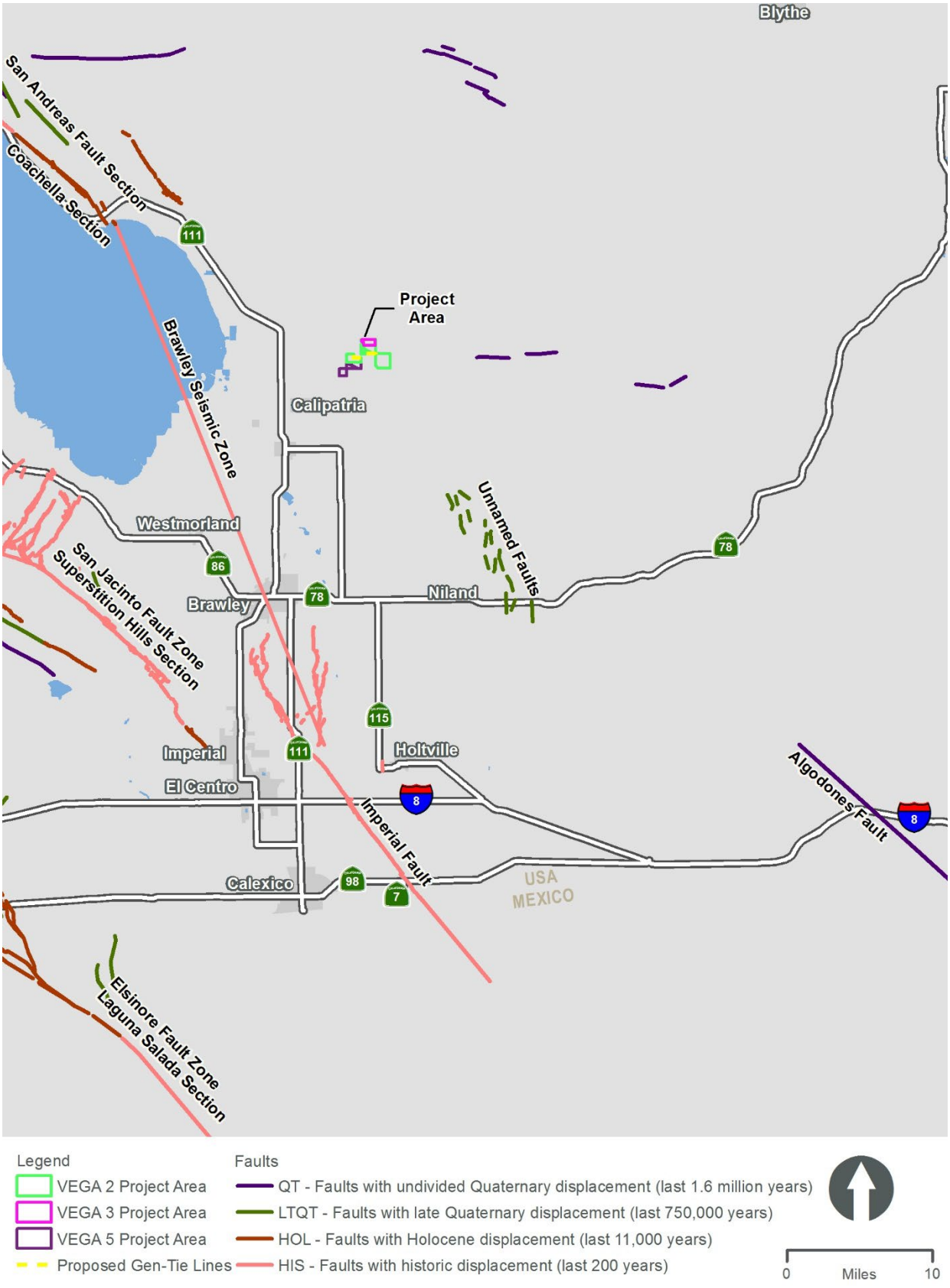
Figure 3.7-2. Regional Fault Map



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Seismic Ground Shaking

Ground shaking is the byproduct of an earthquake and is the energy created as rocks break and slip along a fault during an earthquake. The amount of ground shaking that an area may be subject to during an earthquake is related to the proximity of the area to the fault, the depth of the hypocenter (focal depth), location of the epicenter and the size (magnitude) of the earthquake. Soil type also plays a role in the intensity of shaking. Bedrock or other dense or consolidated materials are less prone to intense ground shaking than soils formed from alluvial deposition.

As the project sites are located in the seismically active Southern California region, strong ground shaking can be expected at the project sites during moderate to severe earthquakes in the general region.

Surface Rupture

Surface rupture occurs when movement along a fault results in actual cracking or breaking of the ground along a fault during an earthquake; however, it is important to note that not all earthquakes result in surface rupture. Surface rupture almost always follows preexisting fault traces, which are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Fault creep is the slow rupture of the earth's crust. Sudden displacements are more damaging to structures because they are accompanied by shaking.

The California Geologic Survey (CGS) established criteria for faults as active, potentially active, and inactive. Active faults are those that show evidence of surface displacement within the last 11,000 years (Holocene age). Potentially active faults are those that demonstrate displacement within the past 1.6 million years (Quaternary age). Faults showing no evidence of displacement within the last 1.6 million years may be, in general, considered inactive for most structures, except for critical structures (Appendix H of this EIR).

In 1972 the Alquist-Priolo Special Studies Earthquake Hazards Act (APEHA) was passed, which required fault studies within 500 feet of active or potentially active faults. The APEHA designates "active" and "potentially active" faults utilizing the same age criteria as that used by the CGS. The project sites are not located within a currently mapped APEHA zone. As previously mentioned above, the nearest active earthquake fault zone likely to impact the project sites is the Brawley Fault Zone, located approximately 21 miles west of the project sites (Appendix H of this EIR). Based on this distance, the potential for surface fault rupture to occur on the project sites is considered low.

Liquefaction

Liquefaction occurs when granular soil below the water table is subjected to vibratory motions, such as those produced by earthquakes. With strong ground shaking, an increase in pore water pressure develops as the soil tends to reduce in volume. If the increase in pore water pressure is sufficient to reduce the vertical effective stress (suspending the soil particles in water), the soil strength decreases and the soil behaves as a liquid (similar to quicksand).

The factors known to influence liquefaction potential include soil type, relative density, grain size distribution, confining pressure, depth to groundwater, and the intensity and duration of the seismic ground shaking. Liquefaction is most prevalent in loose- to medium-dense, silty, sandy, and gravelly soils below the groundwater table.

The project sites have not been mapped for liquefaction potential by CGS.

Landslides

Landslides are the descent of rock or debris caused by natural factors, such as the pull of gravity, fractured or weak bedrock, heavy rainfall, erosion, and earthquakes. The project sites are relatively flat. Due to the existing topography, landslides are not considered a potential hazard for the projects (Appendix H of this EIR).

Lateral Spreading

Lateral spreading typically occurs as a form of horizontal displacement of relatively flat lying alluvial material toward an open or “free” face such as an open body of water, channel, or excavation. This movement is generally due to failure along a weak plane, and may often be associated with liquefaction. As cracks develop within the weakened material, blocks of soil displace laterally toward the open face. Cracking and lateral movement may gradually propagate away from the face as blocks continue to break free. It is unknown whether lateral spreading is a potential hazard on the project sites.

Land Subsidence

Land subsidence is the sinking of the ground surface caused by the compression of earth materials or the loss of subsurface soil because of underground mining, tunneling, or erosion. The major causes of subsidence include fluid withdrawal from the ground, decomposing organics, underground mining or tunneling, and placing large fills over compressible earth materials. The effective stress on underlying soils is increased resulting in consolidation and settlement. Subsidence may also be caused by tectonic processes.

The project sites are not located in an area of known ground subsidence or within any delineated zones of subsidence due to groundwater pumping or oil extraction. As such, the potential for subsidence at the project sites is low (Appendix H of this EIR).

Expansive Soils

Expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell) due to variations in moisture content. Changes in soil moisture content can result from precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may result in unacceptable settlement or heave of structures. The project sites are underlain by sand, gravelly sand, and clay/silty clay. Generally, sands are considered not expansive while soils and clays may exhibit moderate to high expansion potential due to variation in moisture content (Appendix H of this EIR).

Collapsible Soils

Collapsible soil is generally defined as soil that will undergo a sudden decrease in volume and its internal support is lost under applied loads when water is introduced into the soil. The internal support is considered to be a temporary strength and is derived from a number of sources including capillary tension, cementing agents, e.g., iron oxide and calcium carbonate, clay-welding of grains, silt bonds, clay bonds and clay bridges. Soils found to be most susceptible to collapse include loess (fine grained wind-deposited soils), valley alluvium deposited within a semi-arid to arid climate, and residual soil deposits. It is unknown whether collapsible soils are present on the project sites.

Corrosive Soils

Corrosive soils can damage underground utilities, including pipelines and cables, or weaken roadway structures. Generally, fine grained soils like clays are more likely to be corrosive (Appendix H of this EIR). Fine grained and potentially corrosive soils are expected to be encountered at the project sites.

Paleontological Resources

Paleontological resources (fossils) are the remains of prehistoric plant and animal life. Fossil remains, such as bones teeth, shell, and wood, are found in geologic deposits (rock formations) within which they were originally buried. Many paleontological fossil sites are recorded in Imperial County and have been discovered during construction activities. Paleontological resources are typically impacted when earthwork activities, such as mass excavation cut into geological deposits (formations) with buried fossils.

The project sites are in the Salton Basin near the shoreline of ancient Lake Cahuilla. The lake covered much of the Imperial Valley and created an extensive lacustrine environment. Lake Cahuilla experienced several fill recession episodes before it finally dried up about 300 years ago. In 1905, the Colorado River overflowed into the Salton Basin creating the present-day Salton Sea. As previously mentioned above, the project sites are generally underlain by deposits from periodic flooding of the Colorado River and Lake Cahuilla (Appendix H of this EIR). Sediments from this formation have yielded fossilized remains of continental vertebrates, invertebrates, and plants at numerous previously recorded fossil sites in the Imperial Valley. Therefore, the project sites are considered paleontologically sensitive.

3.7.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the projects.

Federal

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act was enacted in 1977 to “reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program.” To accomplish this, the Act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by NEHRP, which refined the description of agency responsibilities, program goals, and objectives.

NEHRP’s mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results. The NEHRP designates the Federal Emergency Management Agency as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities. Programs under NEHRP help inform and guide planning and building code requirements such as emergency evacuation responsibilities and seismic code standards such as those to which the projects would be required to adhere.

State

Alquist-Priolo Special Studies Earthquake Hazards Act

The APEHA was passed into law following the destructive February 9, 1971, San Fernando earthquake. The APEHA provides a mechanism for reducing losses from surface fault rupture on a statewide basis. The intent of the APEHA is to ensure public safety by prohibiting the siting of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep. The State Geologist (Chief of the California Division of Mines and Geology) is required to identify "earthquake fault zones" along known active faults in California. Counties and cities must withhold development permits for human occupancy projects within these zones unless geologic studies demonstrate that there would be no issues associated with the development of projects. The project sites are not located within a currently mapped APEHA zone (Appendix H of this EIR).

California Building Code

The California Building Standards Commission is responsible for coordinating, managing, adopting, and approving building codes in California. CCR Title 24 is reserved for state regulations that govern the design and construction of buildings, associated facilities, and equipment, known as building standards. The California Building Code (CBC) is based on the Federal Uniform Building Code used widely throughout the country (generally adopted on a state-by-state or district-by-district basis). The California Health and Safety Code (HSC) Section and 18980 HSC Section 18902 give CCR Title 24 the name of California Building Standards Code. The updates to the 2019 California Building Standards Code were published on January 1, 2021, with an effective date of July 1, 2021.

Local

County of Imperial Land Use Ordinance

Title 9 Division 15 (Geological Hazards) of the County Land Use Ordinance has established procedures and standards for development within earthquake fault zones. Per County regulations, construction of buildings intended for human occupancy are prohibited across the trace of an active fault. An exception exists when such buildings located near the fault or within a designated Special Studies Zone are demonstrated through a geotechnical analysis and report not to expose a person to undue hazard created by the construction.

County of Imperial General Plan

The County of Imperial General Plan, Seismic and Public Safety Element identifies potential natural and human-induced hazards and provides policy to avoid or minimize the risk associated with hazards. The Seismic and Public Safety Element identifies 'lifelines and critical facilities' whose disruption could endanger the public safety. Lifelines are defined as networks of services that extend over a wide area and are vital to the public welfare, and can be classified into four categories: energy, water, transportation, and communications. The IID has a formal Disaster Readiness Standard Operating Procedure for the Water Department, Power Department, and the entire District staff for response to earthquakes and other emergencies.

Table 3.7-2 analyzes the consistency of the projects with specific policies contained in the County of Imperial General Plan associated with geology, soils, and seismicity. While this EIR analyzes the

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projects' consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

Table 3.7-2. Project Consistency with Applicable General Plan Policies

General Plan Policies	Consistency with General Plan	Analysis
Seismic and Public Safety Element		
Goal 1. Include public health and safety considerations in land use planning.	Consistent	Division 15 of the County Land Use Ordinance has established procedures and standards for development within earthquake fault zones. Per County regulations, construction of buildings intended for human occupancy which are located across the trace of an active fault are prohibited. An exception exists when such buildings located near the fault or within a designated Special Studies Zone are demonstrated through a geotechnical analysis and report not to expose a person to undue hazard created by the construction. Since the project sites are located in a seismically active area, the projects are required to be designed in accordance with the CBC for near source factors derived from a design basis earthquake based on a peak ground acceleration of 0.50 gravity. It should be noted that, the projects would be remotely operated and would not require any habitable structures on site. In considering these factors in conjunction with mitigation requirements outlined in the impact analysis, the risks associated with seismic hazards would be minimized. A preliminary geotechnical report has been prepared for the proposed projects. The preliminary geotechnical report has been referenced in this environmental document. Additionally, a design-level geotechnical investigation would be conducted to evaluate the potential for site specific hazards associated with seismic activity.
Objective 1.1. Ensure that data on geological hazards is incorporated into the land use review process, and future development process.		
Objective 1.3. Regulate development adjacent to or near all mineral deposits and geothermal operations.		
Objective 1.4. Require, where possessing the authority, that avoidable seismic risks be avoided; and that measures, commensurate with risks, be taken to reduce injury, loss of life, destruction of property, and disruption of service.		
Objective 1.7. Require developers to provide information related to geologic and seismic hazards when siting a proposed project.		
Goal 2: Minimize potential hazards to public health, safety, and welfare and prevent the loss of life and damage to health and property resulting from both natural and human-related phenomena.		
Objective 2.2. Reduce risk and damage due to seismic hazards by appropriate regulation.		
Objective 2.5 Minimize injury, loss of life, and damage to property by implementing all state codes where applicable.		
Objective 2.8 Prevent and reduce death, injuries, property damage, and economic and social dislocation resulting from natural hazards including flooding, land subsidence, earthquakes, other geologic phenomena, levee or dam failure, urban and wildland fires and building collapse by appropriate planning and emergency measures.		

Source: County of Imperial 1997

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3.7.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to geologic and soil conditions, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to geology and soils are considered significant if any of the following occur:

- Directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent AP Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault (Refer to Division of Mines and Geology Special Publication 42).
    - Strong seismic ground shaking.
    - Seismic related ground failure, including liquefaction.
    - Landslides.
- Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Methodology

This analysis evaluates the potential for the projects, as described in Chapter 2, Project Description, to interact with local geologic and soil conditions on the project sites. A preliminary geological and geotechnical hazard evaluation report was prepared for the projects. The information obtained from the report was reviewed and summarized to present the existing geologic and soil conditions on the project sites. Based on the extent of these interactions, this analysis considers whether these conditions would result in an exceedance of one or more of the applied significance criteria as identified above.

Impact Analysis

Impact 3.7-1 Would the project directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving:

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Rupture of a known earthquake fault, as delineated on the most recent AP Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault; (Refer to Division of Mines and Geology Special Publication 42)?

As previously discussed above, the project sites are located in the seismically active Imperial Valley of southern California with several mapped faults of the San Andreas Fault System traversing the region. As shown in Table 3.7-1, the project sites are not located on an active fault. Furthermore, no portion of the project sites are within a designated APEHA zone and, therefore, the potential for ground rupture to occur within the project sites is considered low. Based on these considerations, the projects would not directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault. This is considered a less than significant impact.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.7-2 Would the project directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving:

Strong seismic ground shaking?

As previously discussed, the project sites are not located within a designated APEHA zone and the closest active fault with the potential to impact the project sites is the Brawley Fault Zone, located approximately 21 miles west of the project sites. In the event of an earthquake along this fault or another regional fault, seismic hazards related to ground motion could occur in susceptible areas within the project sites. The intensity of such an event would depend on the causative fault and the distance to the epicenter, the moment magnitude, and the duration of shaking.

Even with the integration of building standards, ground shaking within the project sites could cause some structural damage to the facility structures or, at least, cause unsecured objects to fall. During a stronger seismic event, ground shaking could result in structural damage or collapse of electrical distribution facilities. Given the potentially hazardous nature of the project facilities, the potential impact of ground motion during an earthquake is considered a significant impact, as proposed structures, such as the substation and transmission lines could be damaged. However, implementation of Mitigation Measure GEO-1, which requires preparation of a design-level geotechnical report, would reduce the potential impacts associated with ground shaking to a level less than significant.

Mitigation Measure(s)

GEO-1 **Prepare Geotechnical Report(s) as Part of Final Engineering for the Project and Implement Required Measures.** Facility design for all project components shall comply with the site-specific design recommendations as provided by a licensed geotechnical or civil engineer to be retained by the project applicant. The final geotechnical and/or civil engineering report shall address and make recommendations on the following:

- Site preparation
- Soil bearing capacity

- Appropriate sources and types of fill
- Potential need for soil amendments
- Structural foundations
- Grading practices
- Soil corrosion of concrete and steel
- Erosion/winterization
- Seismic ground shaking
- Liquefaction
- Expansive/unstable soils

In addition to the recommendations for the conditions listed above, the geotechnical investigation shall include subsurface testing of soil and groundwater conditions and shall determine appropriate foundation designs that are consistent with the version of the CBC that is applicable at the time building and grading permits are applied for. All recommendations contained in the final geotechnical engineering report shall be implemented by the project applicant. The final geotechnical and/or civil engineering report shall be submitted to Imperial County Public Works Department, Engineering Division for review and approval prior to issuance of building permits.

Significance after Mitigation

With implementation of Mitigation Measure GEO-1, potential impacts associated with strong seismic ground shaking would be reduced to a level less than significant with the implementation of recommendations made by a licensed geotechnical engineer in compliance with the CBC prepared as part of a formal geotechnical investigation.

Impact 3.7-3 Would the project directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving:

Seismic related ground failure, including liquefaction?

As discussed above, the factors known to influence liquefaction potential include soil type, relative density, grain size distribution, confining pressure, depth to groundwater, and the intensity and duration of the seismic ground shaking. Liquefaction is most prevalent in loose- to medium-dense, silty, sandy, and gravelly soils below the groundwater table. The project sites have not been mapped for liquefaction potential by CGS (Appendix H of this EIR). However, given that the project sites are underlain by sand and clay, there is a potential for liquefaction to occur on the project sites. Additional geotechnical investigation would be required in order to assess the risk of liquefaction on the project sites. The potential impact related to liquefaction is considered a significant impact**.** Implementation of Mitigation Measure GEO-1, which requires the preparation of a design-level geotechnical report, would reduce the potential impact associated with liquefaction to a level less than significant.

Mitigation Measure(s)

No additional mitigation measures beyond Mitigation Measure GEO-1 are required.

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Impact 3.7-4 Would the project directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving:

Landslides?

As stated above, the project sites have a relatively flat topographic gradient. Therefore, the projects would not directly or indirectly cause potential substantive adverse effects, including the risk of loss, injury, or death involving landslides and no impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.7-5 Would the project result in substantial soil erosion or the loss of topsoil?

During the site grading and construction phases, large areas of unvegetated soil would be exposed to erosive forces by water for extended periods of time due to ICAPCD dust suppression requirements. Unvegetated soils are much more likely to erode from precipitation than vegetated areas because plants act to disperse, infiltrate, and retain water. Construction activities involving soil disturbance, excavation, cutting/filling, stockpiling, and grading activities could result in increased erosion and sedimentation to surface waters. Construction could produce sediment-laden stormwater runoff (nonpoint source pollution), a major contributor to the degradation of water quality. If precautions are not taken to contain contaminants, construction-related erosion impacts are considered significant.

As provided in Mitigation Measure GEO-1, during final engineering for the projects, a design-level geotechnical study would identify appropriate measures for the projects related to soil erosion. In addition, as part of Mitigation Measure HYD-1, provided in Section 3.10 Hydrology/Water Quality, potential impacts from erosion during construction activities would be reduced to a level less than significant with the preparation of an SWPPP for sediment and erosion control and implementation of BMPs to reduce erosion from the construction site.

The projects are not expected to result in substantial soil erosion or the loss of topsoil over the long term. The project applicant would be required to implement on-site erosion control measures in accordance with County standards, which require the preparation, review, and approval of a grading plan by the County Engineer. Therefore, with implementation of Mitigation Measure GEO-1 and Mitigation Measure HYD-1, identified in Section 3.10 Hydrology/Water Quality, impacts from construction-related erosion would be reduced to a level less than significant.

Mitigation Measure(s)

No additional mitigation measures beyond Mitigation Measure GEO-1 and Mitigation Measure HYD-1 are required.

Significance after Mitigation

With implementation of Mitigation Measure GEO-1 and Mitigation Measure HYD-1 in Section 3.10 Hydrology/Water Quality, potential impacts from erosion during construction activities would be reduced to a level less than significant with the preparation of an SWPPP and implementation of BMPs to reduce erosion from the construction site.

Impact 3.7-6 Would the project be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

The potential for lateral spreading to occur on the project sites has not yet been determined. Additional geotechnical investigation would be required in order to assess the risk of lateral spreading to occur on the project sites. The potential impact associated with lateral spreading is considered a significant impact**.**

The project sites are not located in an area of known ground subsidence or within any delineated zones of subsidence due to groundwater pumping or oil extraction. The potential for subsidence to occur on the project sites is considered low. Therefore, the proposed projects would result in a less than significant impact associated with ground subsidence.

As described above, given that the project sites are underlain by sand and clay, there is a potential for liquefaction to occur on the project sites. Additional geotechnical investigation would be required in order to assess the risk of liquefaction on the project sites. The potential impact related to liquefaction is considered a significant impact**.**

It is unknown whether collapsible soils are present on the project sites. Additional geotechnical investigation would be required in order to assess the risk of collapsible soils to occur on the project sites. The potential impact associated with collapsible soils is considered a significant impact**.**

Implementation of Mitigation Measure GEO-1, which requires the preparation of a design-level geotechnical report, would reduce the potential impacts associated with lateral spreading, liquefaction, and collapsible soils to a level less than significant.

Mitigation Measure(s)

No additional mitigation measures beyond Mitigation Measure GEO-1 are required.

Impact 3.7-7 Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

As stated above, expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell) due to variations in moisture content. Changes in soil moisture content can result from precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may result in unacceptable settlement or heave of structures. The project sites are underlain by sand, gravelly sand, and clay/silty clay. Generally, sands are not considered expansive soils. However, clays may exhibit moderate to high expansion potential due to variation in moisture content. Unless properly mitigated, shrink-swell soils could exert additional pressure on buried structures and electrical connections producing shrinkage cracks that could allow water infiltration and compromise the integrity of backfill material. These conditions could be worsened if structural facilities are constructed directly on expansive soil materials. This potential impact would be significant as structures could be damaged by these types of soils. In addition, the on-site soils, particularly clay/silty clay, are known to be corrosive. Corrosive soils can damage underground utilities, including pipelines and cables, or weaken roadway structures. A site-specific geotechnical investigation would be required at the project sites to determine the extent and effect of problematic soils.-Implementation of Mitigation Measure GEO-1, which requires the preparation of a design-level

geotechnical report, would reduce potential impacts associated with expansive and corrosive soils to a level than significant.

Mitigation Measure(s)

No additional mitigation measures beyond Mitigation Measure GEO-1 are required.

Impact 3.7-8 Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The proposed projects would not require an operations and maintenance building. The proposed solar facility would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. Therefore, no septic or other wastewater disposal systems would be required for the projects and no impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.7-9 Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

As stated above, the project sites are in the Salton Basin near the shoreline of ancient Lake Cahuilla. The lake covered much of the Imperial Valley and created an extensive lacustrine environment. Lake Cahuilla experienced several fill recession episodes before it finally dried up about 300 years ago. In 1905, the Colorado River overflowed into the Salton Basin creating the present-day Salton Sea. As previously noted, the project sites are generally underlain by deposits from periodic flooding of the Colorado River and Lake Cahuilla (Appendix H of this EIR). Sediments from this formation have yielded fossilized remains of continental vertebrates, invertebrates, and plants at numerous previously recorded fossil sites in the Imperial Valley. Therefore, the project sites are considered paleontologically sensitive.

Although unlikely, project construction has the potential to unearth and/or potentially destroy previously undiscovered paleontological resources. This potential impact is considered a significant impact. However, implementation of Mitigation Measure GEO-2 would reduce the potential impact on paleontological resources to a level less than significant.

Mitigation Measure(s)

GEO-2 **Paleontological Resources.** In the event that unanticipated paleontological resources or unique geologic resources are encountered during ground-disturbing activities, work must cease within 50 feet of the discovery and a paleontologist shall be hired to assess the scientific significance of the find. The consulting paleontologist shall have knowledge of local paleontology and the minimum levels of experience and expertise as defined by the Society of Vertebrate Paleontology's Standard Procedures (2010) for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. If any paleontological resources or unique geologic features are found within the project sites, the consulting paleontologist shall prepare a paleontological Treatment and Monitoring Plan to include the methods that will be used to protect paleontological resources that may exist within the project sites, as well as procedures

for monitoring, fossil preparation and identification, curation of specimens into an accredited repository, and preparation of a report at the conclusion of the monitoring program.

Significance after Mitigation

Implementation of Mitigation Measure GEO-2 would reduce the potential impact on paleontological resources to a level less than significant. In the event that unanticipated paleontological resources or unique geologic resources are encountered during ground-disturbing activities, work must cease within 50 feet of the discovery and a paleontologist shall be hired to assess the scientific significance of the find.

3.7.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Decommissioning and restoration of the project sites at the end of their use as a solar facility would involve the removal of structures and restoration to prior (pre-solar project) conditions. No geologic or soil impacts associated with the restoration activities would be anticipated and, therefore, no impact is identified.

No impact is anticipated from restoration activities as the ground disturbance and associated impacts on paleontological resources will have occurred during the construction phase of the projects.

Residual

With implementation of Mitigation Measure GEO-1, impacts related to strong seismic ground shaking, liquefaction, lateral spreading, collapsible soils, expansive soils, and corrosive soils would be reduced to a level less than significant. With implementation of Mitigation Measure GEO-1 and Mitigation Measure HYD-1 in Section 3.10 Hydrology/Water Quality, potential impacts from erosion during construction activities would be reduced to a level less than significant. Implementation of Mitigation Measure GEO-2 would reduce the potential impact on paleontological resources to a level less than significant. The projects would not result in residual significant and unmitigable impacts related to geology and soil resources.

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3.8 Greenhouse Gas Emissions

This section includes an overview of existing greenhouse gas (GHG) emissions within the project area and identifies applicable federal, state, and local policies related to global climate change. The impact assessment provides an evaluation of potential adverse effects with regards to GHG emissions based on criteria derived from the CEQA Guidelines in conjunction with actions proposed in Chapter 2, Project Description. ECORP Consulting, Inc. prepared an *Air Quality and Greenhouse Gas Assessment* that assesses the combined climate change impacts of the VEGA SES 2, 3 & 5 Solar Energy Projects. This report is included in Appendix D of this EIR.

3.8.1 Existing Conditions

Greenhouse Gases

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to GHGs, particularly those generated from the production and use of fossil fuels.

GHGs refer to atmospheric gases that absorb solar radiation and subsequently emit radiation in the thermal infrared region of the energy spectrum, trapping heat in the Earth's atmosphere. These gases include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and water vapor, among others. While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy.

The dominant GHG emitted is CO_2, mostly from fossil fuel combustion. GHGs differ in how much heat each can trap in the atmosphere (i.e., global warming potential [GWP]). When accounting for GHGs, all types of GHG emissions are expressed in terms of carbon dioxide equivalent (CO_2e) and are typically quantified in metric tons (MT) or million metric tons. The GWP of a GHG is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is expressed relative to CO_2 over a specified time period. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2 (Appendix D of this EIR).

State law defines GHGs as any of the following compounds CO_2, CH_4, N_2O, hydrofluorocarbons (HFC), perfluorocarbons (PFC) and sulfur hexafluoride (SF_6) (California HSC Section 38505(g)).

CO_2 is a colorless, odorless gas consisting of molecules made up of two oxygen atoms and one carbon atom. CO_2 is produced when an organic carbon compound, such as wood, or fossilized organic matter, such as coal, oil, or natural gas, is burned in the presence of oxygen. CO_2 is removed from the atmosphere by CO_2 "sinks", such as absorption by seawater and photosynthesis by ocean dwelling plankton and land plants, including forests and grasslands; however, seawater is also a source of CO_2 to the atmosphere, along with land plants, animals, and soils, when CO_2 is released during respiration. Whereas the natural production and absorption of CO_2 is achieved through the terrestrial biosphere and the ocean, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood.

CH_4 is a colorless, odorless non-toxic gas consisting of molecules made up of four hydrogen atoms and one carbon atom. CH_4 is combustible, and it is the main constituent of natural gas-a fossil fuel. CH_4 is released when organic matter decomposes in low oxygen environments. Natural sources include wetlands, swamps and marshes, termites, and oceans. Human sources include the mining of fossil fuels and transportation of natural gas, digestive processes in ruminant animals, such as cattle, rice paddies and the buried waste in landfills. Over the last 50 years, human activities, such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH_4. Other anthropogenic sources include fossil-fuel combustion and biomass burning.

N_2O is a colorless, non-flammable gas with a sweetish odor, commonly known as "laughing gas", and sometimes used as an anesthetic. N_2O is naturally produced in the oceans and in rainforests. Man-made sources of N_2O include the use of fertilizers in agriculture, nylon and nitric acid production, cars with catalytic converters and the burning of organic matter. Concentrations of N_2O also began to rise at the beginning of the industrial revolution.

Chlorofluorocarbons (CFC) are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically un-reactive in the troposphere (the level of air at the Earth's surface). CFCs have no natural source but were first synthesized in 1928. It was used for refrigerants, aerosol propellants, and cleaning solvents. Because of the discovery that they are able to destroy stratospheric ozone (O_3), an ongoing global effort to halt their production was undertaken and has been extremely successful, so much so that levels of the major CFCs are now remaining steady or declining; however, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

HFCs are synthesized chemicals that are used as a substitute for CFCs. Out of all of the GHGs; HFCs are one of three groups with the highest GWP. HFCs are synthesized for applications, such as automobile air conditioners and refrigerants.

PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

SF_6 is an extremely potent GHG. SF_6 is very persistent, with an atmospheric lifetime of more than 1,000 years. Thus, a relatively small amount of SF_6 can have a significant long-term impact on global climate change. SF_6 is human-made, and the primary user of SF_6 is the electric power industry. Because of its inertness and dielectric properties, it is the industry's preferred gas for electrical insulation, current interruption, and arc quenching (to prevent fires) in the transmission and distribution of electricity. SF_6 is used extensively in high voltage circuit breakers and switchgear, and in the magnesium metal casting industry.

Statewide Greenhouse Gas Emissions Inventory

In 2020, CARB released the 2020 edition of the California GHG inventory covering calendar year 2018 emissions. In 2018, California emitted 425.3 million gross metric tons of CO_2e including from imported electricity. The current inventory covers the years 2000 to 2018 and is summarized in Table 3.8-1. Data sources used to calculate this GHG inventory include California and Federal agencies, international organizations, and industry associations. The calculation methodologies are consistent with guidance from the IPCC. The 2000 emissions level is the sum total of sources from all sectors and categories in the inventory. The inventory is divided into seven broad sectors and categories in the inventory. These sectors include agriculture, commercial and residential, electric power, industrial, transportation, recycling and waste, and high GWP gases.

As shown in Table 3.8-1, combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2018, accounting for approximately 30 percent of total GHG emissions in the state.

Table 3.8-1. California Greenhouse Gas Emissions Inventory 2000 to 2018

Sector	Total 2000 Emissions ($MMTCO_2e$)	Total 2017 Emissions ($MMTCO_2e$)
Agriculture	30.97	32.57
Commercial and Residential	43.95	41.37
Electric Power	104.75	63.11
Industrial	96.18	89.18
Transportation	178.40	169.50
Recycling and Waste	7.67	9.09
High GWP Gases	6.28	20.46

Source: CARB 2020
Notes:
GWP=global warming potential; $MMTCO_2e$=million metric tons of CO_2 equivalent

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California.

The California Natural Resources Agency's Fourth Climate Change Assessment (Fourth Assessment) produced updated climate projections that provide state-of-the-art understanding of different possible climate futures for California. The science is highly certain that California (and the world) will continue to warm and experience greater impacts from climate change in the future. While the IPCC and the National Climate Assessment have released descriptions of scientific consensus on climate change for the world and the U.S., respectively, the Fourth Assessment summarizes the current understanding of climate impacts and adaptation options in California (California Natural Resources Agency 2018). Projected changes in California include:

- **Temperatures:** If GHG emissions continue at current rates then California will experience average daily high temperatures that are warmer than the historical average by:
  - 2.7 Fahrenheit (°F) from 2006 to 2039
  - 5.8°F from 2040 to 2069
  - 8.8°F from 2070 to 2100
- **Wildfire:** One Fourth Assessment model suggests large wildfires (greater than 25,000 acres) could become 50 percent more frequent by the end of century if emissions are not reduced. The model produces more years with extremely high areas burned, even compared to the historically destructive wildfires of 2017 and 2018. By the end of the century, California could experience wildfires that burn up to a maximum of 178 percent more acres per year than current averages.
- **Sea-Level Rise:** If emissions continue at current rates, the Fourth Assessment model results indicate that total sea-level rise by 2100 is expected to be 54 inches, almost twice the rise that would occur if GHG emissions are lowered to reduce risk.
- **Snowpack:** By 2050, the average water supply from snowpack is projected to decline to 2/3 from historical levels. If emissions reductions do not occur, water from snowpack could fall to less than 1/3 of historical levels by 2100.
- **Agriculture:** Agricultural production could face climate-related water shortages of up to 16 percent in certain regions. Regardless of whether California receives more or less annual precipitation in the future, the state will be dryer because hotter conditions will increase the loss of soil moisture (California Natural Resources Agency 2018).

3.8.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the projects.

Federal

At the federal level, there is currently no overarching law related to climate change or the reduction of GHGs. The U.S. EPA is developing regulations under the CAA to be adopted in the near future, pursuant to the U.S. EPA's authority under the CAA. Foremost amongst recent developments have been the settlement agreements between the U.S. EPA, several states, and nongovernmental organizations (NGO) to address GHG emissions from electric generating units and refineries; the U.S. Supreme Court's decision in Massachusetts v. EPA; and U.S. EPA's "Endangerment Finding," "Cause or Contribute Finding," and "Mandatory Reporting Rule." On September 20, 2013, the U.S. EPA issued

a proposal to limit carbon pollution from new power plants. The U.S. EPA is proposing to set separate standards for natural gas-fired turbines and coal-fired units.

Although periodically debated in Congress, no federal legislation concerning GHG limitations has yet been adopted. In Coalition for Responsible Regulation, Inc., et al. v. EPA, the United States Court of Appeals upheld the U.S. EPA's authority to regulate GHG emissions under CAA. Furthermore, under the authority of the CAA, the EPA is beginning to regulate GHG emissions starting with large stationary sources. In 2010, the U.S. EPA set GHG thresholds to define when permits under the New Source Review Prevention of Significant Deterioration (PSD) standard and Title V Operating Permit programs are required for new and existing industrial facilities. In 2012, U.S. EPA proposed a carbon pollution standard for new power plants.

Corporate Average Fuel Standards

Established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and U.S. EPA jointly administer the CAFE standards. The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.

Fuel efficiency standards for medium- and heavy-duty trucks have been jointly developed by U.S. EPA and NHTSA. The Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018, and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type (U.S. EPA 2011). In 2012, the U.S. EPA and NHTSA also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type (U.S. EPA 2016).

State

Executive Order S-3-05 – Statewide Greenhouse Gas Emissions Targets

On June 1, 2005, the Governor issued EO S-3-05 which set the following GHG mission reduction targets:

- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80 percent below 1990 levels

This EO directed the secretary of the California EPA to oversee the efforts made to reach these targets, and to prepare biannual biennial reports on the progress made toward meeting the targets and on the impacts on California related to global warming. The first such Climate Action Team Assessment Report was produced in March 2006 and has been updated every two years thereafter. This goal was further reinforced with the passage of AB 32 in 2006 and SB 32 in 2016.

Executive Order S-01-07

This order, signed by Governor Schwarzenegger, sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. CARB re-adopted the LCFS regulation in September 2015, and

the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 GHG reduction goals.

Assembly Bill 32 – California Global Warming Solutions Act

In 2006, the California legislature passed Assembly Bill (AB) 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which outlines measures to meet the 2020 GHG reduction goals. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by the end of 2020.

The Scoping Plan is required by AB 32 to be updated at least every five years. The latest update, the 2017 Scoping Plan Update, addresses the 2030 target established by Senate Bill (SB) 32 as discussed below and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include increasing the use of renewable energy in the state, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by Executive Order (EO) B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

Renewable Portfolio Standard

The RPS promotes diversification of the state's electricity supply and decreased reliance on fossil fuel energy sources. Originally adopted in 2002 with a goal to achieve a 20 percent renewable energy mix by 2020 (referred to as the "initial RPS"), the goals have been accelerated and increased by EOs S-14-08, S-21-09, SB 350, and SB 100.

The RPS is included in CARB's Scoping Plan list of GHG reduction measures to reduce energy sector emissions. It is designed to accelerate the transformation of the electricity sector through such means as investment in the energy transmission infrastructure and systems to allow integration of large quantities of intermittent wind and solar generation. Increased use of renewables would decrease California's reliance on fossil fuels, thus reducing emissions of GHGs from the electricity sector.

Senate Bill 350

The RPS program was further accelerated in 2015 with SB 350 which mandated a 50 percent RPS by 2030. SB 350 includes interim annual RPS targets with three-year compliance periods and requires 65 percent of RPS procurement to be derived from long-term contracts of 10 or more years.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100, establishing that 100 percent of all electricity in California must be obtained from renewable and zero-carbon energy resources by December 31, 2045. SB 100 also creates new standards for the RPS goals established by SB 350 in 2015. Specifically, the bill increases required energy from renewable sources for both investor-owned utilities and publicly-owned utilities from 50 percent to 60 percent by 2030. Incrementally, these energy providers must also have a renewable energy supply of 33 percent by 2020, 44 percent by 2024, and 52 percent by 2027. California must procure 100 percent of its energy from carbon free energy sources by the end of 2045.

Climate Change Scoping Plan

The Scoping Plan released by CARB in 2008 outlined the state's strategy to achieve the AB 32 goals. This Scoping Plan, developed by CARB in coordination with the Climate Action Team, proposed a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health. It was adopted by CARB at its meeting in December 2008. According to the Scoping Plan, the 2020 target of 427 million $MTCO_2e$ requires the reduction of 169 million $MTCO_2e$, or approximately 28.3 percent, from the state's projected 2020 BAU emissions level of 596 million $MTCO_2e$.

However, in August 2011, the Scoping Plan was re-approved by the Board and includes the Final Supplement to the Scoping Plan Functional Equivalent Document. This document includes expanded analysis of project alternatives as well as updates the 2020 emission projections in light of the current economic forecasts. Considering the updated 2020 BAU estimate of 507 million $MTCO_2e$, only a 16 percent reduction below the estimated new BAU levels would be necessary to return to 1990 levels by 2020. The 2011 Scoping Plan expands the list of nine Early Action Measures into a list of 39 Recommended Actions.

In May 2014, CARB developed; in collaboration with the Climate Action Team, the *First Update to California's Climate Change Scoping Plan* (Update), which shows that California is on track to meet the near-term 2020 GHG limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32. In accordance with the United Nations Framework Convention on Climate Change (UNFCCC), CARB is beginning to transition to the use of the AR4's 100-year GWPs in its climate change programs. CARB has recalculated the 1990 GHG emissions level with the AR4 GWPs to be 431 million $MTCO_2e$; therefore, the 2020 GHG emissions limit established in response to AB 32 is now slightly higher than the 427 million $MTCO_2e$ in the initial Scoping Plan.

CARB adopted the latest update to the Climate Change Scoping Plan in December 2017. The 2017 Scoping Plan is guided by the EO B-30-15 GHG reduction target of 40 percent below 1990 levels by 2030. The 2017 Scoping Plan builds upon the framework established by the initial Scoping Plan and the First Update, while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Plan includes policies to require direct GHG reductions at some of the State's largest stationary sources and mobile sources. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and-Trade Program, which constrains and reduces emissions at covered sources (CARB 2017).

The majority of the Scoping Plan's GHG reduction strategies are directed at the two sectors with the largest GHG emissions contributions: transportation and electricity generation. The GHG reduction strategies for these sectors involve statutory mandates affecting vehicle or fuel manufacture, public transit, and public utilities. The reduction strategies employed by CARB are designed to reduce emissions from existing sources as well as future sources.

Senate Bill 97

SB 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directs Office of Planning and Research (OPR) to develop draft CEQA Guidelines "for the mitigation of GHG emissions or the effects of GHG emissions" by July 1, 2009, and directs the Resources Agency to certify and adopt the CEQA Guidelines by January 1, 2010.

On December 30, 2009, the Natural Resources Agency adopted amendments to the CEQA Guidelines in the CCR. The amendments went into effect on March 18, 2010, and are summarized below:

- Climate action plans and other GHG reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the GHG emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. In addition, consideration of several qualitative factors may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. The Guidelines do not set or dictate specific thresholds of significance.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of GHG emissions in Appendix G of the CEQA Guidelines.
- The Guidelines are clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."
- The Guidelines promote the advantages of analyzing GHG impacts on an institutional, programmatic level, and, therefore, approve tiering of environmental analyses and highlights some benefits of such an approach.
- EIRs must specifically consider a project's energy use and energy efficiency potential, pursuant to Appendix F of the CEQA Guidelines.

Senate Bill 375 – Regional Emissions Targets

SB 375 requires that regions within the state which have a metropolitan planning organization (MPO) must adopt a sustainable communities' strategy as part of their RTPs. The strategy must be designed to achieve certain goals for the reduction of GHG emissions. The bill finds that "it will be necessary to achieve significant additional GHG reductions from changed land use patterns and improved transportation. Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 provides that new CEQA provisions be enacted to encourage

developers to submit applications and local governments to make land use decisions that will help the state achieve its goals under AB 32," and that "current planning models and analytical techniques used for making transportation infrastructure decisions and for air quality planning should be able to assess the effects of policy choices, such as residential development patterns, expanded transit service and accessibility, the walkability of communities, and the use of economic incentives and disincentives."

Regional

Southern California Association of Governments - 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy

The SCAG is the designated MPO for Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial Counties. CEQA requires that regional agencies like SCAG review projects and plans throughout its jurisdiction. SCAG, as the region's "Clearinghouse," collects information on projects of varying size and scope to provide a central point to monitor regional activity. SCAG has the responsibility of reviewing dozens of projects, plans, and programs every month. Projects and plans that are regionally significant must demonstrate to SCAG their consistency with a range of adopted regional plans and policies.

In September 2020, SCAG adopted the 2020-2045 RTP/SCS. The RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with SB 375, improve public health, and meet the NAAQS as set forth by the federal CAA (see Section 3.4, Air Quality, of this EIR). The following SCAG goal is applicable to the projects:

- Reduce greenhouse gas emissions and improve air quality

As solar generation facilities, the proposed projects would improve air quality by reducing the use of fossil fuels in energy production.

Local

County of Imperial

Pursuant to the requirements of SB 97, the Resources Agency adopted amendments to the CEQA Guidelines to provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and climate change impacts. Formal CEQA thresholds for lead agencies must always be established through a public hearing process. Imperial County has not established formal quantitative or qualitative thresholds through a public rulemaking process, but CEQA permits the lead agency to establish a project-specific threshold of significance if backed by substantial evidence, until such time as a formal threshold is approved.

3.8.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to GHG emissions are considered significant if any of the following occur:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment

- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs

As discussed in Section 15064.4 of the CEQA Guidelines, the determination of the significance of GHG emissions calls for a careful judgment by the lead agency consistent with the provisions in Section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

1. Quantify greenhouse gas emissions resulting from a project; and/or
2. Rely on a qualitative analysis or performance-based standards.

A lead agency should consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment:

1. The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

Mojave Desert Air Quality Management District's Interim Thresholds

The ICAPCD has not adopted a GHG significance threshold. As previously described, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). Thus, in the absence of any GHG emissions significance thresholds, the projected emissions are compared to the Mojave Desert Air Quality Management District (MDAQMD) numeric threshold of 100,000 metric tons of CO_2e annually.

While significance thresholds used in the Mojave Desert Air Basin are not binding on the ICAPCD or County of Imperial, they are instructive as a comparative metric of the project's potential GHG impact. This threshold is also appropriate as the MDAQMD GHG thresholds were formulated based on similar geography and climate patterns as found in Imperial County. Therefore, the 100,000-metric ton of CO_2e threshold is appropriate for this analysis.

Methodology

The project-related direct and indirect emissions of GHGs were estimated using the similar methods for quantification of criteria air pollutants, as described in Section 3.4 Air Quality. Where GHG emission quantification was required, emissions were modeled using CalEEMod, version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential GHG emissions associated with both construction and operations from a variety of land use projects. Project construction-generated GHG emissions were calculated using CalEEMod model defaults for Imperial County coupled with information provided by the project applicant.

For instance, construction is estimated to take 12-18 months. According to the Traffic Study prepared for the projects (Appendix K1 and K2 of this EIR), the number of on–site construction workers for the VEGA SES 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the VEGA SES 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on–site construction workers for the VEGA SES 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the VEGA SES 5 battery storage facility and substation is not expected to exceed 50 workers at any one time.

Operational air pollutant emissions account for a conservative estimate of two worker trip per day. Such visits include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules if needed to maintain power generation efficiency. Therefore, operational onsite equipment use is accounted in addition to the consumption of 32 acre-feet of water annually.

Impact Analysis

Impact 3.8-1 Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

VEGA SES 2, 3 AND 5

Construction and operation of the projects would result in a relatively small amount of GHG emissions. The projects would generate GHG emissions during construction and routine operational activities at the project sites.

Construction. During construction, GHG emissions would be generated from the operation of off-road equipment, haul-truck trips, and on-road worker vehicle trips. Table 3.8-2 shows the projects' combined construction-related GHG emissions. Once construction is complete, the generation of these GHG emissions would cease.

Table 3.8-2. Project Construction-Related Greenhouse Gas Emissions

Emissions Source	CO_2e (metric tons/year)
Construction of VEGA SES 2 and 3 (2023)	961
Construction of VEGA SES 5 (2024)	787
MDAQMD Significance Threshold	*100,000*
Exceed MDAQMD's Significance Threshold?	**No**

Source: Appendix D of this EIR

As shown in Table 3.8-2, implementation of the projects would result in the generation of approximately 961 metric tons of CO_2e for the construction of VEGA SES 2 and 3, and 787 metric tons of CO_2e for the construction of VEGA SES 5. Therefore, the construction emissions are less than the MDAQMD's screening threshold of 100,000 $MTCO_2e$ per year. As previously described, this significance threshold is not binding on the projects, yet in the absence of an established threshold from the ICAPCD or County it is instructive for comparison purposes. This threshold is also appropriate for use in this analysis as the MDAQMD GHG thresholds were formulated based on similar geography and climate patterns as found in Imperial County.

Operation. Once the projects are constructed and operational, the proposed projects would have no major stationary emission sources and would require minimal vehicular trips. Therefore, operation of the proposed solar facilities would result in substantially lower emissions than project construction. As shown in Table 3.8-3, the yearly contribution to GHG from operation of the projects would total 2,734 $MTCO_2e$ per year. Therefore, the proposed projects' operational emissions are less than the MDAQMD's screening threshold of 100,000 $MTCO_2e$ per year. Impacts would be less than significant.

Table 3.8-3. Project Operation-Related Greenhouse Gas Emissions

Emissions Source	CO_2e (metric tons/year)
Area Source	0
Energy	2,720
Mobile	4
Waste	0
Water	10
Total	2,734
Significance Threshold	*100,000*
Exceed Significance Threshold?	**No**

Source: Appendix D of this EIR

Notes:

Emission projections predominately based on CalEEMod model defaults for Imperial County. Operational emissions account for two vehicle trips per day. It is noted that this is a conservative estimate as many days will have no operational related vehicle trips. Additionally, it accounts for the energy usage used for the battery energy storage system and the pumping of 32-acre feet of water per year.

Additionally, the projects propose solar energy generation facilities intended to generate renewable energy. Solar plants generate far less GHG life-cycle emissions (approximately 83 to 94 percent less) than fossil-fueled energy plants. The proposed projects would contribute to the continued reduction of GHG emissions in the interconnected California and western U.S. electricity systems, as the total energy produced by the projects would displace GHG emissions that would otherwise be produced by existing business-as-usual power generation resources (including natural gas, coal, arid renewable combustion resources). Table 3.8-4 shows the total emissions that would potentially be displaced by the proposed projects. As shown in Table 3.8-4, the proposed projects would potentially displace approximately 12,620 $MTCO_2e$ per year, and approximately 378,597 $MTCO_2e$ over the course of 30 years. The proposed projects' annual indirect GHG emissions from the displacement of fossil fuel fired electricity generation is significantly higher than the projects' annualized direct and indirect emissions sources. Implementation of the proposed projects would result in a less than significant impact associated with the generation of GHG emissions.

Table 3.8-4. Proposed Project Displaced GHG Emissions (Metric Tons)

	Emissions (Metric Tons)			
	CO_2	CH_4	N_20	CO_2e
Emissions Displaced Annually (metric tons)				
Displaced Natural-Gas Source Emissions	10,880	0.00	0.00	10,880
Displaced Coal-Source Emissions	1,737	0.01	0.01	1,740
Total	**12,617**	**0.01**	**0.01**	**12,620**
Emissions Displaced over 30 Years (metric tons)				
Displaced Natural-Gas Source Emissions	326,411	0.00	0.00	326,411
Displaced Coal-Source Emissions	52,097	0.35	0.26	52,186
Total	**378,508**	**0.35**	**0.26**	**378,597**

Source: Appendix D of this EIR

Notes:

In order to provide a conservative analysis, the Proposed Project is assumed to generate electricity 50 percent of the time available (4,380 hours annually). Heat Rate indicates the energy generator efficiency of existing fossil-fuel based energy generators. The heat rate of a power plant measures the amount of fuel used to generate one unit of electricity. Power plants with lower heat rates are more efficient than plants with higher heat rates. The CEC's Updated Thermal Power Plant Efficiency Measures and Operational Characteristics for Production Cost Modeling" (2019b) estimates heat rates and operating ranges for thermal power plants supplying energy to California. The average heat rate of power plants types are as follows:

***Steam Boiler fueled by coal: 10,800 heat rate **Steam Boiler fueled by natural gas: 10,200 heat rate **Gas Turbine: 10,100 heat rate*

***Combined natural gas Boiler and Turbine: 7,640 heat rate*

By omitting steam boilers fueled by coal since so little of California's energy is derived from coal, the average heat rate = 9,313 [(10,100 + 10,200 + 7,640) ÷ 3 = 9,313]. 14.6 MW (63,875,000 annual kWH) x 9,313 heat rate = 594,867,875,000 Btu displaced from fossil fuel production. Fossil fuel-based energy consumption in California is predominately derived from natural gas (34.23 percent). Coal constitutes 2.96 percent of all fossil fuel-based energy. Therefore, 247,286,575,638 of the displaced Btu is displaced natural gas consumption and 17,251,168,375 is displaced Btu is displaced coal. The heat content of coal is assumed at 24 million Btu per ton of coal burned. At a rate of 24 million Btu per ton of coal burned, the Project would displace 719 tons of burned coal annually.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.8-2 Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

As discussed in Impact 3.8-1, the proposed projects would generate a relatively small amount of GHG emissions.

The proposed project-generated GHG emissions would not exceed the MDAQMD significance thresholds, which were prepared with the purpose of complying with statewide GHG-reduction efforts. While the projects would emit some GHG emissions during construction and a very small amount during operations, the contribution of renewable resource energy production to meet the goals of the Renewable Portfolio Standard (Scoping Plan Measure E-3) would result in a net cumulative reduction of GHG emissions, a key environmental benefit. Scoping Plan Measure E-3, Renewable Portfolio Standard, of the Climate Change Scoping Plan requires that all investor-owned utility companies generate 60 percent of their energy demand from renewable sources by the year 2030. Therefore, the short-term minor generation of GHG emissions during construction, which is necessary to create this

new, low-GHG emitting power-generating facility, as well as the negligible amount generated during ongoing maintenance operations, would be more than offset by GHG emission reductions associated with solar-generated energy during operation.

Increasing sources of solar energy is one of the measures identified under the Scoping Plan to reduce statewide GHG emissions. The proposed projects would reduce GHG emissions in a manner consistent with SB 32 and other California GHG-reducing legislation by creating a new source of solar power to replace the current use of fossil-fuel power and reduce GHG emissions power generation and use.

Implementation of the proposed projects would result in a less than significant impact associated with the potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs.

Mitigation Measure(s)

No mitigation measures are required.

3.8.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Similar to construction activities, decommissioning and restoration would result in GHG emissions below allowable thresholds. Construction activities during decommissioning and restoration would adhere to Mitigation Measures AQ-1 and AQ-2 outlined in Section 3.4, Air Quality of this EIR, further reducing GHG emissions. Therefore, the impact is considered less than significant.

Residual

The proposed projects' combined GHG emissions would result in a less than significant impact. Project operation, subject to the provision of CUPs, would generally be consistent with statewide GHG emission goals and policies including SB 32. Project consistency with applicable plans, policies, and regulations adopted to reduce GHG emissions would ensure that the projects would not result in any residual significant and unavoidable impacts with regards to global climate change.

3.9 Hazards and Hazardous Materials

Information contained in this section is summarized from the Phase I Environmental Site Assessment (ESA) prepared for the VEGA 2/3 Solar Site and the Phase I ESA prepared for the VEGA 5 Solar Site by GS Lyon Consultants, Inc. The Phase I ESAs prepared for the project sites were used to assess the potential hazards and hazardous materials found on-site or adjacent to the project sites. These reports are included in Appendix I1 and I2 of this EIR, respectively. This section addresses potential hazards and hazardous materials for construction and operational impacts.

3.9.1 Existing Conditions

The project sites are located on approximately 1,963 acres of privately-owned land zoned for agricultural and open space/preservation uses within unincorporated Imperial County. The VEGA SES 2 and 3 and a portion of the VEGA SES 5 project sites east of the East Highline Canal are not currently under cultivation and contain scattered desert vegetation. Meanwhile, the VEGA SES 5 project site west of the East Highline Canal contains fallow agricultural land.

As seen on Figure 2-2, VEGA SES 2 and 3 are located on three parcels (APNs 025-260-011 [partial], 025-270-023, and 025-010-006 [partial]) and have been vacant desert land since 1937. A high voltage 230 kV powerline is immediately west of APN 025-260-011. A dry ephemeral wash bed subject to flash flooding, runs through the southeast corner of APN 025-260-011; and the high stand shoreline of ancient Lake Cahuilla crosses diagonally, southeast to northwest, across this parcel and is expressed with a sharp change in elevation. VEGA SES 2 and 3 share APN 025-010-006. The southwestern corner of this parcel is bisected by the concrete lined Coachella Canal and is traversed by the unpaved Flowing Wells Road and Coachella Canal Road. A dry ephemeral wash bed subject to periodic flooding crosses the northwest corner of the parcel and an earth flood diversion berm runs north-south within the eastern portion of the parcel to divert desert flood water to the Siphon 5 crossing of the Coachella Canal. The Coachella Canal is adjacent to the southwest corner of VEGA SES 2 (APN 025-270-023) while PegLeg Well Road which is unpaved, crosses the northern portion of this parcel. The unpaved Ted Kipf Road splits off of PegLeg Road to the southeast and diagonally crosses the northeastern portion of the parcel. Similar to the other parcels, APN 025-270-023 has dry ephemeral wash beds that are subject to flash flooding which cross the northwest and southeast corners of the parcel aligning with Siphons 4 and 5 of the Coachella Canal.

VEGA SES 5 is made up of three parcels (APN 025-260-011 [partial], 025-260-022, and 025-260-019). Noffisinger Road and the Union Pacific Railroad (UPRR) separate APNs 025-260-011 and 025-260-019. The portions of VEGA SES 5 that are east of the East Highline Canal are within a desert area and contains dry wash beds that traverse in a northeast to southwest direction. As with the other dry wash beds, this wash is subject to flash flooding. The same high voltage 230 kV powerline that forms the western boundary of VEGA SES 2, forms the western boundary of APN 025-260-019 and the eastern boundary of APN 025-260-022. The agricultural portion of VEGA SES 5 (APN 025-260-022) that is west of the East Highline Canal contains fallow agricultural land with scattered dry crop residue. The agricultural field is bounded by McDonald Road to the north, Schrimpf Road to the south, and Weist Road to the west. The East Highline Canal cuts across APN 025-260-022 diagonally in a northwest to southeast direction. Within the agricultural portion of VEGA SES 5, there are subsurface tile drainage pipelines that are generally aligned north to south and carry irrigation wastewater to the N Drain at the southwest corner of the field.

Records Review

A review of historic aerial photographs, historic topographic maps, historic Sanborn Fire Insurance maps, governmental regulatory databases, and other regulatory and agency databases was performed to evaluate potential adverse environmental conditions resulting from previous ownership and uses of the project sites.

GS Lyon Consultants, Inc. contracted Environmental Data Resources, Inc. of Shelton, Connecticut which queries and maintains comprehensive environmental databases and historical information, including proprietary databases, aerial photography, topographic maps, Sanborn Maps, and city directories to generate a compilation of federal, state and tribal regulatory lists containing information regarding hazardous materials occurrences on or within the prescribed radii of American Society of Testing and Materials Practice E 1527-13. The search of each database was conducted using the approximate minimum search distances from the subject property defined by the Standard. The purpose of the records review is to obtain and review reasonably ascertainable records that would help identify recognized environmental conditions or historical recognized environmental conditions in connection with the project sites. The project sites are not identified in the Environmental Data Resources, Inc. report as being located on a hazardous materials site pursuant to Government Code Section 65962.5. The results of the background review are presented in the Phase I ESAs (Appendix I1 and I2 of this EIR).

VEGA SES 2 and 3

Historical aerial photographs from EDR dating back to 1937 and Google Earth aerial photographs from 1996 were reviewed for the project sites. In 1937, the VEGA SES 2 and 3 project sites are observed to have been vacant desert ground with dry washes crossing the parcels in a northeast to southwest direction. Adjacent parcels also appear to be vacant desert lands. The UPRR is visible on the southwest boundary of the VEGA SES 2 project site (APN 025-260-011) and the high stand shoreline of ancient Lake Cahuilla crossing is visible crossing the VEGA SES 2 project site (APN 025-260-011) from northwest to southeast. From 1940 to 1976 aerial photographs show the VEGA SES 2 and 3 project sites are similar to the 1937 aerial photograph with the exception that the Coachella Canal had been constructed adjacent to the VEGA SES 2 project site (APN 025-270-023) and crossing through the western portion of shared VEGA SES 2 and 3 parcel (APN 025-010-006). By 1984, the Coachella Canal appears to have been shifted to the east and lined with concrete. Aerial photographs from 2004-2016 are similar to those from 1984 and at present time. Based on historic topographic maps, powerlines were shown to be crossing the northern and western sites from 1940 to 1947, as well as several unpaved roads crossing the VEGA SES 2 and 3 project sites.

VEGA SES 5

In 1937 aerial photographs of the VEGA SES 5 project site was observed to be vacant desert ground with the East Highline Canal crossing diagonally through the western parcel (APN 025-260-022) and a dry wash crossing both VEGA SES 5 parcels (APN 025-260-022 and 025-260-019) from a northeast to southwest direction. An agricultural field is present to the southwest of the VEGA SES 5 project site while other adjacent parcels also appear to be vacant desert lands. Aerials from 1940 to 1953 show similar imagery to 1937 with the exception of several small structures located adjacent to the westside of the East Highline Canal on McDonald Road, and the presence of agricultural fields located to the west and south of the western portion of the VEGA SES 5 project site. The 1967 aerials show the clearing of vegetation on the VEGA SES 5 project site west of the East Highline Canal as well as the removal of the structures in the northeast corner parcel (APN 025-260-022). The same western portion

of the VEGA SES 5 project site aerials appears to be occupied by fallow agricultural land from 2004 to 2012 aerials, and under cultivation from 1992 and 1996 aerials. Aerials from 2015 show the northern portion of the VEGA SES 5 western project area under cultivation and the southern portion as fallow agricultural. The VEGA SES 5 eastern project area, east of the East Highline Canal remained as vacant desert land.

The primary use of the fire insurance maps was to assess the buildings that were being insured, the existence and location of fuel storage tanks, flammable or other potentially toxic substances, and the nature of businesses are often shown on these maps. Due to the location and rural undeveloped nature of the project sites for the years the Sanborn Fire Insurance Maps were available for this subject property, no maps are available for the project sites.

Site Reconnaissance

A site reconnaissance was performed on September 29, 2020. The site visit consisted of a driving the perimeter of the project sites and randomly crossing the project sites. The reconnaissance included visual observations of surficial conditions at the project sites and observation of adjoining properties to the extent that they were visible from public areas. The site visit evaluated the project sites and adjoining properties for potential hazardous materials/waste and petroleum product use, storage, disposal, or accidental release, including the following: presence of tank and drum storage; mechanical or electrical equipment likely to contain liquids; evidence of soil or pavement staining or stressed vegetation; ponds, pits, lagoons, or sumps; suspicious odors; fill and depressions; or any other condition indicative of potential contamination.

Underground and Aboveground Storage Tanks, Drums, or Containers

No underground storage tanks (USTs) and aboveground storage tanks (ASTs) were observed within the project sites during the site reconnaissance. No drums or storage containers, nor any open or damaged containers containing unidentified substances were observed at the project sites. Additionally, no reports of spills or leaks were identified in the EDR report.

Surface Staining

No evidence of stained soil or pavement was observed on the project sites.

Sewer/Water

No evidence of septic systems or wells was observed on the project sites.

Suspect Polychlorinated Biphenyl (PCB) Containing Equipment

No potential PCB containing equipment such as electrical transformers, capacitors, and hydraulic equipment were observed during the site reconnaissance on the project sites or within the immediate vicinity.

Pesticides

Based on review of environmental records and historic documents, the VEGA SES 2 and 3 project sites have been vacant desert land since 1937. Therefore, the presence of Dichlorodiphenyltrichloroethane/Dichlorodiphenyldichloroethylene (DDT/DDE) are not anticipated within the VEGA SES 2 and 3 project sites. Based on the review of environmental records, historical documents, and property conditions of the VEGA SES 5 project site, the project site has been in

agricultural use intermittently and/or vacant since the 1960s. Residues of currently available pesticides and currently banned pesticides, such as DDT/DDE may be present in near surface soils in limited concentrations. Therefore, there is a potential for the VEGA SES 5 project site to contain hazards related to pesticide and herbicide use from aerial and/or ground application which can migrate via surface run-off. The concentrations of these pesticides found on other Imperial Valley agricultural sites are typically less than 25 percent of the current regulatory threshold limits and are not considered a significant environmental hazard. The presence and concentration of near surface pesticides at the VEGA SES 5 project site can be accurately characterized only by site-specific sampling and testing.

Lead and Asbestos

The potential for asbestos containing materials (ACM) and lead based paint residues existing at the project sites are low due to the lack of structures and development.

Airports

The project sites are not located within 2 miles of a public airport or a public use airport. The nearest airport to the proposed projects is the Calipatria Municipal Airport, located approximately 6 miles southwest of the VEGA SES 5 project site.

Fire Hazard

The project sites are located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan, the potential for a major fire in the unincorporated areas of the County is generally low (County of Imperial 1997).

3.9.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the projects.

Federal

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Over 5 years, $1.6 billion was collected and the tax went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. The Comprehensive Environmental Response, Compensation, and Liability Act established prohibitions and requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified.

Emergency Planning Community Right-to-Know Act of 1986 (42 United States Code 11001 et seq.)

The Emergency Planning Community Right-to-Know Act was included under the Superfund Amendments and Reauthorization Act (SARA) law and is commonly referred to as SARA Title III.

Emergency Planning Community Right-to-Know was passed in response to concerns regarding the environmental and safety hazards posed by the storage and handling of toxic chemicals. These concerns were triggered by the disaster in Bhopal, India, in which more than 2,000 people suffered death or serious injury from the accidental release of methyl isocyanate. To reduce the likelihood of such a disaster in the U.S., Congress imposed requirements on both states and regulated facilities.

Emergency Planning Community Right-to-Know establishes requirements for federal, state, and local governments, Indian Tribes, and industry regarding emergency planning and "Community Right-to-Know" reporting on hazardous and toxic chemicals. SARA Title III requires states and local emergency planning groups to develop community emergency response plans for protection from a list of Extremely Hazardous Substances (40 CFR 355). The Emergency Planning Community Right-to-Know provisions help increase the public's knowledge and access to information on chemicals at individual facilities, their uses, and releases into the environment. In California, SARA Title III is implemented through the California Accidental Release Prevention.

Federal Insecticide, Fungicide, and Rodenticide Act

The objective of Federal Insecticide, Fungicide, and Rodenticide Act is to provide federal control of pesticide distribution, sale, and use. All pesticides used in the U.S. must be registered (licensed) by the EPA. Registration assures that pesticides would be properly labeled and that, if used in accordance with specifications, they would not cause unreasonable harm to the environment. Use of each registered pesticide must be consistent with use directions contained on the label or labeling.

Federal Water Pollution Control Act (Clean Water Act)

The objective of the Federal Water Pollution Control Act, commonly referred to as the CWA, is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. The oil SPCC Program of the CWA specifically seeks to prevent oil discharges from reaching waters of the U.S. or adjoining shorelines. Further, farms are subject to the SPCC rule if they:

- Store, transfer, use, or consume oil or oil products
- Could reasonably be expected to discharge oil to waters of the U.S. or adjoining shorelines. Farms that meet these criteria are subject to the SPCC rule if they meet at least one of the following capacity thresholds:
    - Aboveground oil storage capacity greater than 1,320 gallons
    - Completely buried oil storage capacity greater than 42,000 gallons

However, the following are exemptions to the SPCC rule:

- Completely buried storage tanks subject to all the technical requirements of the underground storage tank regulations
- Containers with a storage capacity less than 55 gallons of oil
- Wastewater treatment facilities
- Permanently closed containers
- Motive power containers (e.g., automotive or truck fuel tanks)

Hazardous Materials Transport Act – Code of Federal Regulations

The Hazardous Materials Transportation Act was published in 1975. Its primary objective is to provide adequate protection against the risks to life and property inherent in the transportation of hazardous material in commerce by improving the regulatory and enforcement authority of the Secretary of Transportation. A hazardous material, as defined by the Secretary of Transportation is, any "particular quantity or form" of a material that "may pose an unreasonable risk to health and safety or property."

Occupational Safety and Health Administration

Occupational Safety and Health Administration's (OSHA) mission is to ensure the safety and health of America's workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. OSHA standards are listed in 29 CFR Part 1910.

The OHSA Process Safety Management of Highly Hazardous Chemicals (29 CFR Part 110.119) is intended to prevent or minimize the consequences of a catastrophic release of toxic, reactive, flammable, or explosive highly hazardous chemicals by regulating their use, storage, manufacturing, and handling. The standard intends to accomplish its goal by requiring a comprehensive management program integrating technologies, procedures, and management practices.

Resource Conservation and Recovery Act

The goal of the Resource Conservation and Recovery Act, a federal statute passed in 1976, is the protection of human health and the environment, the reduction of waste, the conservation of energy and natural resources, and the elimination of the generation of hazardous waste as expeditiously as possible. The Hazardous and Solid Waste Amendments of 1984 significantly expanded the scope of RCRA by adding new corrective action requirements, land disposal restrictions, and technical requirements. The corresponding regulations in 40 CFR 260-299 provide the general framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste.

State

California Department of Conservation, Division of Oil, Gas, and Geothermal Resources

The Division of Oil, Gas, and Geothermal Resources was formed in 1915 to address the needs of the state, local governments, and industry by regulating statewide oil and gas activities with uniform laws and regulations. The Division supervises the drilling, operation, maintenance, and plugging and abandonment of onshore and offshore oil, gas, and geothermal wells, preventing damage to: (1) life, health, property, and natural resources; (2) underground and surface waters suitable for irrigation or domestic use; and (3) oil, gas, and geothermal reservoirs. The Division's programs include: well permitting and testing; safety inspections; oversight of production and injection projects; environmental lease inspections; idle-well testing; inspecting oilfield tanks, pipelines, and sumps; hazardous and orphan well plugging and abandonment contracts; and subsidence monitoring.

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California Department of Toxic Substances Control

DTSC regulates hazardous waste, cleans-up existing contamination, and looks for ways to reduce the hazardous waste produced in California. Approximately 1,000 scientists, engineers, and specialized support staff are responsible for ensuring that companies and individuals handle, transport, store, treat, dispose of, and clean-up hazardous wastes appropriately. Through these measures, DTSC contributes to greater safety for all Californians, and less hazardous waste reaches the environment.

On January 1, 2003, the Registered Environmental Assessor program joined DTSC. The program certifies environmental experts and specialists as being qualified to perform a number of environmental assessment activities. Those activities include private site management, Phase I ESAs, risk assessment, and more.

California Division of Occupational Safety and Health

The California Division of Occupational Safety and Health protects workers and the public from safety hazards through its programs and provides consultative assistance to employers. California Division of Occupational Safety and Health issues permits, provides employee training workshops, conducts inspections of facilities, investigates health and safety complaints, and develops and enforces employer health and safety policies and procedures.

California Environmental Protection Agency

California Environmental Protection Agency and the SWRCB establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable state and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act
- Air Toxics Hot Spots and Emissions Inventory Law
- Underground Storage of Hazardous Substances Act
- Porter-Cologne Water Quality Control Act

Within Cal-EPA, DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law.

California Emergency Response Plan

California has developed an Emergency Response Plan to coordinate emergency services provided by federal, state, and local government and private agencies. Response to hazardous materials incidents is one part of this plan. The plan is managed by the State Office of Emergency Services (OES), which coordinates the responses of other agencies including Cal-EPA, the California Highway Patrol, CDFW, RWQCB, Imperial County Sheriff's Department, ICFD, and the City of Imperial Police Department.

Local

Imperial County General Plan

The Seismic and Public Safety Element identifies goals and policies that will minimize the risks associated with natural and human-made hazards and specify the land use planning procedures that should be implemented to avoid hazardous situations. The purpose of the Seismic and Public Safety Element is to reduce the loss of life, injury, and property damage that might result from disaster or accident. In addition, the Element specifies land use planning procedures that should be implemented to avoid hazardous situations. The policies listed in the Seismic and Public Safety Element are not applicable to the proposed project, as they address human occupancy development. The proposed project is a solar project and does not propose residential uses.

Imperial County Public Health Department

DTSC was appointed the Certified Unified Program Agency (CUPA) for Imperial County in January 2005. The Unified Program is the consolidation of 6 state environmental programs into one program under the authority of a CUPA. The CUPA inspects businesses or facilities that handle or store hazardous materials, generate hazardous waste, own or operate ASTs or USTs, and comply with the California Accidental Release Prevention Program. The CUPA Program is instrumental in accomplishing this goal through education, community and industry outreach, inspections and enforcement.

Office of Emergency Services

As part of the ICFD, the County OES is mandated by the California Emergency Services Act (Chapter 7, Division 1, Title 2 of Government Code) to serve as the liaison between the State and all the local government in the County. The OES provides centralized emergency management during major disasters, and coordinates emergency operations between various local jurisdictions within the County. The OES has developed several plans, consistent with federal and state policy guidance, to provide the County and participating local jurisdictions and agencies a framework for conducting emergency planning, response, and recovery operations, and handling of hazardous substances.

3.9.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project-related impacts related to hazards and hazardous materials, the methodology employed for the evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to hazards and hazardous materials are considered significant if any of the following occur:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment
- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires

Methodology

This analysis evaluates the potential for the projects, as described in Chapter 2, Project Description to result in significant impacts related to hazards and hazardous materials on or within the 1-mile buffer zone of the project sites. This analysis considers whether these conditions would result in an exceedance of one or more of the applied significance criteria as identified above.

Phase I ESAs has been prepared for the project sites. The information obtained from the Phase I ESAs were reviewed and summarized to present the existing conditions, in addition to identifying potential environmental impacts, based on the significance criteria presented above. Impacts associated with hazards and hazardous materials that could result from project construction and operational activities were evaluated qualitatively based on site conditions; expected construction practices; materials, locations, duration of project construction, and related activities. The conceptual site plans for the projects were also used to evaluate potential impacts.

Impact Analysis

Impact 3.9-1 Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Although considered minimal, it is anticipated that the proposed projects will generate the following materials during construction, operation, and long-term maintenance: insulating oil (used for electrical equipment), lubricating oil (used for maintenance vehicles), various solvents/detergents (equipment cleaning), and gasoline (used for maintenance vehicles). These materials have the potential to be released into the environment as a result of natural hazard (i.e., earthquake) related events, or because of human error. However, all materials contained on project sites will be stored in appropriate containers (not to exceed a 55-gallon drum) protected from environmental conditions, including rain, wind, and direct heat and physical hazards such as vehicle traffic and sources of heat and impact. In addition, if the on-site storage of hazardous materials necessitate, at any time during construction and/or operations and long-term maintenance, quantities in excess of 55-gallons, a hazardous material management program (HMMP) would be required. The HMMP developed for the projects will include, at a minimum, procedures for:

- Hazardous materials handling, use and storage

- Emergency response
- Spill control and prevention
- Employee training
- Record keeping and reporting

Spill response plans would be developed prior to project construction and operation or prior to the storage on-site of an excess of 55 gallons of hazardous materials, and personnel would be made aware of the procedures for spill cleanup and the procedures to report a spill. Spill cleanup materials and equipment appropriate to the type and quantity of chemicals and petroleum products expected would be located onsite and personnel shall be made aware of their location.

The small quantities of chemicals to be stored at the project sites during construction include equipment and facilities maintenance chemicals. These materials would be stored in their appropriate containers in an enclosed and secured location, such as portable outdoor hazardous materials storage cabinets equipped with secondary containment to prevent contact with rainwater. The portable chemical storage cabinets may be moved to different locations around the project sites as construction activity locations shift. The chemical storage area would not be located immediately adjacent to any drainage. Disposal of excess materials and wastes would be performed in accordance with local, state, and federal regulations.

Additionally, hazardous material storage and management will be conducted in accordance with requirements set forth by the ICFD, Imperial County Office of Emergency Services, DTSC, and CUPA for storage and handling of hazardous materials. Further, construction activities would occur according to OSHA regulatory requirements; therefore, it is not anticipated that the construction activities for the proposed projects would release hazardous emissions or result in the handling of hazardous or acutely hazardous materials, substances, or waste. This could include the release of hazardous emissions, materials, substances, or wastes during operational activities. With the implementation of an HMMP and adherence to requirements set forth by the ICFD, Imperial County Office of Emergency Services, DTSC, OSHA regulatory requirements and CUPA, the impact associated with the possible risk to the public or environment through routine transport, use, or disposal of hazardous materials would be considered less than significant.

Battery Energy Storage System

In conjunction with the construction of the solar facilities, BESSs will be constructed to store the energy generated by the solar panels. One BESS will be located on an approximately 5-acre site within the southwest corner of the VEGA SES 2 project site (APN 025-010-006). The BESS on the VEGA SES 5 project site is proposed to be located in the southeastern corner of APN 025-260-022. Transportation of hazardous materials relating to the BESS includes electrolyte and graphite and would occur during construction, operation (if replacement of batteries is needed) and decommissioning (removal of the batteries). All of these various materials would be transported and handled in compliance with DTSC regulations. Therefore, likelihood of an accidental release during transport or residual contamination following accidental release is not anticipated.

Lithium ion or flow batteries used in the storage system contain cobalt oxide, manganese dioxide, nickel oxide, carbon, electrolyte, and polyvinylidene fluoride. Of these chemicals, only electrolyte should be considered hazardous, inflammable and could react dangerously when mixed with water. The U.S. Department of Transportation (DOT) regulates transport of lithium-ion batteries under the

DOT's Hazardous Materials Regulations (HMR; 49 C.F.R., Parts 171-180). The HMR apply to any material DOT determines is capable of posing an unreasonable risk to health, safety, and property when transported in commerce. Lithium-ion batteries must conform to all applicable HMR requirements when offered for transportation or transported by air, highway, rail, or water (DOT 2021). Additionally, carbon (as graphite) is flammable and could pose a fire hazard. As further detailed below, fire protection is achieved through project design features, such as monitoring, diagnostics and a fire suppression system. The projects would be required to comply with state laws and county ordinance restrictions, which regulate and control hazardous materials handled on site.

Construction wastes would be disposed of in accordance with local, state, and federal regulations, and recycling will be used to the greatest extent possible. In this context, with adherence to requirements set forth by the ICFD, Imperial County OES, DTSC, OSHA regulatory requirements and CUPA, impacts would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.9-2 Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

According to the historical records search, the VEGA SES 5 project site has been in agricultural use intermittently and/or vacant since the 1960s. Typical agricultural practices in the Imperial Valley consist of aerial and ground application of pesticides and the application of chemical fertilizers to both ground and irrigation water. GS Lyon professionals have reported that concentrations of pesticides are limited and typically less than 25 percent of the current regulatory threshold limits of EPA preliminary remediation goals.

The Federal Insecticide, Fungicide, and Rodenticide Act provides federal control of pesticide distribution, sale, and use. Pesticides used in the United States must be registered by the EPA to assure that pesticides are properly labeled and that they will not cause unreasonable harm to the environment. The construction phase, operations and long-term maintenance of the facility would not result in additional application of pesticides or fertilizers. Therefore, a less than significant impact has been identified for this issue area.

Hazardous Materials

The Phase I ESAs (Appendix I1 and I2 of this EIR) prepared for the project sites do not identify any recognized environmental conditions (RECs), ASTs, or USTs. According to the Envirostor Database for local DTSC record searches, Geotracker GIS data from the SWRCB, and interviews with individuals familiar with the subject property, there are no potential RECs existing on the project sites. Therefore, a less than significant impact is identified for this issue area.

Lead and Asbestos

According to records research and the reconnaissance survey, the potential for lead based paint residues and asbestos containing materials is very low because of the lack of development on the project sites. Therefore, a less than significant impact is identified for this issue area.

Battery Energy Storage System

Protection would be provided as part of the project design by housing the battery units in enclosed structures to provide containment should a fire break out or for potential spills. Any potential fire risk that the traditional lithium-ion cells have will most likely be caused by over-charging or through short circuit due to age. This risk will be mitigated through monitoring and a fire suppression system that includes water and or a suppression agent (eg FM-200, Novatech) with smoke detectors, control panel, alarm, piping and nozzles. The fire protection system will be designed by a certified fire protection engineer and installed by a fire protection system contractor licensed in California and in accordance with all relevant building and fire codes in effect in the County at the time of building permit submission. Fire protection systems for battery systems would be designed in accordance with California Fire Code and would take into consideration the recommendations of the National Fire Protection Association (NFPA) 855.

The fire protection plan is anticipated to include a combination of prevention, suppression, and isolation methods and materials. The general approach to fire mitigation at the project sites would be prevention of an incident, followed by attempts to isolate and control the incident to the immediately affected equipment, then to suppress any fire with a clean agent so as to reduce damage to uninvolved equipment. Fire suppression agents such as Novec 1230 or FM 2000, or water may be used as a suppressant. In addition, fire prevention methods would be implemented to reduce potential fire risk, including voltage, current, and temperature alarms. Energy storage equipment would comply with Underwriters Laboratory (UL)-95401 and test methods associated with UL-9540A. For lithium-ion batteries storage, a system would be used that would contain the fire event and encourage suppression through cooling, isolation, and containment. Suppressing a lithium-ion (secondary) battery is best accomplished by cooling the burning material. A gaseous fire suppressant agent (e.g., 3M™ Novec™ 1230 Fire Protection Fluid or similar) and an automatic fire extinguishing system with sound and light alarms would be used for lithium-ion batteries.

To mitigate potential hazards, redundant separate methods of failure detection would be implemented. These would include alarms from the Battery Management System (BMS), including voltage, current, and temperature alarms. Detection methods for off gas detection would be implemented, as applicable. These are in addition to other potential protective measures such as ventilation, overcurrent protection, battery controls maintaining batteries within designated parameters, temperature and humidity controls, smoke detection, and maintenance in accordance with manufacturer guidelines. Remote alarms would be installed for operations personnel as well as emergency response teams in addition to exterior hazard lighting. In addition, an Incidence Response Plan would be implemented. In this context, impacts would be considered less than significant for this impact area.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.9-3 Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

The project sites are not located within 0.25 mile of any existing or proposed schools. Therefore, the proposed projects would not pose a risk to nearby schools and no impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.9-4 Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?

The project sites are not identified in the EDR report as being located on a hazardous materials sites pursuant to Government Code Section 65962.5. Implementation of the proposed projects would result in no impact related to the project site being located on a listed hazardous materials site.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.9-5 For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?

The project sites are not located within 2 miles of a public airport or a public use airport. The nearest airport to the proposed projects is the Calipatria Municipal Airport, located approximately 6 miles southwest of the VEGA SES 5 project site. According to Figure 3C of the ALUCP, no portion of the project sites are located within the Calipatria Municipal Airport's land use compatibility zones (ALUC 1996). Therefore, implementation of the proposed project would not result in a safety hazard or excessive noise for people residing or working in the project area and no impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.9-6 Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The Imperial County Operational Area Emergency Operations Plan (Imperial County OES 2016) does not identify specific emergency roadway routes as part of their emergency operations plan (EOP). The Circulation & Scenic Highways Element of the General Plan (County of Imperial 2008), identifies SR-111, located west of the project sites, as the "backbone" route of Imperial County since it connects the three largest cities and acts as a major goods movement route.

The applicant for the proposed projects will be required, through the Conditions of Approval, to prepare a street improvement plan for the proposed projects that will include emergency access points and safe vehicular travel. Additionally, local building codes would be followed to minimize flood, seismic, and fire hazard. Therefore, the proposed projects would result in a less than significant impact associated with the possible impediment to emergency response plans or emergency evacuation plans.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.9-7 Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

The project sites are located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan (County of Imperial 1997), the potential for a major fire in the unincorporated areas of the County is generally low.

Proposed project facilities would be designed, constructed, and operated in accordance with applicable fire protection and other environmental, health, and safety requirements (e.g., CPUC safety standards). PV panels would be spaced to maintain proper clearance for emergency access. Internal access roads, up to 30-feet wide, would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles. Access roads would be graded and compacted (native soils) as required for construction, operations, maintenance, and emergency vehicle access. The access and service roads would also have turnaround areas at any dead-end to allow clearance for fire trucks per fire department standards. The access and service roads would also have turnaround areas at any dead-end to allow clearance for fire trucks per fire department standards.

Because the proposed projects are not located in proximity to an area susceptible to wildland fires, implementation of the proposed projects would result in a less than significant impact related to the possible risk to people or structures caused by wildland fires.

Mitigation Measure(s)

No mitigation measures are required.

3.9.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

During decommissioning and restoration of the project sites, the applicant or its successor in interest would be responsible for the removal, recycling, and/or disposal of all solar arrays, inverters, battery storage system, transformers and other structures on each of the project sites. The applicant of the proposed projects anticipates using the best available recycling measures at the time of decommissioning. Any potentially hazardous materials located on the project sites would be disposed of, and/or remediated prior to construction of the solar facilities.

The operation of the solar facilities would not generate hazardous wastes; therefore, implementation of applicable regulations and mitigation measures identified for construction and operations would ensure restoration of the project sites to pre-project conditions during the decommissioning process in a manner that would be less than significant. Furthermore, decommissioning/restoration activities would not result in a potential impact associated with ALUCP consistency (structures would be removed and the site would remain in an undeveloped condition), wildfires (fire protection measures), or impediment to an emergency plan (the undeveloped condition as restored, would not conflict with emergency plans).

Residual

Adherence to federal, state and local regulations will ensure that impacts related to the transportation of hazardous materials and potential fires would be reduced to levels less than significant. Based on these circumstances, the proposed projects would not result in residual significant and unmitigable impacts related to hazards and hazardous materials.

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3.10 Hydrology/Water Quality

This section provides a description of existing water resources within the project areas and pertinent local, state, and federal plans and policies. Each subsection includes descriptions of existing hydrology/drainage, existing flooding hazards, and the environmental impacts on hydrology and water quality resulting from implementation of the proposed projects, and mitigation measures where appropriate. The impact assessment provides an evaluation of potential adverse effects to water quality based on criteria derived from CEQA Guidelines in conjunction with actions proposed in Chapter 2, Project Description.

3.10.1 Existing Conditions

The project sites are located in the Colorado River Basin. The Colorado River Basin Region covers approximately 13 million acres (20,000 square miles) in the southeastern portion of California. It includes all of Imperial County and portions of San Bernardino, Riverside, and San Diego Counties. The Colorado River Basin Region is divided into seven major planning areas on the basis of different economic and hydrologic characteristics (California RWQCB 2019).

The project sites are contained within the Brawley Hydrologic Area (Hydrologic Unit [HU] 723.10) of the Imperial Valley Planning Area. The Imperial Valley Planning Area comprises 2,500 square miles in the southern portion of the region with the majority located in Imperial County and is characterized as a closed basin. Surface waters mostly drain toward the Salton Sea and the average annual rainfall for most of the planning area ranges from less than 3 inches with four months of average summertime temperatures above 100 degrees Fahrenheit. Winter temperatures are mild, seldom reaching freezing. Additionally, water from the Colorado River are imported via the All-American Canal and serves as the predominant water supply for irrigation, industrial, and domestic purposes (California RWQCB 2019).

Localized Drainage Conditions

VEGA SES 2 and 3

The VEGA SES 2 and 3 project sites are within the Salton Sea Watershed (Hydrologic Unit Code 18100204). The project sites and Chocolate Mountains are part of an alluvial fan drainage system. Alluvial fans occur when stream flow feeds into a system of distributary channels. Infrequent yet intense rainfall causes sheetflood across the fan surface, in which sediment-laden water overflows from the confines of its channel and eventually results in gravel deposits that have the appearance of a network of braided channels. A number of these braided channels are fluid in nature and are relic scars that do not actively transport water during rain events. These relic channels would therefore be considered inactive, whereas channels that actively transport water during rain events would be considered active.

The alluvial fan drainage system produces ephemeral conditions within the project sites following large rain events and contains a network of inactive and active braided channels. In addition, this interconnected drainage system has associated riparian corridors that occur throughout the project sites.

Within the project sites, the alluvial fan system directs surface flow from the Chocolate Mountains through the project sites to the southwest. Surface flow eventually feeds into the intermittent drainage features associated with Siphon Four, Siphon Five, and Siphon Six. The siphons direct flow over the Coachella Canal and eventually under the railroad right-of-way before ultimately draining into the East

Highline Canal and/or associated wetlands. Both the Coachella Canal and East Highline Canal divert water from the All-American Canal, which brings water from the Colorado River at the Imperial Dam. The Coachella Canal supplies water to the Coachella Valley north of the Salton Sea, and eventually drains into a manmade storage reservoir known as Lake Cahuilla. The East Highline Canal supplies water to the Imperial Valley via smaller lateral canals and drains that ultimately drain to the Salton Sea (Appendix F1 of this EIR).

VEGA SES 5

The VEGA SES 5 Project site is also within the Salton Sea Watershed. The project site and adjacent upslope areas are within an alluvial fan drainage system that produces ephemeral conditions with surface waters flowing in direct response to large rain events for short durations. A number of ephemeral features within the project site are relic remains of rain events and do not actively transport surface flow within the site; they would therefore be considered inactive ephemeral drainages. Furthermore, these features lack connectivity to the intermittent system farther upstream due to the presence of the railroad right-of-way.

The hydrology of the intermittent system within the project site supports associated wetland, alkali sink, and riparian habitat. The intermittent system ultimately drains into wetlands existing along the eastern end of the East Highline Canal, and additional wetlands exist along the western end of the canal. Runoff within the project site generally flows southwest from the direction of the Chocolate Mountains toward the East Highline Canal and associated wetlands (Appendix F2 of this EIR).

Flooding

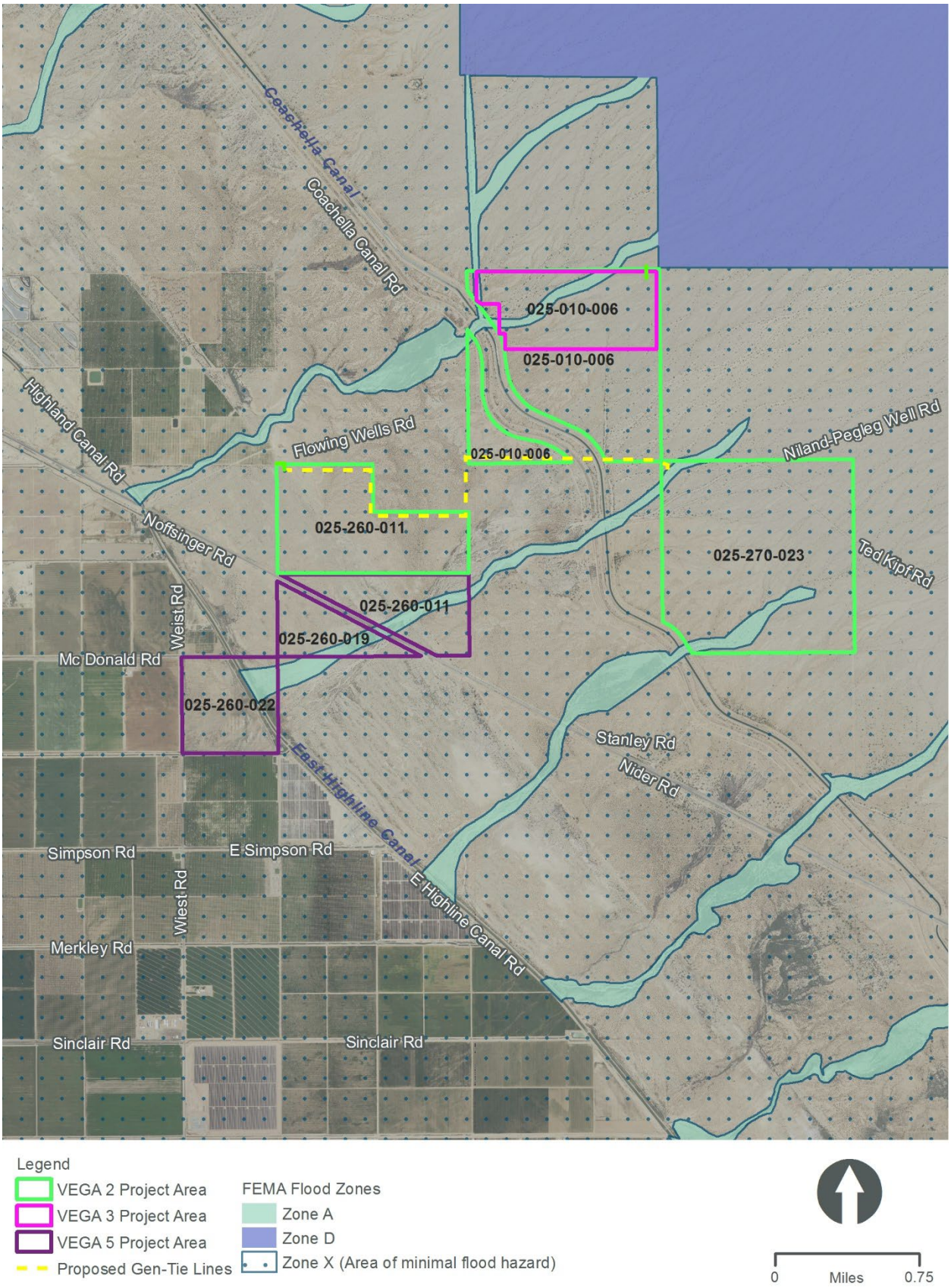
VEGA SES 2 and 3

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (Panel 06025C0750C) (FEMA 2008), the majority of the VEGA SES 2 and 3 Project sites, including the gen-tie, are within Zone X (unshaded designation), which is an area determined to be outside of the 0.2 percent annual chance floodplain (Figure 3.10-1). However, there are dry (ephemeral) wash beds that transect the VEGA 2 and 3 Project sites (northwest corner of APN 025-010-006 and northwest and southern portions of APN 025-270-023). These areas are designated as Zone A or Special Flood Hazard Areas and are subject to flash flooding.

VEGA SES 5

The majority of the VEGA SES 5 Project site, including the gen-tie, is within Zone X, which is an area determined to be outside of the 0.2 percent annual chance floodplain (Figure 3.10-1). However, there are dry (ephemeral) wash beds that transect the project site. These areas are designated as Zone A or Special Flood Hazard Areas and are subject to flash flooding.

Figure 3.10-1. FEMA Flood Zones



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Surface Water Quality

The surface waters of the Imperial Valley depend primarily on the inflow of irrigation water from the Colorado River via the All-American Canal. Excessive salinity concentrations have long been one of the major water quality problems of the Colorado River, a municipal and industrial water source to millions of people, and a source of irrigation water for approximately 700,000 acres of farmland. The heavy salt load in the Colorado River results from both natural and human activities. Land use and water resources are unequivocally linked. A variety of natural and human factors can affect the quality and use of streams, lakes, and rivers. Surface waters may be impacted from a variety of point and non-point discharges. Examples of point sources may include wastewater treatment plants, industrial discharges, or any other type of discharge from a specific location (commonly a large-diameter pipe) into a stream or water body. In contrast, non-point source pollutant sources are generally more diffuse in nature and connected to a cumulative contribution of multiple smaller sources. Common non-point source contaminants within the project area may include, but are not limited to, sediment, nutrients (phosphorous and nitrogen), trace metals (e.g., lead, zinc, copper, nickel, iron, cadmium, and mercury), oil and grease, bacteria (e.g., coliform), viruses, pesticides and herbicides, organic matter, and solid debris/litter. Vehicles account for most of the heavy metals, fuel, fuel additives (e.g., benzene), motor oil, lubricants, coolants, rubber, battery acid, and other substances. Nutrients result from excessive fertilizing of agricultural areas, while pesticides and herbicides are widely used in agricultural fields and roadway shoulders for keeping ROW areas clear of vegetation and pests. All these substances are entrained by runoff during wet weather and discharged into local drain facilities and eventually into the Salton Sea.

Based on the 305(b)/303(d) Integrated Report prepared by the Colorado River Basin RWQCB (CA RWQCB 2018), the following water features within the Brawley Hydrologic Area includes the Imperial Valley Drains (East Highline Canal) and the Salton Sea. Specific impairments listed for each of these water bodies (or Category 5) are identified below:

- Imperial Valley Drains: Impaired for ammonia, chlordane, chlorpyrifos dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), dieldrin, disulfoton, imidacloprid, PCBs, sedimentation/siltation, selenium, toxaphene, and toxicity.
- Salton Sea: Impaired for ammonia, arsenic, chloride, chlorpyrifos, DDE, DDT, enterococcus, low dissolved oxygen, nutrients, salinity, and toxicity.

Groundwater

According to the California RWQCB GAMA's Groundwater Information System,[1] the entire VEGA SES 2 and 3 Project sites and the majority of the VEGA SES 5 Project site are located within the East Salton Sea Groundwater Basin (Basin 7-033). The East Salton Sea Groundwater Basin covers 306 square miles. This basin underlies Chocolate Valley in southern Riverside County and northern Imperial County. The western portion of the basin is traversed by the San Andreas fault zone and two unnamed faults, which may impede the movement of groundwater. Recharge to the basin is chiefly from the infiltration of runoff through alluvial deposits at the base of the surrounding mountains. Total storage capacity is estimated to be 360,000 acre-feet. Groundwater in this basin is reported as not suitable for domestic, municipal, or agricultural purposes (California Department of Water Resources 2004b).

[1] https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/

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The only portion of the project sites that is not within the East Salton Sea Groundwater Basin (Basin 7-033) is the southwest corner of VEGA SES 5 (APN 025-260-022), which is located within the Imperial Valley Groundwater Basin (Basin 7-030). The Imperial Valley Groundwater Basin covers approximately 1,870 surface square miles. The physical groundwater basin extends in the southeastern portion of California at the border with Mexico. The basin lies within the southern part of the Colorado Desert Hydrologic Region, south of the Salton Sea. The basin has two major aquifers, separated at depth by a semi-permeable aquitard that averages 60 feet thick and reaches a maximum thickness of 280 feet. The average thickness of the upper aquifer is 200 feet with a maximum thickness of 450 feet. The data regarding faults controlling groundwater movement is uncertain; however, as much as 80 feet of fine-grained, low permeability prehistoric lake deposits have accumulated on the valley floor, which result in locally confined aquifer conditions. Groundwater recharge within the basin is primarily from irrigation return. Other recharge sources are deep percolation of rainfall and surface runoff, underflow into the basin, and seepage from unlined canals that traverse the valley. Groundwater levels within a majority of the basin have remained stable from 1970 to 1990 because of relatively constant recharge and an extensive network of subsurface drains. Groundwater quality varies extensively throughout the base; however, is generally unusable for domestic and irrigation purposes without treatment (California Department of Water Resources 2004b).

3.10.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the project.

Federal

Clean Water Act

The U.S. EPA is the lead federal agency responsible for managing water quality. The CWA of 1972 is the primary federal law that governs and authorizes the U.S. EPA and the states to implement activities to control water quality. The various elements of the CWA that address water quality and that are applicable to the project are discussed below. Wetland protection elements administered by the USACE under Section 404 of the CWA, including permits for the discharge of dredged and/or fill material into waters of the United States, are discussed in Section 3.5, Biological Resources.

Under federal law, the U.S. EPA has published water quality regulations under Volume 40 of the CFR. Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the U.S. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question; and (2) criteria that protect the designated uses. Section 304(a) requires the U.S. EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. The U.S. EPA is the federal agency with primary authority for implementing regulations adopted under the CWA. The U.S. EPA has delegated the State of California the authority to implement and oversee most of the programs authorized or adopted for CWA compliance through the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act), described below.

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the U.S. must obtain a water quality certification from the SWRCB in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate.

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CWA Section 402 establishes the National Pollution Discharge Elimination System (NPDES) permit program to control point source discharges from industrial, municipal, and other facilities if their discharges go directly to surface waters. The 1987 amendments to the CWA created a new section of the CWA devoted to regulating storm water or nonpoint source discharges (Section 402[p]). The U.S. EPA has granted California primacy in administering and enforcing the provisions of the CWA and the NPDES program through the SWRCB. The SWRCB is responsible for issuing both general and individual permits for discharges from certain activities. At the local and regional levels, general and individual permits are administered by RWQCBs.

Clean Water Act Section 303(d) Impaired Waters List

CWA Section 303(d) requires states to develop lists of water bodies that will not attain water quality standards after implementation of minimum required levels of treatment by point-source dischargers. Section 303(d) requires states to develop a total maximum daily load (TMDL) for each of the listed pollutants and water bodies. A TMDL is the amount of loading that the water body can receive and still comply with applicable water quality objectives and applied beneficial uses. TMDLs can also act as a planning framework for reducing loadings of a specific pollutant from various sources to achieve compliance with water quality objectives. TMDLs prepared by the state must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows links between loading reductions and the attainment of water quality objectives.

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations that limit development in floodplains. FEMA also issues Flood Insurance Rate Maps (FIRM) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection covered by the FIRM is established by FEMA, with the minimum level of flood protection for new development determined to be the 1-in-100 (0.01) annual exceedance probability (i.e., the 100-year flood event).

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, also known as the California Water Code, is California's statutory authority for the protection of water quality. Under this act, the state must adopt water quality policies, plans, and objectives that protect the state's waters. The act sets forth the obligations of the State Water Resources Control Board (SWRCB) and RWQCBs pertaining to the adoption of Water Quality Control Plans and establishment of water quality objectives. Unlike the CWA, which regulates only surface water, the Porter-Cologne Act regulates both surface water and groundwater.

Water Quality Control Plan for the Colorado River Basin

The Water Quality Control Plan for the Colorado River Basin (or Basin Plan) prepared by the Colorado River RWQCB (Region 7) identifies beneficial uses of surface waters within the Colorado River Basin region, establishes quantitative and qualitative water quality objectives for protection of beneficial uses, and establishes policies to guide the implementation of these water quality objectives.

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Water bodies that have beneficial uses that may be affected by construction activity and post-construction activity include the Imperial Valley Drains and the Salton Sea. Table 3.10-1 identifies the designated beneficial uses established for the project site's receiving waters. The following are definitions of the applicable beneficial uses:

- Aquaculture (AQUA) – Uses of water for aquaculture or mariculture operations including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or bait purposes.
- Freshwater Replenishment (FRSH) – Uses of water for natural or artificial maintenance of surface water quantity or quality.
- Industrial Service Supply (IND) – Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, and oil well repressurization.
- Water Contact Recreation (REC I) – Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, and use of natural hot springs.
- Non-contact Water Recreation (REC II) – Uses of water for recreational activities involving proximity to water, but not normally involving contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
- Warm Freshwater Habitat (WARM) – Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
- Wildlife Habitat (WILD) – Uses of water that support terrestrial ecosystems including, but not limited to, the preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.
- Preservation of Rare, Threatened, or Endangered Species (RARE) – Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered.

Table 3.10-1. Beneficial Uses of Receiving Waters

Beneficial Uses	Imperial Valley Drains	Salton Sea
AQUA	--	X
FRSH	X	--
IND	--	P
REC I	X	X
REC II	X	X

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Table 3.10-1. Beneficial Uses of Receiving Waters

Beneficial Uses	Imperial Valley Drains	Salton Sea
WARM	X	X
WILD	X	X
RARE	X	X

Source: SWRCB 2019

AQUA=aquaculture; FRSH=freshwater replenishment; IND=industrial service supply; P=Potential Uses; RARE=Preservation of Rare, Threatened, or Endangered Species; REC 1= water contact recreation; REC II=non-contact water recreation; WARM=Warm Freshwater Habitat; WILD=Wildlife Habitat; X=existing beneficial uses

National Pollution Discharge Elimination System General Industrial and Construction Permits

The NPDES General Industrial Permit requirements apply to the discharge of stormwater associated with industrial sites. The permit requires implementation of management measures that will achieve the performance standard of the best available technology economically achievable and best conventional pollutant control technology. Under the statute, operators of new facilities must implement industrial BMPs in the projects' SWPPP and perform monitoring of stormwater discharges and unauthorized non-stormwater discharges.

Construction activities are regulated under the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit), which covers stormwater runoff requirements for projects where the total amount of ground disturbance during construction exceeds 1 acre. Coverage under a General Construction Permit requires the preparation of an SWPPP and submittal of a Notice of Intent (NOI) to comply with the General Construction Permit. The SWPPP includes a description of BMPs to minimize the discharge of pollutants from the sites during construction. Typical BMPs include temporary soil stabilization measures (e.g., mulching and seeding), storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or storm water, and using filtering mechanisms at drop inlets to prevent contaminants from entering storm drains. Typical post-construction management practices include street sweeping and cleaning stormwater drain inlet structures. The NOI includes site-specific information and the certification of compliance with the terms of the General Construction Permit.

Local

County of Imperial General Plan

The Water Element and the Conservation and Open Space Element of the General Plan contain policies and programs, created to ensure water resources are preserved and protected. Table 3.10-2 identifies the General Plan policies and programs for water quality and flood hazards that are relevant to the project and summarizes the project's consistency with the General Plan. While this EIR analyzes the project's consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

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Table 3.10-2. Project Consistency with Applicable General Plan Policies

General Plan Policies	Consistency with General Plan	Analysis
Conservation and Open Space Element		
Goal 6: The County will conserve, protect, and enhance water resources in the County.	Consistent	The proposed projects would protect water quality during construction through compliance with Imperial County design and detention requirements and the NPDES General Construction Permit, as well as preparation and implementation of project-specific SWPPPs, which will incorporate the requirements referenced in the State Regulatory Framework, design features, and BMPs.
Objective 6.3: Protect and improve water quality and quantity for all water bodies in Imperial County.	Consistent	The proposed projects would protect water quality during construction through compliance with the NPDES General Construction Permit, SWPPP, and BMPs. Implementation of Mitigation Measure HYD-2 would require the project to incorporate post-construction BMPs into the proposed projects' drainage plans. The proposed projects will be designed to include site design, source control, and treatment control BMPs. The use of source control, site design, and treatment BMPs would result in a decrease potential for storm water pollution.
Program: Structural development normally shall be prohibited in the designated floodways. Only structures which comply with specific development standards should be permitted in the floodplain.	Consistent	The proposed projects do not contain a residential component, nor would it place housing or other structures within a 100-year flood hazard area.
Water Element		
Policy: Adoption and implementation of ordinances, policies, and guidelines which assure the safety of County ground and surface waters from toxic or hazardous materials and/or wastes.	Consistent	The projects would preserve ground and surface water quality from hazardous materials and wastes during construction, operation, and decommissioning activities. The proposed projects would protect water quality during construction through compliance with NPDES General Construction Permit SWPPP, which will incorporate the requirements referenced in the State Regulatory Framework and BMPs. Implementation of Mitigation Measure HYD-2 would require the projects to incorporate post-construction BMPs into the projects' drainage plan. The proposed projects will be designed to include site design, source control, and treatment control BMPs. The use of source control, site design, and treatment BMPs would result in a decrease potential for storm water pollution. It is anticipated that decommissioning activities would be subject to similar or more stringent ground and surface water regulations than those currently required.

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Table 3.10-2. Project Consistency with Applicable General Plan Policies

General Plan Policies	Consistency with General Plan	Analysis
Program: The County of Imperial shall make every reasonable effort to limit or preclude the contamination or degradation of all groundwater and surface water resources in the County.	Consistent	Mitigation measures will require that the applicant of the proposed projects prepare a site-specific drainage plan and water quality management plan to minimize adverse effects to local water resources.
Program: All development proposals brought before the County of Imperial shall be reviewed for potential adverse effects on water quality and quantity and shall be required to implement appropriate mitigation measures for any significant impacts.	Consistent	See response for Water Element Policy above.

Source: County of Imperial 2016; County of Imperial 1997b

County of Imperial Land Use Ordinance, Title 9

Division 16 of the Land Use Ordinance addresses the Flood Damage Prevention Regulation. The purpose of this division is to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provision of design to protect human life and minimize damage. Division 16 of the Land Use Ordinance requires an application for development in the floodplain to be submitted to the County's Floodplain Administrator. This division restricts floodplain uses; requires that floodplain uses be protected against flood damage; controls alteration of floodplains and stream channels; controls filling and grading in floodplains; and prevents diversion of flood flows where these would increase flood hazards in other areas.

Division 22 of the Land Use Ordinance addresses groundwater. The focus of this division is to preserve, protect, and manage the groundwater within the County.

In 1998, the County adopted a comprehensive Groundwater Management Ordinance for the express purpose of preserving and managing groundwater resources within the County (Chapter 1 of Title 9). The Groundwater Management Ordinance is implemented by the Planning Commission acting upon the direction of the Board of Supervisors.

The Commission, charged by the Board of Supervisors with the regulation of groundwater, can request preparation of an annual report on groundwater supplies and conditions, determine the need for and recommend groundwater management activities (see Section 92202.00), recommend groundwater extraction standards and charges, and establish standards for artificial recharge, among other things. The Groundwater Ordinance provides the County with various regulatory tools that are designed to avoid or minimize the impact of existing and proposed groundwater extraction activities on groundwater resources and other users. For example, Section 92201.13 provides a remedy for water users who are aggrieved by well interference (defined as a substantial water level decline in a short time period in a localized area caused by extraction) or other impairment or infringement of the groundwater use caused by the extraction activities of another party. In such cases, the Commission may issue any order that it determines necessary to provide the petitioning water user with an adequate remedy. The Groundwater Ordinance also requires that existing extraction facilities be registered with the County.

The County's Ordinance Code provides specific direction for the protection of water resources. Applicable ordinance requirements are contained in Division 10, Building, Sewer and Grading Regulations, and summarized below.

Chapter 10 – Grading Regulations. Section 91010.02 of the Ordinance Code outlines conditions required for issuance of a Grading Permit. These specific conditions include:

1. If the proposed grading, excavation, or earthwork construction is of irrigatable land, said grading will not cause said land to be unfit for agricultural use.
2. The depth of the grading, excavation or earthwork construction will not preclude the use of drain tiles in irrigated lands.
3. The grading, excavation or earthwork construction will not extend below the water table of the immediate area.
4. Where the transition between the grading plane and adjacent ground has a slope less than the ratio of 1.5 feet on the horizontal plane to 1 foot on the vertical plane, the plans and specifications will provide for adequate safety precautions.

Imperial County Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage and Grading Plans within Imperial County

Based on the guidance contained in the County's *Engineering Guidelines Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage and Grading Plans within Imperial County* (2008), the following drainage requirements would be applicable to the proposed projects.

III A. GENERAL REQUIREMENTS

1. All drainage design and requirements are recommended to be in accordance with the IID "Draft" Hydrology Manual or other recognized source with approval by the County Engineer and based on full development of upstream tributary basins. Another source is the Caltrans I-D-F curves for the Imperial Valley.
3. Permanent drainage facilities and ROW, including access, shall be provided from development to point of satisfactory disposal.
4. Retention volume on retention or detention basins should have a total volume capacity for a three (3) inch minimum precipitation covering the entire site with no C reduction factors. Volume can be considered by a combination of basin size and volume considered within parking and/or landscaping areas.

   There is no guarantee that a detention basin outletting to an IID facility or other storm drain system will not back up should the facility be full and unable to accept the project runoff. This provides the safety factor from flooding by ensuring each development can handle a minimum 3-inch precipitation over the project site.
7. Finish pad elevations should be indicated on the plans, which are at or above the 100-year frequency flood elevation identified by the engineer for the parcel. Finish floor elevations should be set at least 6 inches above the 100-year flood elevation.
8. The developer shall submit a drainage study and specifications for improvements of all drainage easements, culverts, drainage structures, and drainage channels to the Department of Public Works for approval. Unless specifically waived herein, required plans and specifications shall provide a drainage system capable of handling and disposing of all surface

waters originating within the subdivision and all surface waters that may flow onto the subdivision from adjacent lands. Said drainage system shall include any easements and structures required by the Department of Public Works or the affected Utility Agency to properly handle the drainage on-site and off-site. The report should detail any vegetation and trash/debris removal, as well as address any standing water.

9. Hydrology and hydraulic calculations for determining the storm system design shall be provided to the satisfaction of the Director, Department of Public Works. When appropriate, water surface profiles and adequate field survey cross-section data may also be required.

11. The County is implementing a storm water quality program as required by the SWRCB, which may modify or add to the requirements and guidelines presented elsewhere in this document. This can include ongoing monitoring of water quality of storm drain runoff, implementation of BMPs to reduce storm water quality impacts downstream or along adjacent properties. Attention is directed to the need to reduce any potential of vectors, mosquitoes, or standing water.

12. A Drainage Report is required for all developments in the County. It shall include a project description, project setting including discussions of existing and proposed conditions, any drainage issues related to the site, summary of the findings or conclusions, off-site hydrology, onsite hydrology, hydraulic calculations, and a hydrology map.

Imperial Irrigation District

The IID is an irrigation district organized under the California Irrigation District Law, codified in Section 20500 et seq. of the California Water Code. Critical functions of IID include diversion and delivery of Colorado River water to the Imperial Valley, operation and maintenance of the drainage canals and facilities, including those in the project area, and generation and distribution of electricity. Several policy documents govern IID operations and are summarized below:

- The Law of the River and historical Colorado River decisions, agreements, and contracts
- The Quantification Settlement Agreement and Transfer Agreements
- The Definite Plan, now referred to as the Systems Conservation Plan, which defines the rigorous agricultural water conservation practices being implemented by growers and IID to meet the Quantification Settlement Agreement commitments
- The Equitable Distribution Plan, which defines how IID will prevent overruns and stay within the cap on the Colorado River water rights
- Existing IID standards and guidelines for evaluation of new development and define IID's role as a responsible agency and wholesaler of water

Integrated Water Resources Management Plan

In relation to the project, IID maintains regulation over the drainage of water into their drains, including the design requirements of storm water retention basins. IID requires that retention basins be sized to handle an entire rainfall event in case the IID system is at capacity. Additionally, IID requires that outlets to IID facilities be no larger than 12 inches in diameter and must contain a backflow prevention device (IID 2009).

3.10.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to hydrology/water quality are considered significant if any of the following occur:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade groundwater water quality.
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
  - Result in substantial erosion or siltation on or off site.
  - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site.
  - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
  - Impede or redirect flood flows.
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Methodology

The drainage design will be conducted in accordance with the County of Imperial's design criteria, which establishes that 100 percent of the 100-year storm (3 inches of rain) will be stored on site and released into the IID drainage system using existing drainage connections.

Impact Analysis – Solar Energy Facility and Gen-Tie

Impact 3.10-1 Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade groundwater water quality?

Construction

Construction of the proposed projects would include site preparation, foundation construction, erection of major equipment and structures, installation of electrical systems, control systems, and startup/ testing. In addition, the construction of transmission lines, utility pole pads, conductors, and associated structures will be required.

During the construction phase, sedimentation and erosion can occur because of tracking from earthmoving equipment, erosion and subsequent runoff of soil, or improperly designed. The utilization of proper erosion and sediment control BMPs is critical in preventing discharge to surface waters/ drains. The proposed projects would employ proper SWPPP practices to minimize any discharges in

order to meet the Best Available Technology/Best Conventional Technology standard set forth in the Construction General Permit.

The projects have the potential to affect surface water quality. Many different types of hazardous compounds will also be used during the construction phase, with proper application, management, and containment being of high importance. Poorly managed construction materials can lead to the possibility for exposure of potential contaminants to precipitation. When this occurs, these visible and/or non-visible constituents become entrained in storm water runoff. If they are not intercepted or are left uncontrolled, the polluted runoff would otherwise freely sheet flow from the project sites to the IID Imperial Valley Drains and could result in the accumulation of these pollutants in the receiving waters. This potential impact is considered a significant impact. With the implementation of Mitigation Measure HYD-1, impacts on surface water quality as attributable to the projects would be reduced to a level less than significant.

Prior to construction and grading activities, the project applicant is required to file an NOI with the SWRCB to comply with the General NPDES Construction Permit and prepare an SWPPP, which addresses the measures that would be included during construction of the projects to minimize and control construction and post-construction runoff to the “maximum extent practicable.” In addition, NPDES permits require the implementation of BMPs that achieve a level of pollution control to the maximum extent practical. With the implementation of Mitigation Measure HYD-1, impacts on surface water quality as attributable to the projects would be reduced to a level less than significant through the inclusion of focused BMPs for the protection of surface water resources. Monitoring and contingency response measures would be included to verify compliance with water quality objectives for all surface waters crossed during construction. In addition, given that site decommissioning would result in similar activities as identified for construction, these impacts could also occur in the future during site restoration activities. This is considered a less than significant impact after mitigation has been incorporated.

Operation

As runoff flows over-developed surfaces, water can entrain a variety of potential pollutants including, but not limited to, oil and grease, pesticides, trace metals, and nutrients. These pollutants can become suspended in runoff and carried to receiving waters. As mentioned in Section 3.10.1, these effects are commonly referred to as non-point source water quality impacts.

Long-term operation of the solar facility poses a limited threat to surface water quality after the completion of construction. The projects would be subject to the County’s Grading Regulations as specified in Section 91010.02 of the Ordinance Code. However, since the project sites are located in unincorporated Imperial County and not subject to a Municipal Separate Storm Sewer System or NPDES General Industrial Permit, there is no regulatory mechanism in place to address post-construction water quality concerns. Based on this consideration, the projects have the potential to result in both direct and indirect water quality impacts that could be significant. Implementation of Mitigation Measure HYD-2 would require the projects to incorporate post-construction source control and treatment control BMPs into the projects’ final drainage plans. Implementation of the project-specific source control and treatment BMPs into the final drainage plans would result in a decreased potential for storm water pollution.

While source control and treatment control BMPs would be finalized during preparation of the final drainage plans, the following are examples of BMPs that could be utilized to reduce the potential for storm water pollution.

Source Control BMPs. Source control BMPs (both structural and non-structural) means land use or site planning practices, or structures that aim to prevent urban runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff. Table 3.10-3 identifies examples of source control BMPs that could be implemented into the proposed projects.

Table 3.10-3. Source Control Best Management Practices

Design Concept		Description
1	Design Trash Storage Areas to Reduce Pollution Introduction	Design outdoor trash storage areas so that run-on from adjoining areas cannot enter. Screen or wall trash enclosures to prevent the off-site transport of trash.
2	Activity Restrictions	Restrict activities that have the potential to create adverse impacts on water quality.
3	Non-storm Water Discharges	Provide educational materials on illegal dumping and spill response to employees.
4	Outdoor Loading and Unloading	Handle materials in a manner that prevents any storm water pollution.
5	Spill Prevention, Control, and Cleanup	Require a Spill Prevention, Control, and Countermeasure Plan, and a Hazardous Materials Business Plan in accordance with Federal and State requirements.
6	Education	Provide employees with materials for storm water pollution prevention in the form of brochures and other information in a format approved by the County of Imperial.
7	Integrated Pest Management	Reduce the need for pesticide use on site by: • Keeping pests out of buildings using barriers, screens, and caulking • Eliminating pests through squashing, trapping, washing or pruning • Relying on natural enemies to eat pests • Using pesticides correctly as a last line of defense
8	Vehicle and Equipment Fueling, Cleaning, and Repair	Service all vehicles off site whenever possible. If servicing is required on site, it must be conducted in an area isolated from storm drain inlets or drainage ditch inlets. The area must be bermed and precluded from run-on. Any spillage must be fully contained and captured and disposed of per County of Imperial Hazardous Waste requirements.
9	Waste Handling and Disposal	Dispose of materials in accordance with Imperial County Hazardous Material Management guidelines. Under no circumstances shall any waste or hazardous materials be stored outside without secondary containment.

Treatment Control BMPs. Treatment control BMPs include both short-term and long-term drainage solutions to ensure the proper sequencing of drainage facilities and treatment of runoff generated from project impervious surfaces prior to off-site discharge.

Mitigation Measure(s)

HYD-1 **Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration.** The project applicant or its contractor shall prepare an SWPPP specific to the projects and be responsible for securing coverage under SWRCB's NPDES storm water permit for general construction activity (Order 2009-0009-DWQ). The

SWPPP shall identify specific actions and BMPs relating to the prevention of storm water pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the appropriate agency prior to commencement of work and shall be made conditions of the contract with the contractor selected to build and decommission the projects. The SWPPP shall incorporate control measures in the following categories:

- Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching)
- Sediment control practices (e.g., temporary sediment basins, fiber rolls)
- Temporary and post-construction on- and off-site runoff controls
- Special considerations and BMPs for water crossings and drainages
- Monitoring protocols for discharge(s) and receiving waters, with emphasis place on the following water quality objectives: dissolved oxygen, floating material, oil and grease, potential of hydrogen (pH), and turbidity
- Waste management, handling, and disposal control practices
- Corrective action and spill contingency measures
- Agency and responsible party contact information
- Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP

The SWPPP shall be prepared by a Qualified SWPPP Practitioner and/or Qualified SWPPP Developer with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. BMPs for soil stabilization and erosion control practices and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure.

HYD-2 **Incorporate Post-Construction Runoff BMPs into Project Drainage Plan.** The project Drainage Plan shall adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of storm water to existing drainage systems. Infiltration basins will be integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary.

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Significance after Mitigation

With the implementation of Mitigation Measure HYD-1, impacts related to surface water quality as attributable to the proposed projects would be reduced to a less than significant level through the inclusion of focused BMPs for the protection of surface water resources. Monitoring and contingency response measures would be included to verify compliance with water quality objectives for all surface waters crossed during construction.

With the implementation of Mitigation Measure HYD-2, potential water quality impacts resulting from post-construction discharges during operation for the proposed projects would be reduced to a less than significant level. Implementation of Mitigation Measure HYD-2 would require the proposed projects to incorporate post-construction BMPs into the respective drainage plans of the proposed projects. The use of source control and treatment BMPs would result in a decrease potential for storm water pollution.

Impact 3.10-2 ***Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?***

Water for construction, primarily for dust control, and water for washing the PV modules during operation of the proposed project would be obtained from the proposed groundwater supply wells. As described in Chapter 2 Project Description, there are no public water systems that will serve the projects. The water supply will be provided by new onsite groundwater supply wells to be drilled and installed as part of the projects. As described in Chapter 2, Project Description, the construction of a groundwater well requires approval of a CUP. Approval of the CUP would be contingent upon the availability of groundwater to serve the projects and ability to recharge the aquifer so that groundwater supplies are not substantially decreased by the proposed project. As described in Section 3.15, Utilities and Service Systems, adequate groundwater resources are available to serve the projects.

Further, groundwater recharge in the area would not be significantly affected because the majority of the project sites will feature a pervious landscape in both the existing and proposed conditions. Any runoff from solar panel washing would evaporate or percolate through the ground, as a majority of the surfaces in the solar fields would remain pervious. Retention basins will also provide infiltration and groundwater recharge. The proposed projects would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the projects may impede sustainable groundwater management of the basin. No significant impacts on groundwater supply or recharge would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.10-3 ***Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:***

Result in substantial erosion or siltation on or off site?

Construction

Project construction activities, specifically grading and excavation, have the potential to temporarily alter the existing drainage pattern of the sites such that soil erosion occurs. However, to the extent feasible, site preparation would be planned and designed to minimize the amount of earth movement. Compaction of the soil to support building and traffic loads as well as the PV module supports may be required and is dependent on final engineering design. During construction, erosion would be controlled in accordance with County standards which include preparation, review, and approval of a grading plan by the County Engineer; implementation of a Dust Control Plan (Rule 801); and compliance with the NPDES General Construction Permit. Additionally, with implementation of Mitigation Measure HYD-1, which requires the preparation of a project-specific SWPPP and construction BMPs, project construction would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial on- or off-site erosion or siltation. This is considered a less than significant impact after mitigation has been incorporated.

Operation

After construction is complete, all existing roads would be left in a condition equal to or better than their pre-construction condition. All other areas disturbed by construction activities would be recontoured and decompacted. As such, daily operations and routine maintenance (such as occasional PV panel washing) are not anticipated to alter the existing drainage pattern such that erosion increases when compared to existing conditions. The project sites would remain largely pervious over the operational life of the projects. Additionally, the projects would implement site design BMPs, as outlined in Table 3.10-3, which would reduce soil disturbance during operation. The proposed projects would result in less than significant impacts associated with the alteration of drainage patterns resulting in substantial erosion or siltation on or off site.

Mitigation Measure(s)

No mitigation measures beyond Mitigation Measure HYD-1 are required.

Significance after Mitigation

With the implementation of Mitigation Measure HYD-1, potential impacts associated with the alteration of drainage patterns resulting in substantial erosion or siltation on or off site would be reduced to a level less than significant through compliance with County standards, implementation of a Dust Control Plan (Rule 801), and compliance with the NPDES General Construction Permit and project-specific SWPPP.

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Impact 3.10-4 ***Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:***

Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site?

Construction

Implementation of the projects would not substantially alter the existing drainage pattern of the sites or area. The majority of the project sites would continue to sheet flow through the pervious native soils. The projects will be designed to meet County of Imperial storage requirements (100 percent of the 100-year storm (3 inches of rain)) (refer to the County's *Engineering Guidelines Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage and Grading Plans within Imperial County* (2008)) for storm water runoff, which will result in an impoundment of runoff in excess of the anticipated volume of runoff to be generated by the 100-year storm event. Additionally, implementation of Mitigation Measure HYD-2 requires that the projects' Drainage Plans adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of storm water to existing drainage systems. As such, infiltration basins will be integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary.

Operation

Additionally, after construction is complete, all existing roads would be left in a condition equal to or better than their pre-construction condition. All other areas disturbed by construction activities would be recontoured and decompacted. As such, daily operations and routine maintenance (such as occasional PV panel washing) are not anticipated to alter the existing drainage pattern such that flooding (on or off site) increases when compared to existing conditions. Lastly, the project sites would remain largely pervious over the operational life of the project. Therefore, the proposed projects would result in no significant impacts associated with the alteration of drainage patterns resulting in on- or off-site flooding.

Mitigation Measure(s)

No mitigation measures beyond Mitigation Measure HYD-2 are required.

Significance after Mitigation

With the implementation of Mitigation Measure HYD-2, impacts on existing drainage patterns as a result of potentially substantial increases to runoff would be reduced to a level less than significant. Implementation of Mitigation Measure HYD-2 would require the projects' Drainage Plans to adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of stormwater to existing drainage systems.

Impact 3.10-5 ***Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:***

Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

Construction

Implementation of the proposed projects would not substantially alter the existing drainage pattern of the sites or area. During construction, erosion and associated pollutants would be controlled in accordance with County standards, which include preparation, review, and approval of a grading plan by the County Engineer; implementation of a Dust Control Plan (Rule 801); and compliance with the NPDES General Construction Permit and project-specific SWPPP, as outlined in Mitigation Measure HYD-1 (see Impact 3.10-1 for additional details).

Operation

After construction is complete, all existing roads would be left in a condition equal to or better than their pre-construction condition. All other areas disturbed by construction activities would be recontoured and decompacted. The proposed projects are not anticipated to generate a significant increase in the amount of runoff water when compared to existing conditions. As such, daily operations and routine maintenance (such as occasional PV panel washing) are not anticipated to alter the existing drainage pattern such that runoff increases would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. The project sites would remain largely pervious over the operational life of the projects. Water will continue to percolate through the ground, as a majority of the surfaces on the project sites will remain pervious. The proposed projects would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. This is considered a less than significant impact.

Mitigation Measure(s)

No mitigation measures beyond Mitigation Measure HYD-1 are required.

Significance after Mitigation

With the implementation of Mitigation Measure HYD-1, impacts on the existing drainage pattern by the projects that could result in substantial or polluted runoff would be reduced to a level less than significant through compliance with County standards, implementation of a Dust Control Plan (Rule 801), and compliance with the NPDES General Construction Permit and project-specific SWPPP.

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Impact 3.10-6 ***Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:***

Impede or redirect flood flows?

As shown in Figure 3.10-1, there are dry (ephemeral) wash beds that transect the VEGA 2 and 3 Project sites (northwest corner of APN 025-010-006, northwest and southern portions of APN 025-270-023), and the VEGA SES 5 Project site. These areas are designated as Zone A or Special Flood Hazard Areas and are subject to flash flooding.

The proposed projects would be designed to comply with the *County of Imperial Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvements, Drainage and Grading Plans within Imperial County* (2008). The proposed retention basins would be sized to capture storm water runoff as if none of it would penetrate into the ground. The County requirement to provide 3 inches of detention per tributary acre would be met and detained runoff would infiltrate the underlying soil.

Any improvements within the Flood Zone A would be designed to comply with the County of Imperial Flood Zone Ordinances and guidelines. Section 91603.01 of Division 16 of Title 9 of the Imperial County Land Use Code designates any lands so identified by the FEMA on the Imperial County Flood Insurance Rate Maps, and any area of land located around the Salton Sea and lying at or below the -220-foot elevation contour, to be areas of special flood hazard. No portion of the project sites lie at or below the -220-foot elevation contour. Section 91604.00 states that “A Development Permit shall be obtained before construction or development begins within any area of special flood hazards or areas of mudslide (i.e., mudflow) established in Section 91603.01.” The project sites are not located in an area subject to mudflow.

Based on the proposed drainage described above, and the projects’ mandatory compliance with regulations regarding hydrology and drainage at the project sites, implementation of the proposed projects would not have a substantial impact on the hydrology of the surrounding area. Peak flow runoff from the project sites would be directed to and infiltrated in designated retention basins and/or percolate into the ground, such that there would be no increase in on-site or off-site flooding potential. Therefore, on- and off-site drainage and flooding impacts would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.10-7 ***In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?***

The project sites are not located near any large bodies of water. The Salton Sea is located approximately 10 miles west of the project sites. Because of the distance, the Salton Sea does not pose a particularly significant danger of inundation from seiche or tsunami as related to the project sites. Furthermore, the project sites are over 100 miles inland from the Pacific Ocean. In addition, the project sites are relatively flat. Therefore, there is no potential for the project sites to be inundated by seiches or tsunamis.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.10-8 Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

As described under Impact 3.10-1 above, with the implementation of Mitigation Measure HYD-1, impacts on surface water quality as attributable to the proposed projects would be reduced to a less than significant level through the inclusion of focused BMPs for the protection of surface water resources. Implementation of Mitigation Measure HYD-2 would require the proposed projects to incorporate post-construction BMPs into their respective drainage plans. The use of source control and treatment BMPs would result in a decrease potential for storm water pollution. Therefore, the proposed projects would not pose a significant threat to local surface water features or shallow groundwater resources. Implementation of Mitigation Measures HYD-1 and HYD-2 would reduce impacts to a level less than significant.

Mitigation Measure(s)

No additional mitigation measures beyond Mitigation Measures HYD-1 and HYD-2 are required.

Significance after Mitigation

With the implementation of Mitigation Measures HYD-1 and HYD-2, the potential water quality impacts resulting during construction and operation of the proposed projects would be reduced to a level less than significant.

3.10.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Decommissioning and restoration activities would result in similar impacts on hydrology and water quality as would occur during construction of the proposed projects. The primary water quality issue associated with decommissioning/restoration would be potential impacts on surface water quality, as the decommissioning activities would be similar to construction activities and would be considered a significant impact. However, during decommissioning, soil erosion would be controlled in accordance with NPDES General Construction Permit(s) and project-specific SWPPP. Compliance with requirements and best available control technologies in place at the time of decommissioning are anticipated to be similar to, or more stringent than, those currently required. Compliance with all applicable water quality regulations would reduce the projects' impacts during decommissioning to a level less than significant. Impacts on other water resource issues, including alteration of drainage patterns, contributing to off-site flooding, impacts on groundwater recharge and supply, would be less than significant. There would be no impact associated with inundation from flooding or mudflows.

Residual

With implementation of the mitigation measures listed above, implementation of the proposed projects would not result in any residual significant impacts related to increased risk of flooding from stormwater runoff, from water quality effects from long-term urban runoff, or from short-term alteration of drainages and associated surface water quality and sedimentation. With the implementation of the required mitigation measures during construction and decommissioning of the projects, water quality impacts

would be minimized to a less than significant level. Based on these circumstances, the proposed projects would not result in any residential significant and unmitigable adverse impacts on surface water hydrology and water quality.

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3.11 Land Use Planning

This section provides information regarding current land use, land use designations, and land use policies within, and in the vicinity of, the project sites. Section 15125(d) of the CEQA Guidelines states that "[t]he EIR shall discuss any inconsistencies between the project and applicable general plans and regional plans." This section fulfills this requirement for the project. In this context, this section reviews the land use assumptions, designations, and policies of the County General Plan and other applicable federal, state, and local requirements, which governs land use within the project area and evaluates the projects' potential to conflict and/or adherence with policies adopted for the purpose of avoiding or mitigating significant environmental effects. Where appropriate, mitigation is applied and the resulting level of impact identified.

3.11.1 Existing Conditions

The project sites are located on approximately 1,963 acres of privately-owned land zoned for agricultural and open space/preservation uses within unincorporated Imperial County. The VEGA SES 2 and 3 and a portion of the VEGA SES 5 project sites east of the East Highline Canal are not currently under cultivation and contain scattered desert vegetation. Meanwhile, the VEGA SES 5 project site west of the East Highline Canal contains fallow agricultural land.

Three separate Conditional Use Permits (CUPs) have been filed with the County for the construction and operation of the solar facilities, which together define the project sites. The three CUP applications or individual site locations consist of the following:

- CUP 20-0021: VEGA SES 2
- CUP 20-0022: VEGA SES 3
- CUP 20-0023: VEGA SES 5

Table 3.11-1 identifies the individual assessor parcel numbers (APN) associated with the VEGA SES 2, 3, and 5 project sites with their respective acreage, General Plan land use designation, and zoning.

Table 3.11-1.Solar Energy Facility Site Assessor Parcel Numbers, Acreages, and Zoning

Project	APN	Acreage	General Plan Land Use	Zoning
VEGA SES 2 (CUP 20-0021)	025-010-006 (partial)	410	Recreation	S-2-RE
	025-260-011 (partial)	288	Recreation	S-2-RE
	025-270-023	625	Recreation	S-2-RE
	Subtotal	***1,323***	**--**	**--**
VEGA SES 3 (CUP 20-0022)	025-010-006 (partial)	230	Recreation	S-2-RE
	Subtotal	***230***	**--**	**--**
VEGA SES 5	025-260-011 (partial)	160	Recreation	S-2-RE

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Table 3.11-1.Solar Energy Facility Site Assessor Parcel Numbers, Acreages, and Zoning

Project	APN	Acreage	General Plan Land Use	Zoning
(CUP 20-0023)	025-260-019	90	Agriculture	S-2-RE
	025-260-022	160	Recreation and Agriculture	A-2-RE, A-3-RE, S-2-RE
	Subtotal	***410***	**--**	**--**
Total Gross Acres		**1,963**	**--**	**--**

Notes:
APN = assessor parcel number; A-2-RE = General Agriculture with a Renewable Energy Zone Overlay A-3-RE = Heavy Agriculture with a Renewable Energy Zone Overlay; S-2-RE = Open Space/Preservation with a Renewable Energy Zone Overlay

VEGA SES 2

The VEGA SES 2 project site is located on three non-contiguous parcels (APNs 025-010-006 [partial], 025-260-011 [partial], and 025-270-023). The northernmost parcel, APN 025-010-006, comprises 640 acres. The VEGA SES 2 project site is located on the southern 410 acres of the 640-acre parcel. This parcel is approximately 2.31 miles northeast of the East Highline Canal Road/Wiest Road/Flowing Wells Road intersection. This parcel is transected by Coachella Canal Road (intersected by Flowing Wells Road approximately halfway through the parcel) and the Coachella Canal, which runs southeast parallel to the roadway.

The southwestern parcel, APN 025-260-011, encompasses approximately 488 acres. The VEGA SES 2 project is located on the northern 288 acres of the 488-acre parcel.

The southeastern parcel, APN 025-270-023, encompasses approximately 625 acres and is adjacent to the southeast corner of APN 025-010-006. An approximately 934-foot segment of the Coachella Canal traverses the southwestern corner of the parcel. This parcel is transected by Niland Pegleg Well Road and Ted Kipf Road in the northern half of the parcel.

As shown in Figure 3.11-1, the VEGA SES 2 project site is designated as Recreation under the County's General Plan. As shown in Figure 3.11-2, the VEGA SES 2 project site is currently zoned Open Space/Preservation with a Renewable Energy Zone Overlay (S-2-RE).

VEGA SES 3

The VEGA SES 3 project site is located on the northern portion of APN 025-010-006, comprising the remaining 230 acres of the 640-acre parcel. The Coachella Canal runs along the western edge of the site. As shown in Figure 3.11-1, the VEGA SES 3 project site is designated as Recreation under the County's General Plan. As shown in Figure 3.11-2, the VEGA SES 3 project site is currently zoned S-2-RE.

VEGA SES 5

The VEGA SES 5 project site is located on three parcels (APNs 025-260-011 [partial], 025-260-019 and 025-260-022) encompassing approximately 410 acres. A portion of the VEGA SES 5 project site

is located on the southern 160 acres of APN 025-260-011. APN 025-260-019 is adjacent to the Union Pacific Railway and Noffsinger Road to the northeast. APN 025-260-022 is adjacent to Wiest Road to the west and MacDonald Road to the north and transected by East Highline Canal Road and the East Highline Canal.

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Figure 3.11-1. General Plan Land Use Designations

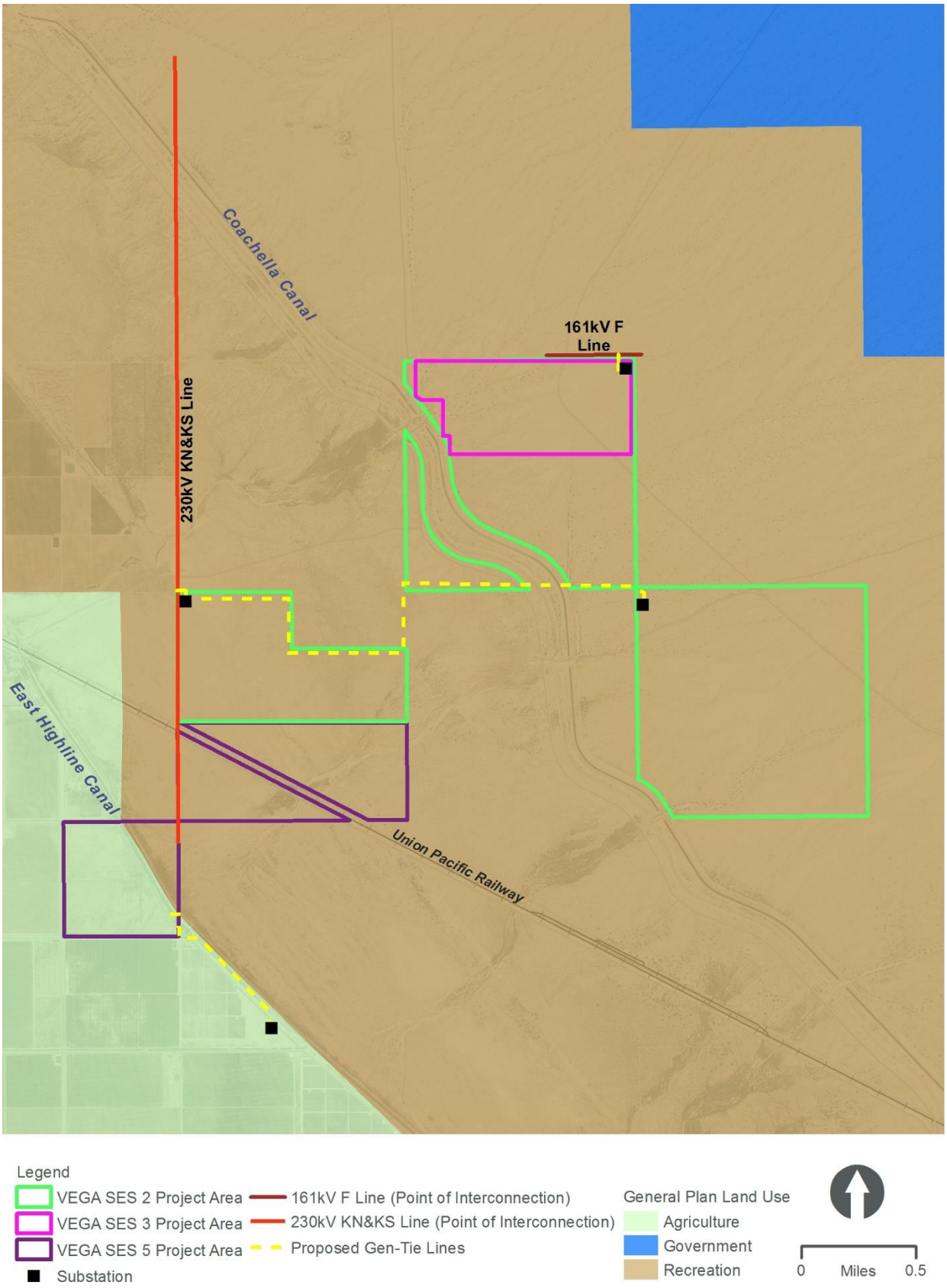

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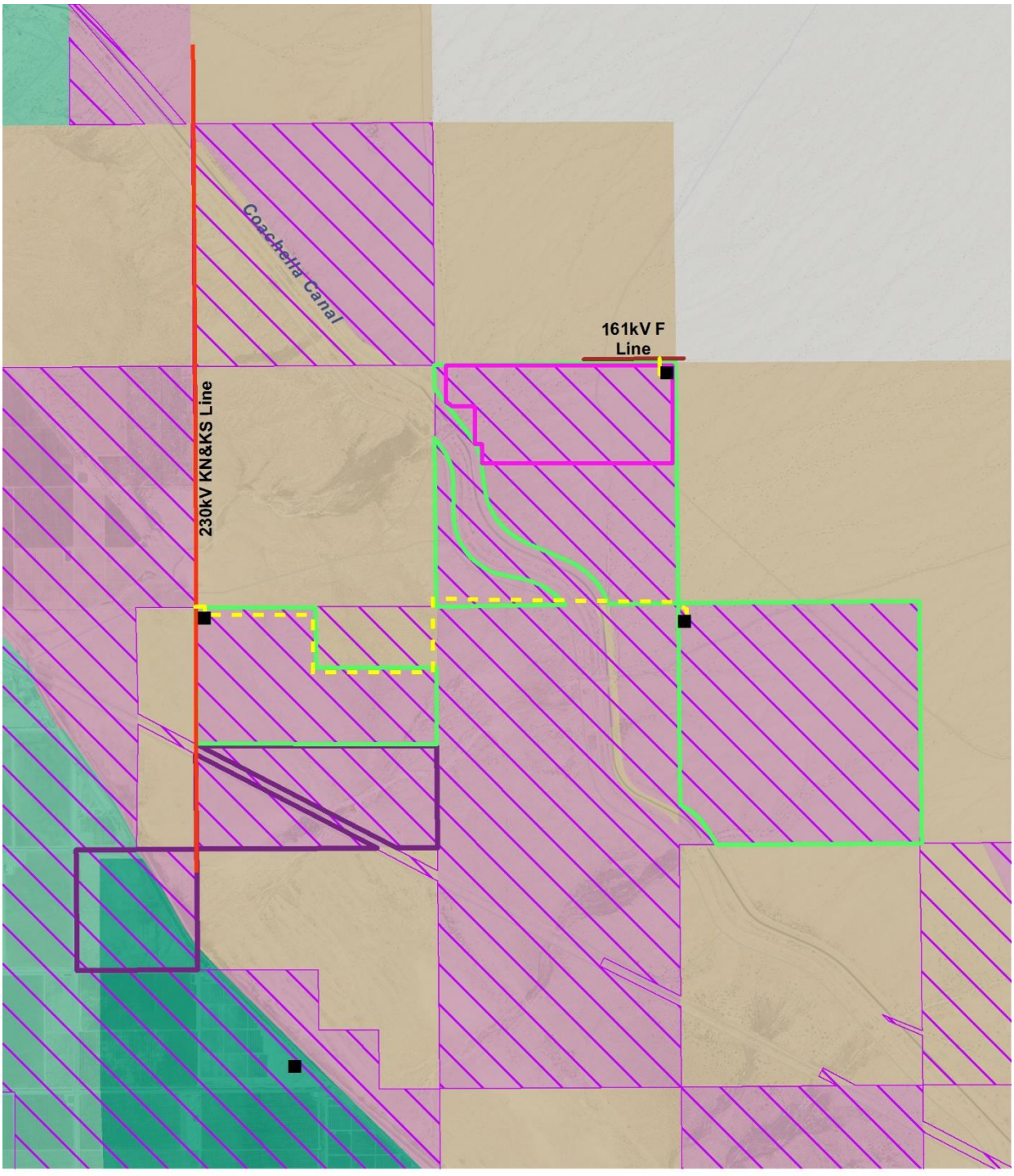
Figure 3.11-2. Zoning Designations



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As shown in Figure 3.11-1, APNs 025-260-011, 025-260-019 and the portion of APN 025-260-022 located east of the East Highline Canal are designated as Recreation under the County's General Plan. The portion of APN 025-260-022 located west of the East Highline Canal is designated as Agriculture under the County's General Plan. As shown in Figure 3.11-2, APNs 025-260-011 and 025-260-019 are currently zoned S-2-RE and APN 025-260-022 is currently zoned General Agriculture with a Renewable Energy Zone Overlay (A-2-RE), Heavy Agriculture with a Renewable Energy Zone Overlay (A-3-RE), and S-2-RE.

Renewable Energy Overlay Zone

The County adopted the RE and Transmission Element, which includes a RE Zone (RE Overlay Map). The RE Overlay Zones are designated within the RE and Transmission Element, which was adopted by the County in 2016. The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of RE facilities while minimizing the impact to other established uses. As shown on Figure 3.11-2, the project sites are located within the RE Overlay Zone.

Established Residential Communities

The project sites are located in a sparsely populated portion of Imperial County. There are no established residential communities located within or in the vicinity of the project sites. The nearest established residential community is located approximately 5.67 miles northwest of the project sites in the unincorporated community of Niland.

Nearby Airports

The nearest airport to the project sites is the Calipatria Municipal Airport, located approximately 6 miles southwest of the VEGA SES 5 project site. According to Figure 3C of the ALUCP, no portion of the project sites is located within the Calipatria Municipal Airport's land use compatibility zones (ALUC 1996).

3.11.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the projects.

Federal

Federal Land Policy and Management Act

The United States Congress passed the Federal Land Policy and Management Act (FLPMA) in 1976. Title V, "Rights-of-Way" of the FLPMA establishes public land policy, guidelines for administration, provides for management, protection, development, and enhancement of public lands, and provides the BLM authorization to grant right-of-way. Authorization of systems for generation, transmission, and distribution of electric energy is addressed in Section 501(4) of Title V. In addition, Section 503 specifically addresses "Right of Way Corridors" and requires common right-of-ways "to the extent practical". FLMPA, Title V, Section 501(a)(6) states, "The Secretary, with respect to the public lands (including public lands, as defined in section 103(e) of this Act, which are reserved from entry pursuant to section 24 of the Federal Power Act (16 U.S.C. 818)) [P.L. 102-486, 1992] and, the Secretary of Agriculture, with respect to lands within the National Forest System (except in each case land designated as wilderness), are authorized to grant, issue, or renew rights-of-way over, upon, under,

or through such lands for roads, trails, highways, railroads, canals, tunnels, tramways, airways, livestock driveways, or other means of transportation except where such facilities are constructed and maintained in connection with commercial recreation facilities on lands in the National Forest System" (BLM 2016). The proposed right-of-way requests associated with the projects are subject to review and approval by the BLM.

California Desert Conservation Area Plan

Section 601 of the FLMPA required preparation of a long-range plan for the California Desert Conservation Area (CDCA). The CDCA Plan was adopted in 1980 to provide for the use of public lands and resources of the CDCA in a manner which enhances wherever possible and, which does not diminish, on balance, the environmental, cultural, and aesthetic values of the Desert and its productivity. The CDCA Plan is a comprehensive, long-range plan covering 25 million-acres. Approximately 12 million acres of this total are public lands administered by the BLM on behalf of the CDCA. These public lands are dispersed throughout the California Desert which includes the Mojave Desert, the Sonoran Desert and a small portion of the Great Basin Desert. The 12 million acres of public lands administered by the BLM make-up approximately half of the CDCA. The CDCA is applicable to the federal (i.e., BLM) actions associated with implementation of the proposed projects (those portions of the projects not otherwise located on private lands).

State

State Planning and Zoning Laws

California Government Code Section 65300 et seq. establishes the obligation of cities and counties to adopt and implement general plans. The general plan is a comprehensive, long-term, and general document that describes plans for the physical development of a city or county and of any land outside its boundaries that, in the city's or county's judgment, bears relation to its planning.

The general plan addresses a broad range of topics, including, at a minimum, land use, circulation, housing, conservation, open space, noise, and safety. In addressing these topics, the general plan identifies the goals, objectives, policies, principles, standards, and plan proposals that support the city's or county's vision for the area. The general plan is a long-range document that typically addresses the physical character of an area over a 20-year period or more.

The State Zoning Law (California Government Code Section 65800 et seq.) establishes that zoning ordinances, which are laws that define allowable land uses within a specific zone district, are required to be consistent with the general plan and any applicable specific plans.

Regional

Southern California Association of Governments – 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal)

SCAG is the designated metropolitan planning organization for Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial Counties. CEQA requires that regional agencies like SCAG review projects and plans throughout its jurisdiction. SCAG, as the region's "Clearinghouse," collects information on projects of varying size and scope to provide a central point to monitor regional activity. SCAG has the responsibility of reviewing dozens of projects, plans, and programs every month. Projects and plans that are regionally significant must demonstrate to SCAG their consistency with a range of adopted regional plans and policies.

On September 3,2020, SCAG adopted the 2020-2045 RTP/SCS (Connect SoCal). The 2020-2045 RTP/SCS (Connect SoCal) includes a strong commitment to reduce emissions from transportation sources to comply with Senate Bill 375, improve public health, and meet the NAAQS as set forth by the federal CAA. The following goals from the 2020-2045 RTP/SCS (Connect SoCal) are considered applicable to the proposed projects:

- Goal 5: Reduce GHG emissions and improve air quality
- Goal 10: Promote conservation of natural and agricultural lands and restoration of habitats

Local

County of Imperial General Plan

The purpose of the County's General Plan (as amended through 2008) is to direct growth, particularly urban development, to areas where public infrastructure exists or can be provided, where public health and safety hazards are limited, and where impacts to the County's abundant natural, cultural, and economic resources can be avoided. The following 10 elements comprise the County's General Plan: Land Use; Housing; Circulation and Scenic Highways; Noise; Seismic and Public Safety; Conservation and Open Space; Agricultural; RE and Transmission Element; Water; and Parks and Recreation. Together, these elements satisfy the seven mandatory general plan elements as established in the California Government Code. Goals, objectives, and implementing policies and actions programs have been established for each of the elements.

Imperial County received funding from the California Energy Commission RE and Conservation Planning Grant to amend and update the County's General Plan in order to facilitate future development of RE projects. The Geothermal/Alternative Energy and Transmission Element was last updated in 2006. Since then there have been numerous renewable projects proposed, approved, and constructed within Imperial County as a result of California's move to reduce GHG emissions, develop alternative fuel sources and implement its Renewable Portfolio Standard. The County prepared an update to the Geothermal/Alternative Energy and Transmission Element of its General Plan, called the RE and Transmission Element. This Element is designed to provide guidance and approaches with respect to the future siting of RE projects and electrical transmission lines in the County. The County adopted this element in 2016, which has been amended several times to incorporate additional overlay zones.

The RE and Transmission Element includes a RE Zone (RE Overlay Map). The County Land Use Ordinance, Division 17, includes the RE Overlay Zone, which authorizes the development and operation of RE projects, with an approved CUP. The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of RE facilities while minimizing the impact to other established uses. As shown in Figure 3.11-2, the project sites are located within the RE Overlay Zone.

An analysis of the projects' consistency with the General Plan goals and objectives relevant to the projects are provided in Table 3.11-2. While this EIR analyzes the project's consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Planning Commission and Board of Supervisors retain final authority for the determination of the projects' consistency with the General Plan.

Table 3.11-2. Project Consistency with Applicable General Plan Policies

Applicable Policies	Consistency Determination	Analysis
Land Use Element		
Public Facilities. Objective 8.7: Ensure the development, improvement, timing, and location of community sewer, water, and drainage facilities will meet the needs of existing communities and new developing areas.	Consistent	The proposed projects include the necessary supporting infrastructure and would not require new community-based infrastructure. The proposed projects would be required to construct supporting drainage infrastructure on-site consistent with County requirements and mitigation measures prescribed in Section 3.10 Hydrology/Water Quality of the EIR. Once the proposed projects are operational, a limited amount of water would be required for solar panel washing and fire protection. The proposed projects would not require an operations and maintenance building. Therefore, no septic system would be required for the proposed projects.
Public Facilities. Objective 8.8: Ensure that the siting of future facilities for the transmission of electricity, gas, and telecommunications is compatible with the environment and County regulation.	Consistent	The County Land Use Ordinance, Division 17, includes the RE Overlay Zone, which authorizes the development and operation of RE projects with an approved CUP. The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of RE facilities while minimizing the impact to other established uses. The project sites are located within the RE Overlay Zone. Therefore, the proposed projects would be sited in a suitable location for the transmission of electricity.
Public Facilities. Objective 8.9: Require necessary public utility rights-of-way when appropriate.	Consistent	The proposed projects would include the dedication of ROW, if necessary, to facilitate the placement of electrical distribution and transmission infrastructure.
Protection of Environmental Resources. Objective 9.6: Incorporate the strategies of the Imperial County AQAP in land use planning decisions and as amended.	Consistent	Dust suppression will be implemented in accordance with a dust control plan approved by the ICAPCD. Section 3.4, Air Quality, discusses the projects' consistency with the AQAP in more detail.
Circulation and Scenic Highways Element		
Safe, Convenient, and Efficient Transportation System. Objective 1.1: Maintain and improve the existing road and highway network, while providing for future expansion and improvement based on travel demand and the development of alternative travel modes.	Consistent	The proposed projects would include limited operational vehicle trips and would not be expected to reduce the current LOS at affected intersections, roadway segments, and highways. The proposed projects do not propose residential or commercial development and therefore would not require new forms of alternative transportation to minimize impacts to existing roadways.

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Table 3.11-2. Project Consistency with Applicable General Plan Policies

Applicable Policies	Consistency Determination	Analysis
Safe, Convenient, and Efficient Transportation System. Objective 1.2: Require a traffic analysis for any new development which may have a significant impact on County roads.	Consistent	As described in Section 3.13, Transportation, traffic studies were prepared for the projects and determined that proposed projects would have a less than significant impact on the circulation network. Once construction is completed, the projects would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. The projects would include limited operational vehicle trips and would not reduce the current level of service at affected intersections, roadway segments, and highways.
Noise Element		
Noise Environment. Objective 1.3: Control noise levels at the source where feasible.	Consistent	As discussed in Section 3.12, Noise and Vibration, no individual or cumulative pieces of construction equipment would exceed the 75 dBA Imperial County construction noise standard during any phase of construction at the nearest noise-sensitive receptor. Project operational noise would not exceed County daytime or nighttime standards.
Project/Land Use Planning. Goal 2: Review Proposed Actions for noise impacts and require design which will provide acceptable indoor and outdoor noise environments.	Consistent	The projects would be required to comply with the County's noise standards during both construction and operation. As discussed in Section 3.12, Noise and Vibration, no individual or cumulative pieces of construction equipment would exceed the 75 dBA Imperial County construction noise standard during any phase of construction at the nearest noise-sensitive receptor. Project operational noise would not exceed County daytime or nighttime standards.
Conservation and Open Space Element		
Conservation of Environmental Resources for Future Generations Goal 1: Environmental resources shall be conserved for future generations by minimizing environmental impacts in all land use decisions and educating the public on their value.	Consistent	The project sites would be converted from vacant and fallow agricultural land to solar energy facilities. The proposed projects are a response to the state's need for renewable energy to meet its Renewable Portfolio Standard, and while it would increase the availability of renewable energy, it would also replace existing sources of non-renewable energy. The power generated by the proposed projects would be added to the state's electricity grid with the intent that it would displace fossil fueled power plants and their associated environmental impacts (i.e., air quality and GHG emissions). The proposed projects would ensure future generations have access to a broad array of renewable energy sources, providing the public with alternative choices to fossil fuels.

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Table 3.11-2. Project Consistency with Applicable General Plan Policies

Applicable Policies	Consistency Determination	Analysis
Conservation of Biological Resources. Goal 2: The County will integrate programmatic strategies for the conservation of critical habitats to manage their integrity, function, productivity, and long-term viability.	Consistent	Biological resources surveys were conducted for the project sites. As discussed in Section 3.5, Biological Resources, there are potentially significant biological resources located within the project site. However, with the implementation of Mitigation Measures BIO-1 through BIO-9 these impacts would be reduced to a level less than significant. The site is not designated or otherwise identified as critical habitat for any species.
Preservation of Cultural Resources. Objective 3.1: Protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.	Consistent	A cultural resources report was prepared for the project sites. As discussed in Section 3.6, Cultural Resources, the proposed projects have the potential to encounter undocumented archaeological resources and human remains. Mitigation Measures CR-1 through CR-5 have been identified to reduce potential impacts to a level less than significant.
Conservation of Water Resources. Objective 6.1: Ensure the use and protection of all the rivers, waterways, and groundwater sources in the County for use by future generations.	Consistent	As discussed in Section 3.10, Hydrology/Water Quality, the projects will prepare a site-specific drainage plan and water quality management plan to minimize adverse effects to local water resources.
Conservation of Energy Sources. Objective 6.2: Encourage the utilization of alternative passive and renewable energy resources.	Consistent	The proposed projects entail the construction and operation of solar energy facility, which is considered an alternative source of energy.
Conservation of Energy Sources. Objective 6.6: Encourage compatibility with National and State energy goals and city and community general plans.	Consistent	The proposed projects are consistent with California Public Utilities Code § 399.11 et seq., “Increasing the Diversity, Reliability, Public Health and Environmental Benefits of the Energy Mix.” California’s electric utility companies are required to procure 50 percent of their electricity from eligible renewable energy resources by 2030. Additionally, the proposed projects would contribute toward the state’s need for renewable energy to meet the goals of its Renewable Portfolio Standard.
Protection of Air Quality and Addressing Climate Change. Goal 7: The County shall actively seek to improve the quality of air in the region.	Consistent	The proposed projects would be required to comply with all applicable ICAPCD rules and requirements during construction and operation to reduce air emissions. Overall, the proposed projects would improve air quality and reduce GHG emissions by reducing the amount of emissions that would be generated in association with electricity production from a fossil fuel burning facility. Therefore, the proposed projects are consistent with this goal.

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Table 3.11-2. Project Consistency with Applicable General Plan Policies

Applicable Policies	Consistency Determination	Analysis
Protection of Air Quality and Addressing Climate Change. Objective 7.1: Ensure that all project and facilities comply with current Federal, State and local requirements for attainment of air quality objectives.	Consistent	The proposed projects would comply with current federal and State requirements for attainment for air quality objectives through conformance with all applicable ICAPCD rules and requirements to reduce fugitive dust and emissions. Further, the proposed project would comply with the ICAPCD Air Quality CEQA Handbook's Mandatory Standard, Discretionary and Enhanced Air Quality Measures (Mitigation Measure AQ-1). Therefore, the proposed projects are consistent with this objective.
Protection of Air Quality and Addressing Climate Change. Objective 7.2: Develop management strategies to mitigate fugitive dust. Cooperate with all federal and state agencies in the effort to attain air quality objectives.	Consistent	The Applicant would cooperate with all federal and State agencies in the effort to attain air quality objectives through compliance with the ICAPCD Air Quality CEQA Handbook's Mandatory Standard, Discretionary and Enhanced Air Quality Measures (Mitigation Measure AQ-1). Therefore, the proposed projects are consistent with this objective.
Protection of Open Space and Recreational Opportunities. Objective 8.2: Focus all new renewable energy development within adopted Renewable Energy Overlay Zones.	Consistent	The project sites are located entirely within the RE Overlay Zone.
RE and Transmission Element		
Objective 1.4: Analyze potential impacts on agricultural, natural, and cultural resources, as appropriate.	Consistent	This EIR has been prepared to meet the requirements of CEQA for purposes of evaluating the potential environmental impacts associated with the proposed projects, which includes analysis on applicable environmental topics that analyze impacts on agricultural, natural, and cultural resources.
Objective 1.5: Require appropriate mitigation and monitoring for environmental issues associated with developing RE facilities.	Consistent	Biological resources reports have been prepared for the projects, which is summarized in Section 3.5, Biological Resources, along with potential impacts attributable to the proposed projects. With incorporation of Mitigation Measures BIO-1 through BIO-9 identified in Section 3.5, Biological Resources, less than significant impacts would result.

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Table 3.11-2. Project Consistency with Applicable General Plan Policies

Applicable Policies	Consistency Determination	Analysis
Objective 1.6: Encourage the efficient use of water resources required in the operation of renewable energy generation facilities.	Consistent	As previously mentioned, water consumption during construction would be used primarily for dust control, and obtained from proposed on-site groundwater wells. As described in Chapter 2, Project Description, the construction of a groundwater well requires approval of a CUP. Approval of the CUP would be contingent upon the availability of groundwater to serve the projects and ability to recharge the aquifer so that groundwater supplies are not substantially decreased by the proposed project.
Objective 1.7: Assure that development of RE facilities and transmission lines comply with ICAPCD's regulations and mitigation measures.	Consistent	Dust suppression will be implemented including the use of water and soil binders during construction. Section 3.4, Air Quality, discusses the proposed projects' consistency with ICAPCD's regulations in more detail.
Objective 2.1: To the extent practicable, maximize utilization of IID's transmission capacity in existing easements or rights-of-way. Encourage the location of all major transmission lines within designated corridors easements, and rights-of-way.	Consistent	The proposed projects involve the construction and operation of new RE infrastructure that would interconnect with existing IID transmission infrastructure thereby maximizing the use of existing facilities located within existing easements and/or ROW. As discussed in Chapter 2, Project Description, the power produced by the proposed projects would be conveyed to the local power grid via multiple substations which would connect to IID's existing 230 kV KN/KS Line, 161 kV "F" line, and the 92kV Midway Substation.
Seismic and Public Safety Element		
Land Use Planning and Public Safety. Goal 1: Include public health and safety considerations in land use planning.	Consistent	Division 5 of the County Land Use Ordinance has established procedures and standards for development within earthquake fault zones. Per County regulations, construction of buildings intended for human occupancy which are located across the trace of an active fault are prohibited. An exception exists when such buildings located near the fault or within a designated Special Studies Zone are demonstrated through a geotechnical analysis and report not to expose a person to undue hazard created by the construction. Since the project sites are located in a seismically active area, the projects are required
Land Use Planning and Public Safety. Objective 1.1: Ensure that data on geological hazards is incorporated into the land use review process, and future development process.		
Land Use Planning and Public Safety. Objective 1.3: Regulate development adjacent to or near all mineral deposits and geothermal operations.		

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Table 3.11-2. Project Consistency with Applicable General Plan Policies

Applicable Policies	Consistency Determination	Analysis
Land Use Planning and Public Safety. Objective 1.4: Require, where possessing the authority, that avoidable seismic risks be avoided; and that measures, commensurate with risks, be taken to reduce injury, loss of life, destruction of property, and disruption of service.		to be designed in accordance with the CBC for near source factors derived from a design basis earthquake based on a peak ground acceleration of 0.50 gravity. It should be noted that, the projects would be remotely operated and would not require any habitable structures on site. In considering these factors in conjunction with mitigation requirements outlined in the impact analysis, the risks associated with seismic hazards would be minimized. A preliminary geotechnical report has been prepared for the proposed projects. The preliminary geotechnical report has been referenced in this environmental document. Additionally, a design-level geotechnical investigation would be conducted to evaluate the potential for site specific hazards associated with seismic activity.
Land Use Planning and Public Safety. Objective 1.7: Require developers to provide information related to geologic and seismic hazards when siting a proposed projects.		
Emergency Preparedness. Goal 2: Minimize potential hazards to public health, safety, and welfare and prevent the loss of life and damage to health and property resulting from both natural and human-related phenomena.		
Emergency Preparedness. Objective 2.2: Reduce risk and damage due to seismic hazards by appropriate regulation.		
Emergency Preparedness. Objective 2.5: Minimize injury, loss of life, and damage to property by implementing all state codes where applicable.		
Emergency Preparedness. Objective 2.8: Prevent and reduce death, injuries, property damage, and economic and social dislocation resulting from natural hazards including flooding, land subsidence, earthquakes, other geologic phenomena, levee or dam failure, urban and wildland fires and building collapse by appropriate planning and emergency measures.		
Water Element		
Protection of Water Resources from Hazardous Materials. Program: The County of Imperial shall make every reasonable effort to limit or preclude the contamination or degradation of all groundwater and surface water resources in the County.	Consistent	Mitigation measures will require that the applicant of the proposed projects prepare site-specific drainage plans and water quality management plans to minimize adverse effects to local water resources.

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Table 3.11-2. Project Consistency with Applicable General Plan Policies

Applicable Policies	Consistency Determination	Analysis
Protection of Water Resources from Hazardous Materials. Program: All development proposals brought before the County of Imperial shall be reviewed for potential adverse effects on water quality and quantity, and shall be required to implement appropriate mitigation measures for any significant impacts.	Consistent	See previous response.
Housing Element		
Not Applicable. The proposed projects are solar energy projects and do not include the development of housing.		

Source: County of Imperial 2008

Notes:
AQAP=air quality attainment plan; CBC=California Building Code; CUP=conditional use permit; EIR=environmental impact report; GHG=greenhouse gas; ICAPCD=Imperial County Air Pollution Control District; IID=Imperial Control District; LOS=level of service; RE=renewable energy; ROW=right-of-way

County of Imperial Land Use Ordinance

The County's Land Use Ordinance provides the physical land use planning criteria for development within the jurisdiction of the County. The Land Use Ordinance identifies the permitted and conditional uses within a zoning designation. Uses identified as conditionally permitted require a CUP, which is subject to the discretionary approval of the County Board of Supervisors per a recommendation by the County Planning Commission.

PERMITTED AND CONDITIONAL USES

A-2 Zoning. As shown in As shown in Figure 3.11-2, the western portion of the VEGA SES 5 project site (APN 025-260-022) is zoned A-2-RE. Pursuant to Title 9, Division 5, Chapter 8 of the Land Use Ordinance the purpose of the A-2 zone is to "designate areas that are suitable and intended primarily for agricultural uses (limited) and agricultural related compatible uses" (County of Imperial 2020).

According to Title 9, Division 5, Chapter 8 of the Land Use Ordinance the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

> *j) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)*
>
> *s) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *z) Electrical substations in an electrical transmission system (500 kv/230 kv/161 kv)*
>
> *bb) Facilities for the transmission of electrical energy (100-200 kv)*
>
> *ww) Resource extraction and energy development as per Division 17*
>
> *aaa) Solar energy electrical generator*

Height Limit in A-2 Zone. Section 90508.07 of the Land Use Ordinance limits the height of all non-residential structures and specifically states in Section 90508.07(c) that, "Non-Residential structures and commercial communication towers shall not exceed one hundred twenty (120) feet in height, and as may be required by the ALUC plan."

A-3 Zoning. As shown in As shown in Figure 3.11-2, the middle portion of the VEGA SES 5 project site (APN 025-260-022) is zoned A-3-RE. Pursuant to Title 9, Division 5, Chapter 9 of the Land Use Ordinance uses in the A-3 zoning designations are "limited primarily to agricultural-related uses and agricultural activities that are compatible with agricultural uses" (County of Imperial 2020).

Pursuant to Title 9, Division 5, Chapter 9, the following uses are permitted in the A-3 zone subject to approval of a CUP from Imperial County:

> *i) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)*
>
> *o) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *oo) Major facilities relating to the generation and transmission of electrical energy provided such facilities are not under State or Federal law, to be approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters, meeting the requirements in Division 17.*
>
> *zz) Solar energy plants meeting the requirements in Division 17*

Height Limit in A-3 Zone. Section 90509.07 of the Land Use Ordinance limits the height of all non-residential structures and specifically states in Section 90509.07(c) that, "Non-Residential structures and commercial communication towers shall not exceed one hundred twenty (120) feet in height, and as may be required by the ALUC plan."

S-2 Zoning. As shown in Figure 3.11-2, the VEGA SES 2 and 3 project sites are zoned S-2-RE, and the eastern portion of the VEGA SES 5 project site (APN 025-260-019) and the portion of APN 025-260-022 located east of the East Highline Canal are also zoned S-2-RE. The purpose of the S-2 zoning designation is to "preserve the cultural, biological, and open space areas that are rich and natural as well as cultural resources" (County of Imperial 2020). While certain uses are allowed within the S-2 zone, such uses must be compatible with the intent of the Conservation and Open Space Element of the General Plan.

Pursuant to Title 9, Division 5, Chapter 19, the following uses are permitted in the S-2 zone subject to approval of a CUP from Imperial County:

> *d) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *i) Major facilities relating to the generation and transmission of electrical energy provide[d] such facilities are not under State or Federal law, to [be] approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters. Such uses shall include but be limited to the following:*
>
> - *Electrical generation plants*

- *Facilities for the transmission of electrical energy (100-200 kV)*
- *Electrical substations in an electrical transmission system (500 kv/230 kv/161 kV)*

Height Limit in S-2 Zone. Pursuant to Section 90519.07 of the Land Use Ordinance, the maximum height limit in the S-2 zone is 40 feet, except for communication towers, which have a maximum height limit of 100 feet.

RE Resources. According to Title 9, Division 17 of the Land use Ordinance, the purpose of the RE Resources regulations are to "facilitate the beneficial use of renewable energy resources for the general welfare of the people of Imperial County and the State of California; to protect renewable energy resources from wasteful or detrimental uses; and to protect people, property, and the environment from detriments that might result from the improper use of renewable energy resources" (County of Imperial 2017).

Title 9, Division 17 of the Land Use Ordinance includes the RE Overlay Zone, which authorizes the development and operation of renewable energy projects, with an approved CUP. Uses that are conditionally permitted require and require a CUP are subject to the discretionary approval of the County Board of Supervisors (Board) per a recommendation by the County Planning Commission.

Imperial County Airport Land Use Compatibility Plan

The Imperial County Airport Land Use Compatibility Plan (ALUCP) provides the criteria and policies used by the Imperial County Airport Land Use Commission to assess compatibility between the principal airports in Imperial County and proposed land use development in the areas surrounding the airports. The ALUCP emphasizes review of local general and specific plans, zoning ordinances, and other land use documents covering broad geographic areas.

The nearest airport to the project sites is the Calipatria Municipal Airport, located approximately 6 miles southwest of the VEGA SES 5 project site. According to Figure 3C of the ALUCP, no portion of the project sites is located within the Calipatria Municipal Airport's land use compatibility zones (ALUC 1996).

3.11.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to land use/planning are considered significant if any of the following occur:

- Physically divide an established community
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect

Impact Analysis

Impact 3.11-1 ***Would the project physically divide an established community?***

The project sites are located in a sparsely populated portion of Imperial County. There is a single-family residence located approximately 523 feet from the southwestern corner of the VEGA SES 5 project site (APN 025-260-022). However, there are no established residential communities located in

the vicinity of the project sites. The nearest established residential community is located approximately 5.67 miles northwest of the project sites in the unincorporated community of Niland. Therefore, implementation of the proposed projects would not divide an established community and no impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.11-2 ***Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?***

The projects' consistency with applicable land use plans, policies, and regulations is evaluated below.

SCAG 2020-2045 RTP/SCS (Connect SoCal)

As noted above, the 2020-2045 RTP/SCS (Connect SoCal) (SCAG 2020) identifies two goals which include reducing GHG emissions to improve air quality (Goal 5), and to promote conservation of natural and agricultural lands (Goal 10).

The 2020-2045 RTP/SCS (Connect SoCal), identifies strategies to support the goal of reducing regional GHG and improve air quality. Strategies include leveraging technological innovations including incorporating solar energy, hydrogen fuel cell power storage, and power generation. Once in operation, the proposed projects would contribute to SCAG's goal in reducing GHG emissions and improving air quality.

The 2020-2045 RTP/SCS (Connect SoCal) also discusses the decline of agricultural land as an issue for the economy. As discussed in Section 3.3, Agricultural Resources, a portion of the VEGA SES 5 project site (APN 025-260-022) is designated as Farmland of Local Importance. The VEGA SES 5 project would temporarily convert Farmland of Local Importance to non-agricultural uses. However, as a condition of project approval (CUP condition), the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of its lifespan. The reclamation plan includes the removal, recycling, and/or disposal of all solar arrays, inverters, transformers, and other structures on the project site, as well as restoration of the site to its pre-project condition. Therefore, the proposed project would not permanently convert Farmland of Local Importance to non-agricultural uses. Therefore, no impacts due to a conflict with the 2020-2045 RTP/SCS (Connect SoCal) would occur.

County of Imperial General Plan

The County's General Plan applies to the solar energy facility and supporting infrastructure portions associated with the projects. An analysis of the projects' consistency with the General Plan goals and objectives relevant to the projects is provided in Table 3.11-2. As shown in Table 3.11-2, the proposed projects would generally be consistent with the goals and objectives of the General Plan. No amendment to the General Plan for a zone change would be required because the project sites are entirely within the RE Overlay Zone. Therefore, no impacts due to a conflict with the General Plan would occur.

County of Imperial Land Use Ordinance

Development of the solar energy facilities and supporting infrastructure is subject to the County's zoning ordinance. The projects are located on five privately-owned legal parcels zoned A-2-RE, A-3-RE, and S-2-RE.

A-2 Zoning. Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County:

> *j) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)*
>
> *s) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *z) Electrical substations in an electrical transmission system (500 kv/230 kv/161 kv)*
>
> *bb) Facilities for the transmission of electrical energy (100-200 kv)*
>
> *ww) Resource extraction and energy development as per Division 17*
>
> *aaa) Solar energy electrical generator*

Height Limit in A-2 Zone. The maximum height limit for non-residential structures and commercial communication towers in the A-2 zone is 120 feet. The proposed projects' 40-foot-high gen-tie poles would not exceed the height limit in the A-2 zone.

A-3 Zoning. Pursuant to Title 9, Division 5, Chapter 9, the following uses are permitted in the A-3 zone subject to approval of a CUP from Imperial County:

> *i) Battery Storage Facility (must be connected to an existing electrical power generation plant such as solar, geothermal, wind, natural gas, or other renewable energy generator, as an accessory unit to said power plant)*
>
> *o) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *oo) Major facilities relating to the generation and transmission of electrical energy provided such facilities are not under State or Federal law, to be approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters, meeting the requirements in Division 17.*
>
> *zz) Solar energy plants meeting the requirements in Division 17*

Height Limit in A-3 Zone. The maximum height limit for non-residential structures and commercial communication towers in the A-3 zone is 120 feet. The proposed projects' 40-foot-high gen-tie poles would not exceed the height limit in the A-3 zone.

S-2 Zoning. Pursuant to Title 9, Division 5, Chapter 19, the following uses are permitted in the S-2 zone subject to approval of a CUP from Imperial County:

> *d) Communication Towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.*
>
> *i) Major facilities relating to the generation and transmission of electrical energy provide[d] such facilities are not under State or Federal law, to [be] approved exclusively by an agency,*

or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters. Such uses shall include but be limited to the following:

- *Electrical generation plants*
- *Facilities for the transmission of electrical energy (100-200 kV)*
- *Electrical substations in an electrical transmission system (500 kv/230 kv/161 kV)*

Further, Title 9, Division 17 of the Land use Ordinance, includes the RE Overlay Zone, which authorizes the development and operation of renewable energy projects, with an approved CUP (County of Imperial 20017). Therefore, the proposed projects qualify as permitted uses with the approval of the CUPs by the County to allow for the construction and operation of the proposed solar energy facilities. With approval of the CUPs, the proposed projects would not conflict with the County's zoning ordinance. No impacts due to a conflict with the County of Imperial Land Use Ordinance(s) would occur.

Height Limit in S-2 Zone. The maximum height limit in the S-2 zone is 40 feet. The proposed projects' 40-foot-high gen-tie poles would not exceed the height limit in the S-2 zone.

Imperial County Airport Land Use Compatibility Plan

The nearest airport to the project sites is the Calipatria Municipal Airport, located approximately 6 miles southwest of the VEGA SES 5 project site. According to Figure 3C of the ALUCP, no portion of the project sites is located within the Calipatria Municipal Airport's land use compatibility zones (ALUC 1996). On March 16, 2022, the Imperial County Airport Land Use Commission determined that the proposed project is compatible with the ALUCP. Therefore, the proposed projects would not conflict with the Imperial County ALUCP, and no significant impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

3.11.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Decommissioning and restoration would not physically divide an established community or conflict with any applicable land use plans, policies, or regulations. Decommissioning would be conducted in compliance with a required Reclamation Plan that would be implemented at the end of the proposed projects' life and would adhere to Imperial County's decommissioning requirements. Further, decommissioning activities would be subject to mandatory compliance with applicable local, State, and federal regulations designed to avoid adverse impacts to the project area and surrounding environment. Therefore, environmental impacts due to a conflict with an applicable land use plan, policy or regulation would be less than significant.

Residual

With the approval of CUPs and reclamation plans to address post-project decommissioning, the proposed projects would generally be consistent with applicable state, regional, and local plans and policies. Based on these circumstances, the proposed projects would not result in any residual significant and unmitigable land use impacts.

3.12 Noise and Vibration

This section identifies the ambient noise environment for the project area and describes applicable federal, state, and local regulations, potential project-related noise and vibration impacts, and recommended mitigation measures to avoid or reduce potential impacts of the proposed VEGA 2, 3 & 5 Solar Energy Projects. The information for this section is summarized from a project-specific Noise Impact Assessment, prepared by ECORP Consulting, Inc. This report is included in Appendix J of this EIR.

3.12.1 Existing Conditions

Noise

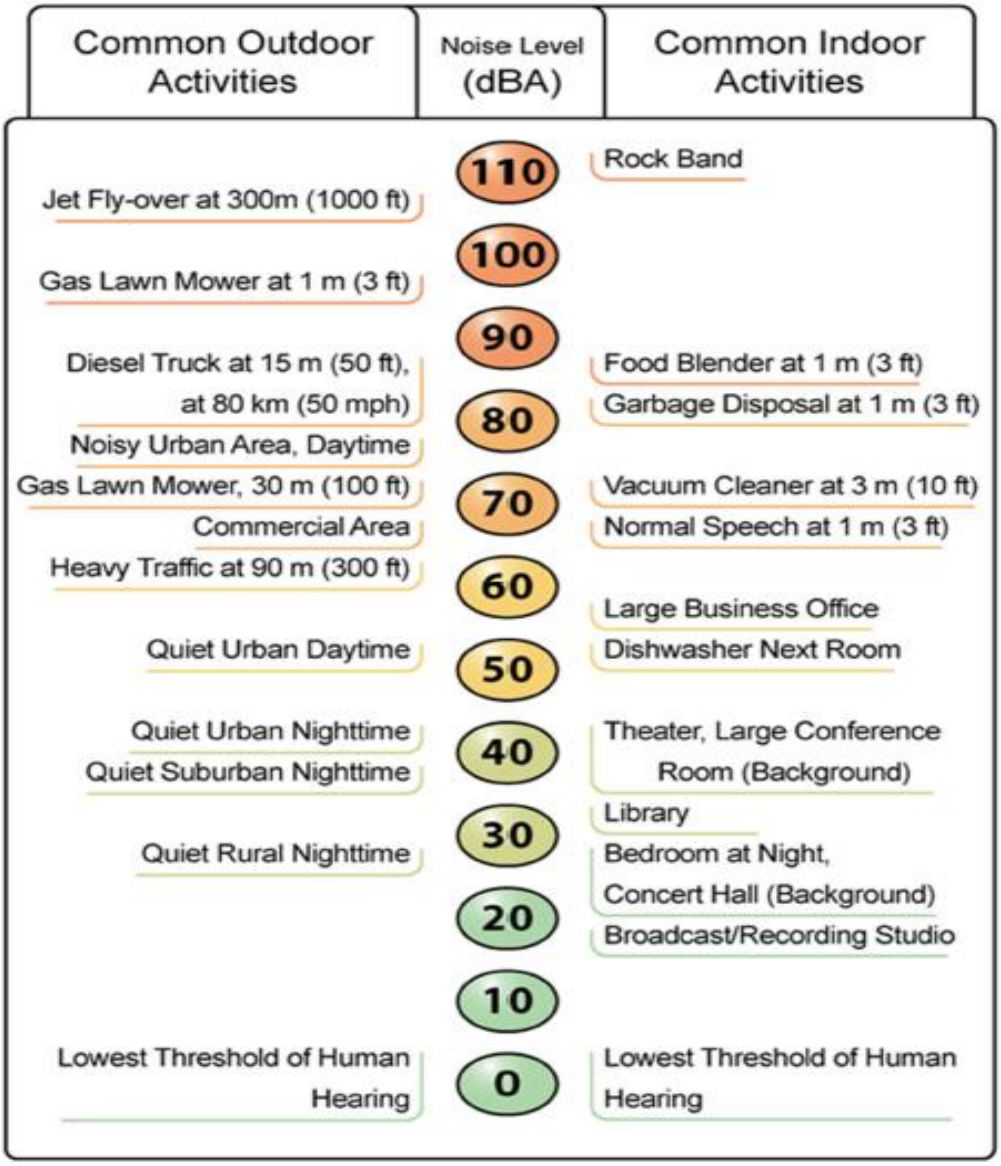
Noise is defined as unwanted sound. Pressure waves traveling through air exert a force registered by the human ear as sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level), which is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. Consequently, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 hertz (Hz) and above 5,000 Hz to imitate the human ear's decreased sensitivity to low and extremely high frequencies. This emulation of the human ear's frequency sensitivity is referred to as A-weighting and is expressed in units of dBA. Frequency A weighting follows an international standard method of frequency de-emphasis and is typically applied to community noise measurements. In practice, the specific sound level from a source is measured using a meter incorporating an electrical filter corresponding to the A-weighting curve. All noise levels reported are A-weighted unless otherwise stated.

The dB scale is logarithmic and an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound and twice as loud as a 60-dBA sound.

Typical noise levels associated with common noise sources are depicted in Figure 3.12-1.

Figure 3.12-1. Common Noise Levels



Source: Appendix J of this EIR

Sound Propagation and Attenuation

Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics. No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation

value of 1.5 dB per doubling of distance is normally assumed. For line sources, an overall attenuation rate of 3 dB per doubling of distance is assumed (Appendix J of this EIR).

Noise levels may also be reduced by intervening structures; generally, a single row of detached buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm generally reduces noise levels by 10 to 20 dBA. However, noise barriers or enclosures specifically designed to reduce site-specific construction noise can provide a sound reduction of 35 dBA or greater. To achieve the most potent noise-reducing effect, a noise enclosure/barrier must physically fit in the available space, must completely break the "line of sight" between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces (Appendix J of this EIR).

The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more. Generally, in exterior noise environments ranging from 60 dBA Community Noise Equivalent Level (CNEL) to 65 dBA CNEL, interior noise levels can typically be maintained below 45 dBA, a typically residential interior noise standard, with the incorporation of an adequate forced air mechanical ventilation system in each residential building, and standard thermal-pane residential windows/doors with a minimum rating of Sound Transmission Class (STC) 28. (STC is an integer rating of how well a building partition attenuates airborne sound (Appendix J of this EIR).

Noise Descriptors

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL (Community Noise Equivalent Level) are measures of community noise.

The A weighted decibel sound level scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20

dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). Regarding increases in A-weighted noise levels (dBA), the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived by humans.
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference.
- A change in level of at least 5 dBA is required before any noticeable change in community response would be expected. An increase of 5 dBA is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

Existing Ambient Noise Levels

The project sites are bound mostly by vacant undisturbed land, with the exception of agricultural lands and county roadways adjacent to the VEGA SES 5 project site. Noffsinger Road and the Union Pacific Railway traverse the VEGA SES 5 project site and the Coachella Canal crosses the VEGA SES 2 project site. In order to quantify existing ambient noise levels in the project area, ECORP Consulting, Inc. conducted four short-term noise measurements on January 12, 2021. The noise measurement sites (Figure 3.12-2) were representative of typical existing noise exposure within and adjacent to the project sites during the daytime. The 15-minute measurements were taken between 11:35 a.m. and 12:54 p.m. Short-term (L_{eq}) measurements are considered representative of the noise levels throughout the day. As shown in Table 3.12-1, the existing noise levels (baseline) in the project-vicinity range from 45.5 to 48.1 dBA L_{eq}.

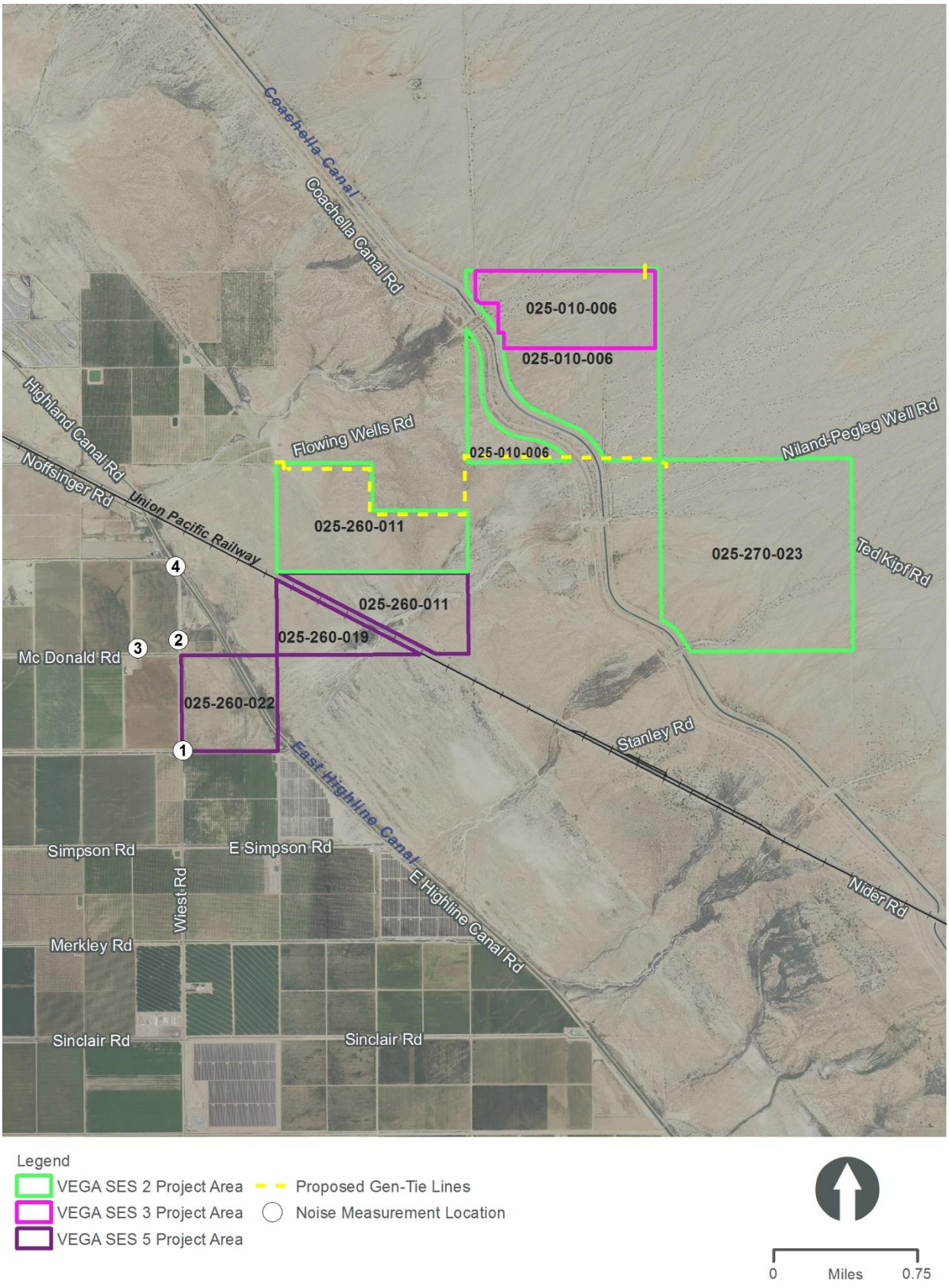
Table 3.12-1. Existing (Baseline) Noise Measurements

Measurement Location Number	Location	L_{eq} dBA	L_{min} dBA	L_{max} dBA	Time
1	West Schrimpf Road and Wiest Road	45.5	43.1	52.0	11:35 a.m. – 11:50 a.m.
2	Wiest Road and McDonald Road	47.5	37.2	61.9	11:57 a.m. – 12:12 p.m.
3	McDonald Road, ~700 feet west of Wiest Road	45.8	31.6	70.7	12:16 p.m. – 12:31 p.m.
4	Wiest Road, ~1,000 feet south of Wiest Road's intersection with Noffsinger Road	48.1	32.2	69.1	12:39 p.m. – 12:54 p.m.

Source: Appendix J of this EIR

The most common noise in the project vicinity is produced by automotive vehicles (e.g., cars, trucks, buses, motorcycles) traversing country roads adjacent to the project sites. Traffic moving along streets produces a sound level that remains relatively constant and is part of the minimum ambient noise level in the project vicinity.

Figure 3.12-2. Noise Measurement Locations



Noise Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as hospitals, historic sites, cemeteries, and certain recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The nearest existing noise-sensitive land use to the project sites is a single-family residence located approximately 523 feet from the southwestern corner of the VEGA SES 5 project site (APN 025-260-022).

Vibration

Vibration Sources and Characteristics

Sources of earthborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or manmade causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions). Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the peak particle velocity (PPV); another is the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

PPV is generally accepted as the most appropriate descriptor for evaluating the potential for building damage. For human response, however, an average vibration amplitude is more appropriate because it takes time for the human body to respond to the excitation (the human body responds to an average vibration amplitude, not a peak amplitude). Because the average particle velocity over time is zero, the RMS amplitude is typically used to assess human response. The RMS value is the average of the amplitude squared over time, typically a 1- sec. period (Appendix J of this EIR).

Table 3.12-2 displays the reactions of people and the effects on buildings produced by continuous vibration levels. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high-noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Ground vibration can be a concern in instances where buildings shake, and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. For instance, heavy-duty trucks generally generate groundborne vibration velocity levels of 0.006 PPV at 50 feet under typical circumstances, which as identified in Table 3.12-2 is considered very unlikely to cause damage to buildings of any type.

Table 3.12-2. Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibration Levels

Peak Particle Velocity (inches/second)	Approximate Vibration Velocity Level (VdB)	Human Reaction	Effect on Buildings
0.006 – 0.019	67 – 74	Range of threshold of perception	Vibrations unlikely to cause damage of any type
0.08	87	Vibrations readily perceptible	Recommended upper level to which ruins and ancient monuments should be subjected
0.1	92	Level at which continuous vibrations may begin to annoy people, particularly those involved in vibration sensitive activities	Virtually no risk of architectural damage to normal buildings
0.2	94	Vibrations may begin to annoy people in buildings	Threshold at which there is a risk of architectural damage to normal dwellings
0.4 – 0.6	98 - 104	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Architectural damage and possibly minor structural damage

Source: Appendix J of this EIR

Common sources for groundborne vibration are planes, trains, and construction activities such as earth-moving which requires the use of heavy-duty earth moving equipment. Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. Vibration decreases rapidly with distance. Groundborne vibration levels associated with typical construction equipment at 25 feet distant are summarized in Table 3.12-3.

Table 3.12-3. Representative Vibration Source Levels for Construction Equipment

Equipment Type	Peak Particle Velocity at 25 Feet (Inches per Second)
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks	0.076
Hoe Ram	0.089
Jackhammer	0.035
Small Bulldozer/Tractor	0.003
Vibratory Roller	0.210

Source: Appendix J of this EIR

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Proximity to Airports

The project sites are not located within 2 miles of a public airport or a public use airport. The nearest airport to the proposed projects is the Calipatria Municipal Airport, located approximately 6 miles southwest of the VEGA SES 5 project site.

3.12.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the projects.

Federal

Occupational Safety and Health Act of 1970

OSHA regulates onsite noise levels and protects workers from occupational noise exposure. To protect hearing, worker noise exposure is limited to 90 dBA over an eight-hour work shift (29 Code of Regulations 1910.95). Employers are required to develop a hearing conservation program when employees are exposed to noise levels exceeding 85 dBA. These programs include provision of hearing protection devices and testing employees for hearing loss on a periodic basis.

State

State of California General Plan Guidelines

The State of California regulates vehicular and freeway noise affecting classrooms, sets standards for sound transmission and occupational noise control, and identifies noise insulation standards and airport noise/land-use compatibility criteria. The State of California General Plan Guidelines, published by the Governor's Office of Planning and Research (OPR), also provides guidance for the acceptability of projects within specific CNEL/L_{dn} contours. The guidelines also present adjustment factors that may be used in order to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

State Office of Planning and Research Noise Element Guidelines

The State OPR Noise Element Guidelines include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The Noise Element Guidelines contain a Land Use Compatibility table that describes the compatibility of various land uses with a range of environmental noise levels in terms of the CNEL. The County of Imperial has utilized the adjustment factors provided and has modified the state's Land Use Compatibility standards for the purpose of implementing the Noise Element of its General Plan. Table 3.12-4 summarizes the acceptable and unacceptable community noise exposure limits for various land use categories as currently defined by the State of California. These community noise exposure limits are also incorporated into the County of Imperial General Plan Noise Element.

Table 3.12-4. Land Use Compatibility for Community Noise Environments

Land Use Category	Community Noise Exposure – L_{dn} or CNEL (dBA)						
	50	55	60	65	70	75	80
Residential							
Transient Lodging – Motel, Hotel							
Schools, Libraries, Churches, Hospitals, Nursing Homes							
Auditorium, Concert Hall, Amphitheaters							
Sports Arena, Outdoor Spectator Sports							
Playgrounds, Neighborhood Parks							
Golf Courses, Riding Stables, Water Recreation, Cemeteries							
Office Buildings, Business, Commercial and Professional							
Industrial, Manufacturing, Utilities, Agriculture							

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Table 3.12-4. Land Use Compatibility for Community Noise Environments

Land Use Category			Community Noise Exposure – L_{dn} or CNEL (dBA)						
			50	55	60	65	70	75	80
	Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.							
	Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design.							
	Normally Unacceptable	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.							
	Clearly Unacceptable	New construction or development generally should not be undertaken.							

Source: OPR 2017; ICPDS 1993
Notes:
CNEL - community noise equivalent level; dBA – A-weighted decibel; Ldn – day-night average sound level

Local

County of Imperial General Plan Noise Element

The County of Imperial General Plan Noise Element identifies and defines existing and future environmental noise levels from sources of noise within or adjacent to the County of Imperial; establishes goals and objectives to address noise impacts and provides Implementation Programs to implement adopted goals and objectives. Table 3.12-5 summarizes the projects' consistency with the applicable General Plan noise policies. While this EIR analyzes the projects' consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

The County of Imperial has established the following interior noise standards to be considered in acoustical analyses:

- The interior noise standard for detached single family dwellings shall be 45 dB CNEL.
- The interior noise standard for schools, libraries, offices and other noise-sensitive areas where the occupancy is normally only in the day time, shall be 50 dB averaged over a 1-hour period ($L_{eq}(1)$).

Table 3.12-5. Projects' Consistency with Applicable General Plan Noise Policies

General Plan Policies	Consistency with General Plan	Analysis
1. Acoustical Analysis of proposed projects. The County shall require the analysis of proposed discretionary projects, which may generate excessive noise, or which may be impacted by existing excessive noise levels.	Consistent	Under existing conditions, the ambient noise environment is characterized as relatively quiet with peak noise levels influenced by vehicular traffic traveling on SR 78, SR 111, and SR 115. Given that the projects are not characterized as a sensitive land use, project facilities would be unaffected by existing noise levels. The project facilities would be constructed within areas zoned for agricultural use with noise levels up to 69 dBA identified as normally acceptable. Project operations are expected to produce noise levels that would not exceed County standards and, hence impacts are expected to be less than significant. This EIR provides an analysis of the potential short- and long-term noise impacts of the projects. As discussed, short-term and long-term noise levels were found to be less than significant.
2. Noise/Land Use Compatibility. Where acoustical analysis of a proposed project is required, the County shall identify and evaluate potential noise/land use conflicts that could result from the implementation of the project. Projects which may result in noise levels that exceed the "Normally Acceptable" criteria of the Noise/Land Use Compatibility Guidelines shall include mitigation measures to eliminate or reduce the adverse noise impacts to an acceptable level.	Consistent	Noise levels associated with project operations would not exceed noise limits for the A-2-RE, A-3-RE, and S-2-RE zones. See Section 3.12.3 for additional discussion.
4. Interior Noise Environment. Where acoustical analysis of a proposed project is required, the County shall identify and evaluate projects to ensure compliance to the California (Title 24) interior noise standards and the additional requirements of this Element.	Consistent	This EIR provides an analysis of the potential short- and long-term noise impacts of the projects. As discussed, short-term and long-term noise levels were found to be less than significant. Noise levels associated with project operations would be unlikely to exceed noise limits for the A-2-RE, A-3-RE, and S-2-RE zones.
5. New Noise Generating projects. The County shall identify and evaluate projects which have the potential to generate noise in excess of the Property Line Noise Limits. An acoustical analysis must be submitted which demonstrates the project's compliance.	Consistent	This EIR provides an analysis of the potential short- and long-term noise impacts of the projects. As discussed, short-term and long-term noise levels were found to be less than significant. Noise levels associated with project operations would be unlikely to exceed noise limits for the A-2-RE, A-3-RE, and S-2-RE zones.

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Table 3.12-5. Projects' Consistency with Applicable General Plan Noise Policies

General Plan Policies	Consistency with General Plan	Analysis
6. Projects Which Generate Off-site Traffic Noise. The acoustical analysis shall identify and evaluate projects, which would generate traffic and increase noise levels on off-site roadways. If the project site has the potential to cause a significant noise impact on sensitive receptors along those roadways, the acoustical analysis report shall consider noise reduction measures to reduce the impact to a level less than significant.	Consistent	As described in Chapter 2, the projects would involve a minimal number of operational related vehicle trips and therefore, is unlikely to produce any increase in traffic noise levels on local roadways.

Source: ICPDS 1993

Construction Noise Standards

Construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB L_{eq}, when averaged over an eight (8) hour period, and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB L_{eq} when averaged over a one (1) hour period.

Construction equipment operation are required to be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 5:00 p.m. Saturday. No commercial construction operations are permitted on Sunday or holidays. In cases of a person constructing or modifying a residence for himself/herself, and if the work is not being performed as a business, construction equipment operations may be performed on Sundays and holidays between the hours of 9:00 a.m. and 5:00 p.m. Such non-commercial construction activities may be further restricted where disturbing, excessive, or offensive noise causes discomfort or annoyance to reasonable persons of normal sensitivity residing in an area.

County of Imperial Noise Ordinance

Noise generating sources in Imperial County are regulated under the County of Imperial Codified Ordinances, Title 9, Division 7 (Noise Abatement and Control). Noise limits are established in Chapter 2 of this ordinance. Under Section 90702.00 of this rule, 70 dB is the normally acceptable limit for the Industrial, Manufacturing, Utilities, and Agricultural category of land use (Table 3.12-6).

Table 3.12-6. Imperial County Exterior Noise Standards

Land Use Zone	Time Period	Noise Level, L_{eq} 1-hour
R-1 Residential	Night (10 p.m. to 7 a.m.) Day (7 a.m. to 10 p.m.)	45 dBA 50 dBA
R-2 Residential	Night (10 p.m. to 7 a.m.) Day (7 a.m. to 10 p.m.)	50 dBA 55 dBA
R-3, R-4, and all other residential	Night (10 p.m. to 7 a.m.) Day (7 a.m. to 10 p.m.)	50 dBA 55 dBA
Commercial	Night (10 p.m. to 7 a.m.) Day (7 a.m. to 10 p.m.)	55 dBA 60 dBA
Manufacturing, other industrial, agricultural, and extraction industry	Anytime	70 dBA
Industrial	Anytime	75 dBA

Notes:
dBA – A-weighted decibel; L_{eq} – equivalent sound level

Imperial County Right-to-Farm Ordinance

In recognition of the role of agriculture in the county, the County of Imperial has adopted a "right-to-farm" ordinance (County of Imperial Codified Ordinances, Division 2, Title 6: Right to Farm). A "right-to-farm" ordinance creates a legal presumption that ongoing standard farming practices are not a nuisance to adjoining residences and requires a disclosure to landowners near agricultural land operations or areas zoned for agricultural purposes. The disclosure advises persons regarding potential discomfort and inconvenience that may occur from operating machinery as a result of conforming and accepted agricultural operations.

3.12.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to noise, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to noise and vibration are considered significant if any of the following occur:

- Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Generate excessive groundborne vibration or groundborne noise levels.
- For a project located in the vicinity of a private airstrip of an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport,

would the project expose people residing or working in the project area to excessive noise levels.

Methodology

Noise and Vibration

This analysis of the existing and future noise environments is based on empirical observations. Predicted construction noise levels were calculated utilizing the FHWA's Roadway Construction Model (see Appendix J of this EIR for details). Groundborne vibration levels associated with construction-related activities for the projects were evaluated utilizing typical groundborne vibration levels associated with construction equipment. Potential groundborne vibration impacts related to structural damage and human annoyance were evaluated, taking into account the distance from construction activities to nearby structures and typically applied criteria for structural damage and human annoyance.

In order to estimate the worst-case operational noise levels that may occur at the nearest noise-sensitive receptor, onsite operational noise levels have been calculated with the SoundPLAN 3D noise model (which predicts noise propagation from a noise source based on the location, noise level, and frequency spectra of the noise sources as well as the geometry and reflective properties of the local terrain, buildings, and barriers), coupled with noise measurements that were taken by ECORP Consulting, Inc. (ECORP) at an existing solar energy generation facility. Specifically, ECORP conducted a 30-minute reference noise measurement within the IVC solar generation facility in Imperial County with a Larson Davis SoundExpert LxT precision sound-level meter, which satisfies the American National Standards Institute for general environmental noise measurement instrumentation. This reference measurement identified an ambient noise environment of 47.1 dBA at the existing solar energy generation facility (see Appendix J of this EIR for details). Therefore, a noise level of 47.1 dBA was employed as the reference noise level in the SoundPLAN 3D noise model to determine noise-level propagation associated with project operations.

Impact Analysis

Impact 3.12-1 Would the project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Onsite Construction Noise

Construction noise associated with the proposed projects would be temporary and would vary depending on the nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing, grading, excavation, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic

movement of machinery lifts). During construction, exterior noise levels could negatively affect sensitive land uses in the vicinity of the construction site.

The nearest existing noise-sensitive land use to the project site is a single-family residence located 523 feet from the southwestern corner of the VEGA SES 5 project site. However, VEGA SES 2 and 3 are located on a different set of parcels than VEGA SES 5. Therefore, the closest residence to VEGA SES 2 and 3 projects is approximately 3,154 feet west of the VEGA SES 2 project boundary.

As previously described, the County's General Plan Noise Element states construction equipment operation shall be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 5:00 p.m. on Saturdays. No commercial construction operations are permitted on Sundays or holidays. Construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB L_{eq}, when averaged over an 8-hour period, and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB L_{eq} when averaged over a one 1-hour period.

The anticipated short-term construction noise levels generated for the necessary construction equipment are presented in Table 3.12-7.

Table 3.12-7. Construction Average Noise Levels (dBA) at the Nearest Receptor

Combined Equipment	Estimated Exterior Construction Noise Level at Nearest Receptor (dBA L_{eq})	Construction Noise Standards (dBA L_{eq})	Exceeds Standards?
VEGA SES 2 and 3			
Demolition and Grubbing	50.4	75	**No**
Grading	52.2	75	**No**
Construction and Paving	54.6	75	**No**
VEGA SES 5			
Demolition and Grubbing	66.0	75	**No**
Grading	67.8	75	**No**
Construction and Paving	70.2	75	**No**

Source: Appendix J of this EIR

Notes:

The nearest residence is located approximately 3,154 feet from the VEGA SES 2 western boundary. The nearest residence is located approximately 523 feet from the Project's VEGA SES 5 southwestern boundary.

L_{eq} = The equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

As shown in Table 3.12-7, the individual or cumulative pieces of construction equipment during construction of the VEGA SES 2 and 3 projects in 2023 and VEGA SES 5 project in 2024 would not exceed the 75 dBA Imperial County construction noise standard at the nearest noise-sensitive

receptor. Therefore, the proposed projects would not generate a substantial temporary increase in ambient noise levels in the vicinity of the project sites in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies during construction. Impacts would be less than significant.

Offsite Construction Worker Traffic Noise

Project construction would also result in additional traffic on adjacent roadways over the time period that construction occurs. The number of on–site construction workers for the solar project facilities are not expected to exceed 150 workers at any one time. The number of on-site construction workers for the battery storage facility and the substation is not expected to exceed 100 workers at any one time. Onsite parking would be provided for all construction workers. According to the Traffic Impact Study prepared for the VEGA SES 2, 3, & 5 Solar Energy Projects (Appendices K1 and K2 of this EIR), a maximum of 510 daily automobile trips would be generated during project construction, accounting for construction worker commutes and equipment deliveries. The majority of these trips are expected to be accommodated on SR 78, SR 111, and SR 115. Construction workers would access the VEGA 5 project site from SR 111 onto east on McDonald Road. The VEGA 2 and 3 project sites require an additional 1.65 miles of travel on Wiest Road and Flowing Wells Road.

Doubling of traffic on a roadway is required to result in an increase of 3 dB (outside of the laboratory, a 3-dBA change is considered a just-perceivable difference). The roadway segment of SR 111 closest to the project site currently accommodates 3,500 average daily traffic trips (ADT). The County General Plan Circulation and Scenic Highways Element (2008) designates the roadway segments of McDonald Road and Weist Road as Minor (Local) Collector, which on average can accommodate 1,900 to 16,200 ADT. Flowing Wells Road does not have a designation within the General Plan, but there are no sensitive receptors along Flowing Wells Road that would experience any sounds changes along this roadway. Additionally, construction is temporary and once project construction is complete, all construction-related traffic noise would cease. Thus, the estimated 510 daily trips during project construction would not result in a doubling of traffic on these facilities, and its contribution to existing traffic noise would not be perceptible.

Based on the considerations above, the proposed projects would not generate a substantial temporary increase in ambient noise levels related to construction worker traffic in the vicinity of the project sites in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies during construction. Impacts would be less than significant.

Operation

The main stationary operational noise associated with the projects would be from the proposed transformers, inverters, substation, and transmission lines. Onsite project operations have been calculated using the SoundPLAN 3D noise model. As previously stated, a noise level of 47.1 dBA was employed as the reference noise level in the SoundPLAN 3D noise model to determine noise-level propagation associated with the project operations. Table 3.12-8 shows the predicted project noise levels at the nearest noise-sensitive land use, a single-family residence located approximately 523 feet southwest of the VEGA 5 project site (APN 025-260-022).

Table 3.12-8. Modeled Operational Noise Levels at Nearest Sensitive Receptor

Location	Modeled Operational Noise Attributed to Project (L_{eq} dBA)	County Daytime Standard (L_{eq} dB)	County Nighttime Standard (L_{eq} dB)	Exceed Standard?
Property line of the nearest residence	36.7	50.0	45.0	**No**

Source: Appendix J of this EIR

Notes:

Reference noise measurement used to calculate Project onsite noise propagation identified at 47.1 dBA, per 30-minute measurements taken at a VEGA SES solar generation facility in Imperial County.

As shown in Table 3.12-8, project operational noise would not exceed County daytime or nighttime standards.

Project operations would result in minimal additional traffic on adjacent roadways. The only visitors to the site would be that of repair or maintenance workers, whose presence at the site would be infrequent. Sporadic vehicle activity resulting from maintenance and operations trips would not result in a doubling of traffic, and therefore its contribution to existing traffic noise would not be perceptible.

Given the above, project operation would not generate a substantial permanent increase in ambient noise levels in the vicinity of the project sites in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies during construction. Impacts would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.12-2 Would the project generate excessive groundborne vibration or groundborne noise levels?

Construction

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the projects would be primarily associated with short-term construction-related activities. Construction on the project sites would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

As stated in Section 3.12.1, construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. It is noted that pile drivers would not be necessary during project construction. Vibration decreases rapidly with distance and it is acknowledged that construction activities would occur throughout the project sites and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with typical construction equipment at 25 feet distant are summarized in Table 3.12-3.

The County of Imperial does not regulate vibrations associated with construction. However, a discussion of construction vibration is included for informational purposes. Caltrans and the Federal

Transit Authority (FTA) have developed two of the decisive works in the assessment of vibrations from transportation and construction sources (Caltrans 2020; FTA 2018). Caltrans recommends a standard threshold of 0.2 inch per second PPV with respect to the prevention of structural damage for older residential buildings (Caltrans 2020). This is also the level at which vibrations may begin to annoy people in buildings. Consistent with FTA recommendations (FTA 2018) for calculating construction vibration, construction vibration was measured from the center of the project site. The nearest structure of concern to the construction site, with regard to groundborne vibrations, is the Coachella Canal located within the proposed project boundary and approximately 30 feet across the Coachella Canal Access Road (Appendix J of this EIR).

Potential project construction vibration levels were calculated based on the representative vibration levels presented for various construction equipment types in Table 3.12-3 and the construction vibration assessment methodology published by the FTA (FTA 2018). Table 3.12-9 presents the expected project-related vibration levels at a distance of 30 feet.

Table 3.12-9. Project Construction Vibration Levels at 30 Feet

Receiver PPV Levels (Inch per Second)							
Large Bulldozer, Caisson Drilling, and Hoe Ram	Loaded Trucks	Jackhammer	Small Bulldozer	Vibratory Roller	Peak Vibration	Threshold	Exceed Threshold?
0.068	0.058	0.027	0.002	0.160	**0.160**	**0.3**	**No**

Source: Appendix J of this EIR

As shown in Table 3.12-9, vibration as a result of construction activities would not exceed 0.3 PPV at the nearest structure. Thus, project construction would not exceed the recommended vibration threshold and this impact would be less than significant.

Operation

Project operations would not include the use of any large-scale stationary equipment that would result in excessive vibration levels, nor would it involve any operational activities that would result in excessive vibration. Therefore, the projects would result in no impact associated with groundborne vibration during operations.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.12-3 For a project located in the vicinity of a private airstrip of an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The project sites are not located within 2 miles of a public airport or a public use airport. The nearest airport to the proposed projects is the Calipatria Municipal Airport, located approximately 6 miles southwest of the VEGA SES 5 project site. The Imperial County Airport Land Use Commission has established a set of land use compatibility criteria for lands surrounding the airports in Imperial County

in the Imperial County Airport Land Use Compatibility Plan (ALUCP). According to Figure 3C of the ALUCP, the project sites are outside of the noise contours of the Calipatria Municipal Airport. Therefore, the projects would not expose people residing or working in the project area to excessive noise levels and no impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

3.12.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Decommissioning or restoration of the solar facilities would use similar equipment to what was evaluated in the construction noise and vibration analysis. Adhering to Imperial County standards for construction noise levels would reduce the noise and vibration impacts to below a level of significance.

Residual

Adhering to the Imperial County standards for construction noise levels would reduce the noise and vibration impacts to below a level of significance.

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3.13 Transportation

This section addresses the proposed projects' impacts on traffic and the surrounding roadway network associated with construction and operation of the proposed projects. The following discussion describes the existing conditions in the surrounding area, the existing federal, state, and local regulations regarding transportation, and an analysis of the potential impacts of the proposed projects.

Information in this section is summarized from the VEGA SES 2/3 Solar Energy Storage Project Traffic Impact Study and the VEGA SES 5 Solar Energy Storage Project Traffic Impact Study prepared by KOA. These reports are included in Appendix K1 and K2 of this EIR, respectively.

3.13.1 Existing Conditions

Traffic Study Area

The traffic study area is determined based on the County of Imperial Department of Public Works *Traffic Study and Report Policy* dated March 12, 2007, revised June 29, 2007, and approved by the Board of Supervisors of the County of Imperial on August 7, 2007 ("Traffic Study and Report Policy"). The traffic study area for the projects includes those locations that will likely be affected by the projects where a minimum of 50 peak hour vehicles impacts the location.

Intersections

The traffic study area for the proposed projects includes the following intersections:

1. McDonald Road and Weist Road
2. McDonald Road and SR-111
3. SR-111 and SR-115
4. SR-111 and north ramps with SR-78
5. SR-111 and south ramps with SR-78

Roadway Segments

The traffic study area for the proposed projects includes the following roadway segments:

1. McDonald Road from SR-111 to Weist Road
2. SR-111 from McDonald Road to Niland Avenue
3. SR-111 from McDonald Road to SR-115
4. SR-111 from SR-115 to SR-78 north ramps
5. SR-111 from SR-78 north ramps to SR-78 south ramps

Existing Roadway Network

Each of the key roadways, as well as associated study intersections within the traffic study area, are discussed below.

1. State Route 111 (SR-111) is a two-lane highway with no median and a posted speed limit of 65 mph.

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2. McDonald Road is a two-lane paved local roadway that runs in an east-west direction. This road provides access from the site to/from SR-111.
3. Weist Road is a north-south roadway that connects to McDonald Road. North of McDonald Road, Weist Road is unpaved.

Existing Level of Service

Level of service (LOS) is a professional industry standard by which the operating conditions of a given roadway segment or intersection are measured. LOS ranges from A through F, where LOS A represents the best operating conditions and LOS F represents the worst operating conditions. LOS A facilities are characterized as having free-flowing traffic conditions with no restrictions on maneuvering or operating speeds; traffic volumes are low and travel speeds are high. LOS F facilities are characterized as having forced flow with many stoppages and low operating needs.

Intersections

All of the study area intersections analyzed currently operate at acceptable LOS B or better during the AM and PM peak hours under existing conditions.

Roadway Segments

All of the roadway segments analyzed currently operate at acceptable LOS B or better under existing conditions.

Alternative/Public Transportation

Fixed Route Transportation

Imperial Valley Transit (IVT) is an inter-city fixed route bus system, subsidized by the Imperial Valley Association of Governments (IVAG), administered by the County Department of Public Works and operated by a public transit bus service. The service is wheelchair accessible and Americans with Disabilities Act compliant. IVT Routes are defined categorized in the following manner:

- **Fixed Routes.** Fixed routes operate over a set pattern of travel and with a published schedule. The fixed route provides a low cost, reliable, accessible, and comfortable way to travel.
- **Deviated Fixed Route.** In several service areas, IVT operates on a deviated fixed-route basis so that persons with disabilities and limited mobility are able to travel on the bus. Passengers must call and request this service the day before service is desired in the communities of Seeley and Ocotillo and the east side of the Salton Sea.
- **Remote Zone Routes.** Remote zone routes operate once a week. These routes are “lifelines” in nature in that they provide connections from some of the more distant communities in the Imperial County area (IVT 2021).

The project sites are not within the Fixed Route Transportation system and, therefore, would not receive regular bus service to the project sites or within the vicinity of the project sites. The nearest IVT bus stop is the 51N Brawley to Bombay Beach bus stop at the northwest quadrant of the Beal Road and Low Road intersection in the community of Slab City. VEGA SES 5 is the closest project site to this bus stop and is approximately 4 miles southeast from the bus stop.

Bicycle Facilities

The project sites are located within a rural portion of Imperial County. There are no bicycle facilities in the immediate proximity of the project sites.

Project Site Access

VEGA SES 2 and 3

The project sites are located within an unincorporated area of Imperial County, approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. As shown in Figure 3.13-1, primary access to and from the site will be from SR-111 along McDonald Road to Weist Road. Construction-related traffic would cross the East Highline Canal at Noffsinger Road. Weist Road continues to Flowing Wells Road. The crossing of the UP railroad tracks is at an unsignalized crossing on Weist Road. The site will be accessed from Flowing Wells Road. Weist Road, Noffsinger Road, and Flowing Wells Road are unpaved roadways.

VEGA SES 5

As shown in Figure 3.13-2, access to and from the site will be from SR-111 along McDonald Road. A portion of the site construction traffic will travel to the east side of the channel, by using Weist Road and Noffsinger Road. To access the portion of the site east of the UP railroad tracks, access across the tracks will be at Flowing Wells Road.

3.13.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the proposed projects.

State

California Department of Transportation

Caltrans manages more than 50,000 miles of California's highway and freeway lanes, provides inter-city rail services, permits more than 400 public-use airports and special-use hospital heliports, and works with local agencies. Specifically, Caltrans is responsible for the design, construction, maintenance, and operation of the California State Highway System.

As it relates to the proposed project and potential construction access routes within the County, Caltrans District 11 is responsible for maintaining and managing SR-111.

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Figure 3.13-1. VEGA SES 2 and 3 Access Route

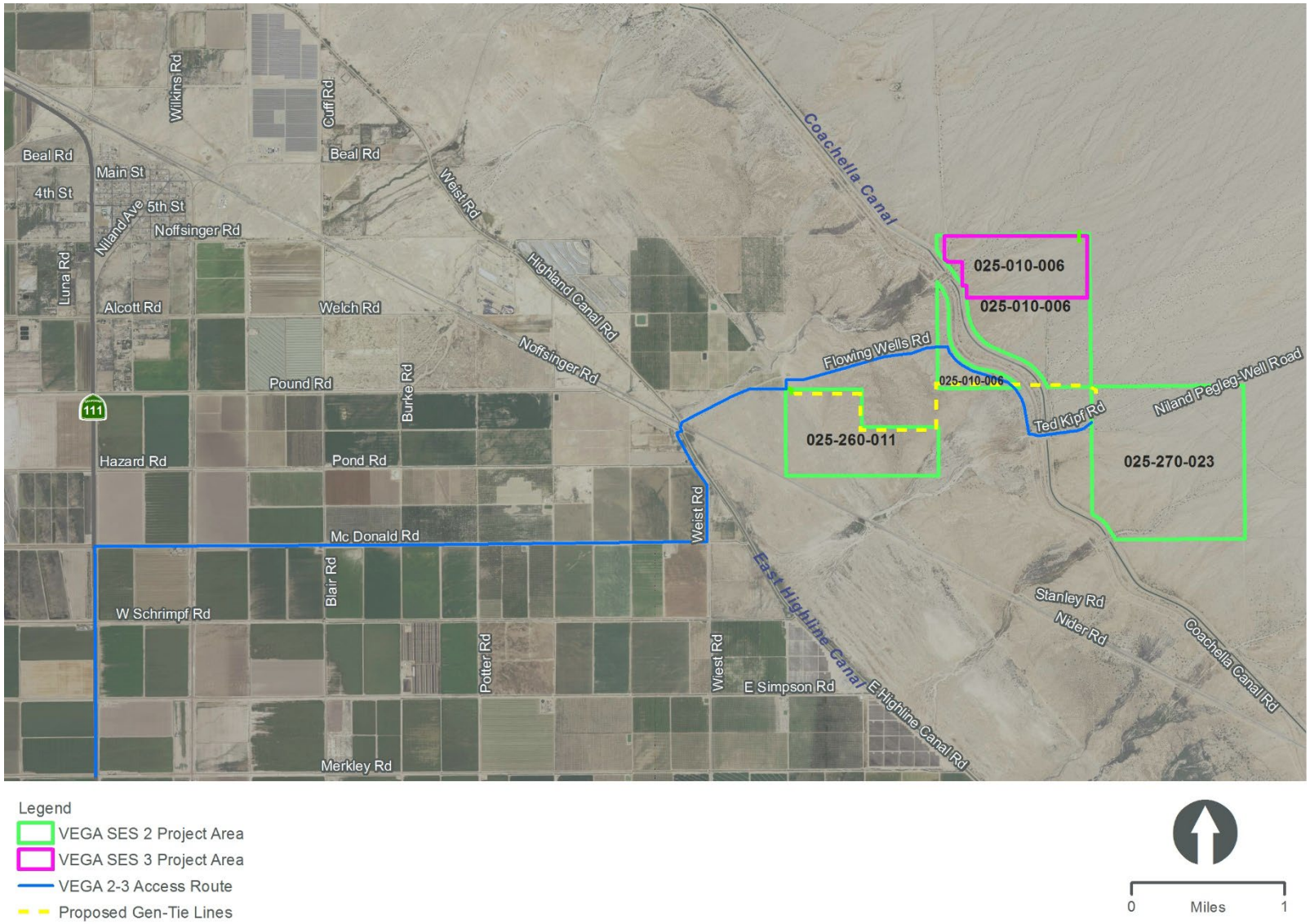

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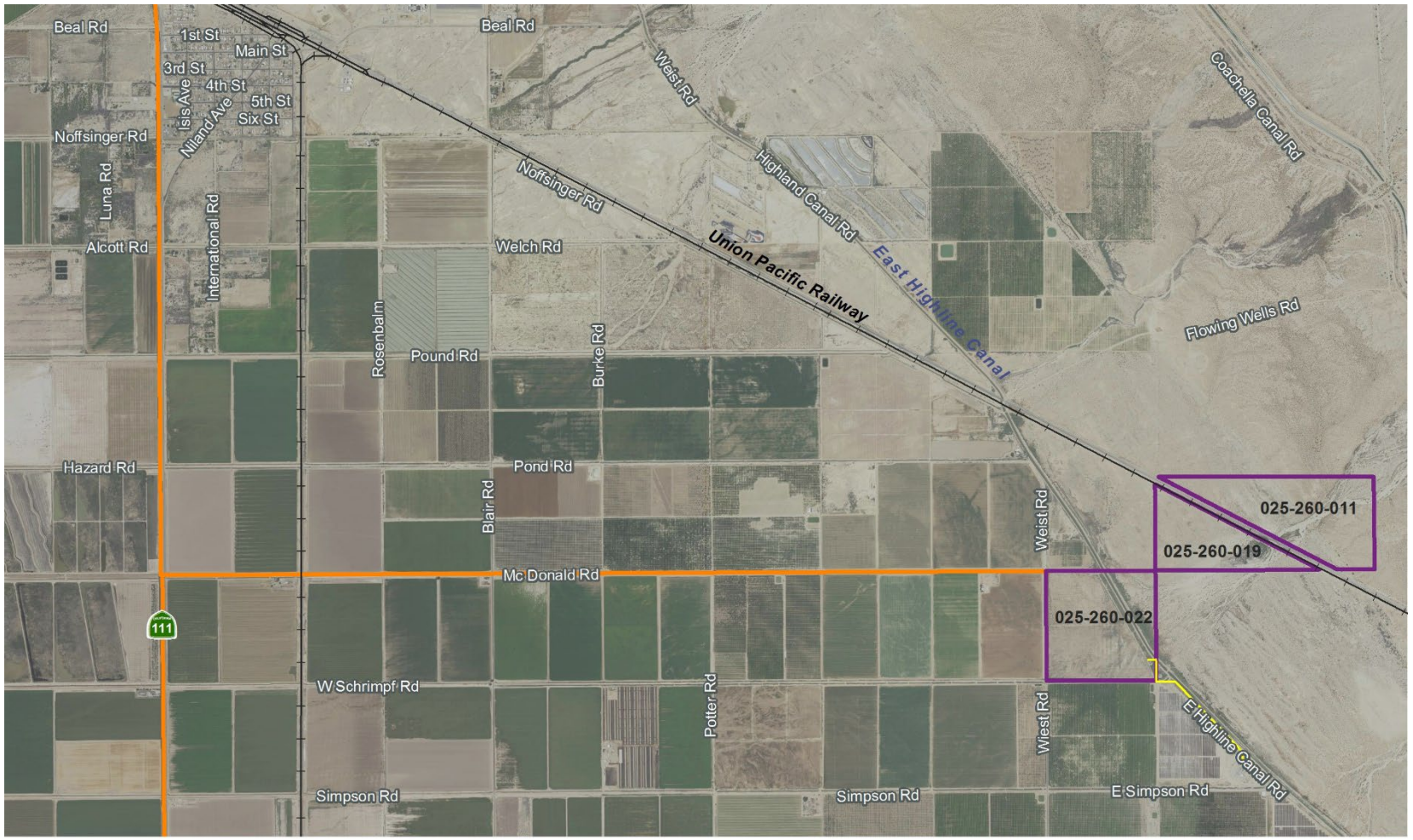
Figure 3.13-2. VEGA SES 5 Access Route



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Regional

SCAG 2020-2045 RTP/SCS (Connect SoCal)

On September 3,2020, SCAG adopted the 2020–2045 RTP/SCS (SCAG 2020). The RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. Input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses, and local stakeholders within the Counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The 2020–2045 RTP/SCS demonstrates how the region will reduce emissions from transportation sources to comply with SB 375 and meet the NAAQS set forth by the Clean Air Act.

The updated RTP/SCS contains thousands of individual transportation projects that aim to improve the region's mobility and air quality and revitalize the economy. Since the RTP/SCS's adoption, the county transportation commissions have identified new project priorities and have experienced technical changes that are time-sensitive. Additionally, the new amendments for the plan have outlined minor modifications to project scopes, costs and/or funding and updates to completion years. The amendments to the RTP/SCS do not change any other policies, programs, or projects in the plan.

Local

County of Imperial Circulation and Scenic Highways Element

The Circulation and Scenic Highways Element identifies the location and extent of transportation routes and facilities. It is intended to meet the transportation needs of local residents and businesses and as a source for regional coordination. The inclusion of Scenic Highways provides a means of protecting and enhancing scenic resources within highway corridors in Imperial County. The purpose of the Circulation and Scenic Highways Element is to provide a comprehensive document that contains the latest knowledge about the transportation needs of the County and the various modes available to meet these needs. Additionally, the purpose of this Element is to provide a means of protecting and enhancing scenic resources within both rural and urban scenic highway corridors.

Coordination across jurisdictional standards for road classification and design standards was identified as a crucial component to the 2008 update of the Circulation and Scenic Highways Element. The intent of this element is to provide a system of roads and streets that operate at an LOS "C" or better (County of Imperial 2008).

Level of Service

LOS is a professional industry standard by which the operating conditions of a given roadway segment or intersection are measured. LOS ranges from A through F, where LOS A represents the best operating conditions and LOS F represents the worst operating conditions. LOS A facilities are characterized as having free-flowing traffic conditions with no restrictions on maneuvering or operating speeds; traffic volumes are low and travel speeds are high. LOS F facilities are characterized as having forced flow with many stoppages and low operating needs. Additionally, with the growth of Imperial County, transportation management and systems management will be necessary to preserve and increase roadway "capacity." LOS standards are used to assess the performance of a street or highway system and the capacity of a roadway.

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County of Imperial Bicycle Master Plan Update: Final Plan

In 2012, the County of Imperial adopted an updated Bicycle Master Plan to serve as the guiding document for the development of an integrated network of bicycle facilities and supporting programs designed to link the unincorporated areas and attractive land uses throughout the County. This document is an update to the previously adopted Countywide Bicycle Master Plan; and was prepared to accomplish the following goals:

1. To promote bicycling as a viable travel choice for users of all abilities in the County.
2. To provide a safe and comprehensive regional connected bikeway network.
3. To enhance environmental quality, public health, recreation, and mobility benefits for the County through increased bicycling.

The County of Imperial's General Plan, Circulation and Scenic Highways Element, and Conservation and Open Space Element, provide a solid planning basis for the Bicycle Master Plan. In spite of the fact that there are a limited number of bicycle facilities in Imperial County and no comprehensive bicycle system, there is a growing interest in cycling and numerous cyclists bike on a regular basis for both recreation and commuting to work and school.

3.13.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to transportation and traffic are considered significant if any of the following occur:

- Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
- Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.

Methodology

The assessment evaluates the proposed projects' trip generation during and after construction, and roadway conditions for roads that would be utilized to access the project sites for construction.

County of Imperial

ROADWAY SEGMENT LEVEL OF SERVICE STANDARDS

The County of Imperial does not have published significance criteria for traffic impacts. However, the Circulation and Scenic Highways Element of the County General Plan does state that the LOS goal for intersections and roadway segments is to operate at LOS C or better. Therefore, if an intersection or segment degrades from LOS C or better to LOS D or worse with the addition of project traffic, the impact is considered significant.

PEAK HOUR INTERSECTION LEVEL OF SERVICE STANDARDS

The County of Imperial traffic impact study guidelines consider LOS C or better during the AM and PM peak hours to be the threshold of significance for intersection LOS. Therefore, if the proposed projects exceed the County's LOS C threshold for surrounding roadways intersections, then the proposed projects may have a significant project impact.

California Department of Transportation

Freeway LOS analysis is based upon procedures developed by Caltrans. Consistent with Caltrans requirements, LOS D or better is used as the threshold for acceptable freeway operations. For freeway segments that operate at LOS D or lower, an incremental increase in volume/capacity (v/c) of greater than 0.01 is considered to be a significant impact.

Project Trip Generation

The construction of the VEGA SES 2 and 3 Projects is estimated to take 12–18 months and would begin in 2023. The number of on-site construction workers for the VEGA SES 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the VEGA SES 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time.

The construction of the VEGA SES 5 Project is estimated to take 12 months and would begin in 2024. The number of on-site construction workers for the VEGA SES 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the VEGA SES 5 battery storage facility and substation is not expected to exceed 50 workers at any one time.

The trip generation was estimated if the construction phases were to overlap. Delivery trucks are expected to follow the same routes as the construction workers. An estimated two trucks would arrive at the project site each day during the first few weeks of construction of the solar generating facility. Truck trips have been converted into passenger equivalent volumes (PCE) using a PCE factor of 2.5.

Table 3.13-3 provides the estimated average daily on-road project trip generation (i.e., trips to and from the site) for the construction phases of the proposed projects. As shown, the maximum number of on-road trips during construction would be approximately 510 daily trips ends (500 worker trips and 10 truck trips) for the VEGA SES 2 and 3 Projects and 260 daily trips (250 worker trips and 10 truck trips) for the VEGA SES 5 Project.

The proposed projects require minimal operations and maintenance activities and would not require presence of full-time employees. However, it is conservatively assumed that for day-to-day inspection and minor maintenance, some employees would commute to the project sites. The annual operations are assumed to be as follows:

- Routine maintenance activities would include panel washing, which is expected to occur two times annually.
- Periodic (approximately every 3 months) removal of vegetation manually and/or by treatment with herbicides.

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Table 3.13-1. Construction Phase Trip Generation

Construction Phase (Duration)	Intensity (Unit)		Daily Rate	Daily Trips	
	VEGA SES 2&3	VEGA SES 5		VEGA SES 2&3	VEGA SES 5
Solar Facility Construction Workers	150 (Employees)	75 (Employee)	2	300	150
Battery Storage Workers	100 (Employees)	50 (Employee)	2	200	100
Equipment Deliveries and Construction Truck Trips (PCE)	4 (trucks)	4 (Trucks)	2.5	10	10
Total Daily Trips				**510**	**260**

Source: Appendix K1 and K2 of this EIR
PCE = passenger equivalent volumes

Impact Analysis

Impact 3.13-1 Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

During the construction phase of the proposed projects, the maximum number of trip ends generated on a daily basis would be approximately 510 trips for the VEGA SES 2 and 3 Projects and 260 trips for the VEGA SES 5 Project. Under construction year conditions with and without the proposed projects, all roadway segments analyzed would operate at LOS A, and all intersections would operate at a LOS B or better during both AM and PM peak hours.

Implementation of the proposed projects would not require any public road widening to accommodate vehicular trips associated with the proposed projects (construction phase and operational phase), while maintaining adequate LOS. Additionally, future operations and maintenance would be conducted remotely, with minimal trips to the project sites for panel washing and other solar maintenance.

There is no regular bus service to the general area and project-related construction and operations and maintenance phases would not impact mass transit. The proposed projects would not interfere with bicycle facilities because the proposed projects are located in a rural portion of the County with no existing or potential future designated bike routes in the area.

Therefore, the proposed projects would not result in any significant impacts to any roadway segments or transportation-related facilities/infrastructure within the area surrounding the project sites during construction and operation; and would not conflict with a program plan, ordinance, or policy as it relates to transportation. Impacts are considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

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Impact 3.13-2 Would the project conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Section 15064.3(b) of the CEQA Guidelines provides guidance on determining the significance of transportation impacts and focuses on the use of vehicle miles traveled (VMT), which is defined as the amount and distance of automobile travel associated with a project. The Natural Resources Agency (NRA) has adopted guidance to incorporate SB 743 into CEQA analysis. The NRA's Technical Advisory on Evaluating Transportation Impacts in CEQA (NRA 2018), includes screening thresholds for small projects. Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact. Although the proposed projects would increase VMT during the construction phase as a result of trips made by construction workers and transportation of construction material and equipment, these increases are temporary in nature. Further, as discussed above, operation of proposed projects would only require intermittent maintenance (including inspection, panel washing, and vegetation removal), which would be a nominal amount of vehicle trips generated. Therefore, the proposed projects would not conflict or be inconsistent with Section 15064.3(b) of the CEQA Guidelines this impact is considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.13-3 Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The solar projects would occur on privately-owned land located in a rural area. To accommodate emergency access, PV panels would be spaced to maintain proper clearance. Internal access roads, up to 30 feet wide, would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles. Access roads would be graded and compacted (native soils) as required for construction, operations, maintenance, and emergency vehicle access. Additionally, any proposed haul routes would be submitted to the County for approval prior to construction. Therefore, the projects would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). Impacts are considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 3.13-4 Would the project result in inadequate emergency access?

The project sites would include both a primary and secondary access driveway (if required). As previously stated, PV panels would be spaced to maintain proper clearance for emergency access. Internal access roads, up to 30 feet wide, would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles. Access roads would be graded and compacted (native soils) as required for construction, operations, maintenance, and emergency vehicle access. The access and service roads would also have turnaround areas at any dead-end to allow clearance for fire trucks per fire department standards. If needed, the access

and service roads would also have turnaround areas at any dead-end to allow clearance for fire trucks per fire department standards.

As previously described, the VEGA SES 2 and 3 Project sites will be accessed from Flowing Wells Road. Weist Road, Noffsinger Road, and Flowing Wells Road are unpaved roadways. Flowing Wells Road, although occasionally maintained by the County of Imperial, is on BLM land and a right-of-way (ROW) approval from the BLM is required. There is no alternative route that either exists or can be used to gain access to the VEGA SES 2 and 3 Project sites that do not cross some federal lands; hence Flowing Wells Road, is the only viable route. The VEGA SES 2 and 3 Projects would not require changes to Flowing Wells Road in terms of alignment, cross-section, width, or length. The project applicant is requesting a 24-foot-wide ROW given that the road currently has no designated width. The VEGA SES 2 and 3 projects, if required as part of the permitting or ROW approval, would grade and maintain Flowing Wells Road during construction as required by the BLM, County and/or Air District, including future years maintenance for safe access to the sites. A maintenance agreement with the County/BLM will be included in the conditions of approval.

To access the portion of the VEGA SES 5 Project site east of the UP railroad tracks, access across the tracks will be at Flowing Wells Road and access to the property will be via an easement that will be acquired. The easement will be a direct vertical south from Flowing Wells Road at the western boundary of APN 025-260-011.

Based on this context, impacts on this issue area are considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

3.13.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

This section included an analysis of construction traffic for the proposed projects. As presented above, construction traffic would not result in a significant impact on any of the roadway segments or intersections because of the low volume of traffic. A similar scenario would occur during the decommissioning and site restoration stage for the proposed projects. ADT would be similar to or less than the ADT required for construction. Similarly, the decommissioning activities would not result in a significant impact related to possible safety hazards, or possible conflicts with adopted policies, plans, or programs as the decommissioning and subsequent restoration would revert the project sites to pre-project conditions. Therefore, decommissioning and restoration of the project sites would not generate traffic resulting in a significant impact on the circulation network. A less than significant impact is identified and no mitigation is required.

Residual

The construction and operation of the proposed projects would not result in direct impacts on intersections and roadway segments. Therefore, less than significant impacts have been identified. No mitigation is required and no residual unmitigated impacts would occur with implementation of the proposed projects.

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3.14 Tribal Cultural Resources

This section discusses tribal cultural resources that may be potentially impacted by the proposed projects. The following identifies the existing cultural resources within the project sites, analyzes potential impacts of the proposed projects, and recommends mitigation measures to avoid or reduce potential impacts of the proposed projects.

3.14.1 Existing Conditions

Tribal Cultural Setting

See Section 3.6, Cultural Resources of this EIR, for description of the regional ethnohistory.

Records Search

A records search from the SCIC of the CHRIS at San Diego State University was requested in November 2020 to determine the extent of previous surveys within a 1-mile of the project area, and whether previously documented pre-contact or historic-period archaeological sites, architectural resources, or traditional cultural properties exist within the project areas.

The results from the CHRIS records search revealed that 22 previous cultural resources investigations have been conducted within 1 mile of the project sites between 1979 and 2016.

The CHRIS records search determined that 28 previously recorded cultural resources are located within 1 mile of the project areas. Previously recorded resources comprise of dumps/trash scatters, trash scatter and foundation, a railroad, a canal, trash scatter and ceramic scatter (multi-component), lithic scatter, ceramic scatters, lithic and ceramic scatters, a village, and ceramic isolates on the VEGA SES 2 and 3 project area; as well as pre-contact resources consisting of lithic scatters, hearths, milling features, and cremation burials; and historic-period resources consisting of a railroad, refuse scatters, a canal, and the historic town site of Flowing Well on the VEGA SES 5 project area. Seven of these previously recorded resources which include the Coachella Canal, a pre-contact seasonal camp, a precontact fishing village, a historic General Land Office survey marker with a glass shard and a plate, historic refuse scatters and the historic period East Highline Canal.

Sacred Lands File Results

The California Native American Heritage Commission (NAHC) identifies, catalogs, and protects Native American cultural resources on private and public lands in California. Tribal Cultural Resources defined in Public Resources Code Section 21074 include sites, features, places, cultural landscapes, sacred places, or objects with cultural value to a California Native American tribe. The NAHC also records the historical territories of state recognized tribes into a database called the Sacred Lands File (SLF). A records search of the SLF is conducted to ensure that the tribes potentially affected by a project are properly notified and consulted.

A SLF search request was submitted on November 6 and November 16, 2020 to the California NAHC and the search results were received on December 22, 2020, and January 8, 2021. The search of the SLF was negative and failed to indicate the presence of Native American cultural resources in the project areas.

3.14.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the project.

Federal

Native American Graves Protection and Repatriation Act (1990); Title 25, United States Code Section 3001, et seq.

The Native American Graves Protection and Repatriation Act defines “cultural items,” “sacred objects,” and “objects of cultural patrimony;” establishes an ownership hierarchy; provides for review; allows excavation of human remains but stipulates return of the remains according to ownership; sets penalties; calls for inventories; and provides for the return of specified cultural items.

State

Assembly Bill 52

AB 52 amends PRC 5097.94 and adds eight new sections to the PRC relating to Native Americans. AB 52 was passed in 2014 and took effect on July 1, 2015. It establishes a new category of environmental impacts that must be considered under CEQA called tribal cultural resources (PRC 21074) and establishes a process for consulting with Native American tribes and groups regarding potential impacts to tribal resources. Under AB 52, a project that may substantially change the significance of a tribal cultural resource is a project that may have a significant impact on the environment. If a project may cause a significant impact on a tribal cultural resource, the lead agency shall implement measures to avoid the impacts when feasible.

Public Resources Code Section 21074

PRC Section 21074 defines a tribal cultural resource as a site, feature, place, cultural landscape, sacred place, and any object with cultural value to a California Native American Tribe. A tribal cultural resource must be on or eligible for the CRHR or must be included in a local register of historical resources. The lead agency can determine if a tribal cultural resource is significant even if it has not been evaluated for the CRHR or is not included on a local register.

Assembly Bill 4239

AB 4239, passed in 1976, established the NAHC as the primary government agency responsible for identifying and cataloging Native American cultural resources. The bill authorized the Commission to act in order to prevent damage to and insure Native American access to sacred sites and authorized the Commission to prepare an inventory of Native American sacred sites located on public lands.

Public Resources Code Section 21074

PRC Section 21074 defines a tribal cultural resource as a site, feature, place, cultural landscape, sacred place, and any object with cultural value to a California Native American Tribe. A tribal cultural resource must be on or eligible for the CRHR or must be included in a local register of historical resources. The lead agency can determine if a tribal cultural resource is significant even if it has not been evaluated for the CRHR or is not included on a local register.

Public Resources Code 5097.97

No public agency and no private party using or occupying public property or operating on public property under a public license, permit, grant, lease, or contract made on or after July 1, 1977, shall in any manner whatsoever interfere with the free expression or exercise of Native American religion as provided in the U.S. Constitution and the California Constitution; nor shall any such agency or party cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require.

Public Resources Code 5097.98 (b) and (e)

PRC 5097.98 (b) and (e) require a landowner on whose property Native American human remains are found to limit further development activity in the vicinity until he/she confers with the NAHC-identified most likely descendants (MLD) to consider treatment options. In the absence of MLDs or of a treatment acceptable to all parties, the landowner is required to reenter the remains elsewhere on the property in a location not subject to further disturbance.

California Health and Safety Code, Section 7050.5

California HSC 7050.5 makes it a misdemeanor to disturb or remove human remains found outside a cemetery. This code also requires a project owner to halt construction if human remains are discovered and to contact the County Coroner.

Local

Imperial County General Plan

The Imperial County General Plan provides goals, objectives, and policies for the identification and protection of significant cultural resources. The Conservation and Open Space Element of the General Plan includes goals, objectives, and policies for the protection of cultural resources and scientific sites that emphasize identification, documentation, and protection of cultural resources. While Section 3.11, Land Use Planning, of this EIR analyzes the project's consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors and Planning Commission ultimately make a determination as to the project's consistency with the General Plan. Goals and Objectives applicable to the proposed project are summarized in Table 3.14-1.

Table 3.14-1. Project Consistency with Applicable General Plan Goals and Objectives

General Plan Policies	Consistency with General Plan	Analysis
Conservation and Open Space Element - *Open Space and Recreation Conservation* **Goal 1** - Environmental resources shall be conserved for future generations by minimizing environmental impacts in all land use decisions and educating the public on their value. **Objective 1.4** - Ensure the conservation and management of the County's natural and cultural resources.	Consistent	Cultural Resources Inventory reports were prepared for the proposed projects. Based on the SLF search, there are no known tribal cultural resources within the project sites. However, as discussed below, the proposed projects have the potential to encounter undocumented tribal cultural resources and Native American human remains. Implementation of Mitigation Measure CR-1 would reduce potentially significant impacts on unknown historic or unique archaeological materials during construction of the project sites. Implementation of Mitigation Measure CR-2 would reduce potential impacts on human remains to a level less than significant.
Objective 3.1 - Protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.	Consistent	

Source: County of Imperial 1993
Notes:
SLF=sacred lands file

3.14.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to tribal cultural resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to tribal cultural resources are considered significant if the project causes a substantial adverse change in the significance of a tribal cultural resource defined in PRC section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC section 5020.1(k)
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe

Methodology

This analysis evaluates the potential for the projects, as described in Chapter 2, Project Description, to interact with tribal cultural resources on the project sites. Based on the extent of these interactions, this analysis considers whether these conditions would result in an exceedance of one or more of the applied significance criteria as identified above.

As indicated in the environmental setting, cultural resources inventory reports were prepared for the project sites. The reports provide the results of a records search, a SLF search conducted by the NAHC, and field survey, which have been completed for the project sites pursuant to CEQA. These reports are included in Appendix G1. The information from these cultural resources inventory reports were reviewed and summarized to present the existing conditions and to identify potential environmental impacts, based on the significance criteria presented in this section. Impacts associated with tribal cultural resources that could result from the proposed projects' construction and operational activities were evaluated qualitatively based on site conditions; expected construction practices; materials, locations, and duration of project construction and related activities.

Impact Analysis

Impact 3.14-1 ***Would the project cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:***

- *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)*
- *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?*

The NAHC maintains the confidential SLF which contains sites of traditional, cultural, or religious value to the Native American community. A SLF search request was submitted on November 6 and November 16, 2020 to the California NAHC and the search results were received on December 22, 2020, and January 8, 2021. The search of the SLF was negative and failed to indicate the presence of Native American cultural resources in the project area. AB 52 requires a lead agency to begin consultation with a California Native American Tribe that is traditionally and culturally affiliated with the geographic areas of the proposed project. In accordance with AB 52, the County provided notification of the proposed project to Native American tribes that the County understands to be traditionally and culturally affiliated with the geographic area of the proposed project. This notification was provided in a letter sent via email on April 7, 2021, to the Quechan Indian Tribe. On April 8, 2021, the Quechan Indian Tribe requested consultation with the County on the proposed projects. The County is in the process of consulting with the Quechan Indian Tribe and has requested that they provide any information regarding any Traditional Cultural Properties, Sacred Sites, resource collecting areas, or any other areas of concern known to occur in the project area.

To date, no tribes have indicated the potential for traditional cultural properties or sacred sites. Therefore, the project is not anticipated to cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1, and, per the criteria set forth in Section 5024.1, considering the significance of the resource to a California Native American tribe. As stated in Section 3.6 Cultural Resources, potential impacts to archaeological resources and human remains would be less than significant with implementation of Mitigation Measures CR-1 to CR-5. Impacts specifically related to tribal cultural resources would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

3.14.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

If at the end of the PPA term, no contract extension is available for a power purchaser, no other buyer of the energy emerges, or there is no further funding of the projects, the projects will be decommissioned and dismantled. No impact is anticipated from restoration activities as the ground disturbance and associated impacts on tribal cultural resources will have occurred during the construction phase of the proposed projects.

Residual

No unmitigable impacts on tribal cultural resources would occur with implementation of the proposed projects.

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3.15 Utilities and Service Systems

This section includes an evaluation of potential impacts for identified Utilities/Service Systems that could result from implementation of the projects. Utilities/Service Systems include wastewater treatment facilities, stormwater drainage facilities, water supply and treatment, and solid waste disposal. The impact analysis provides an evaluation of potential impacts to Utilities/Service Systems based on criteria derived from CEQA Guidelines in conjunction with actions proposed in Chapter 2, Project Description. The information for this section is summarized from the following technical reports:

- Water Supply Assessment for the ZGlobal VEGA SES 2, LLC and VEGA SES 3, LLC Solar Energy Projects (Appendix L1 of this EIR)
- SB 610 – Water Supply Assessment for the ZGlobal VEGA SES 5,LLC Solar Energy Project (Appendix L2 of this EIR)

The IS/NOP prepared for this EIR determined that impacts with regards to solid waste disposal, storm drainage, and wastewater treatment would be less than significant. Therefore, these impacts are not addressed in detail in this EIR; however, the rationale for eliminating these issues is discussed in Chapter 6.0, Effects Found Not Significant.

3.15.1 Existing Conditions

Water Service

The Imperial Irrigation District (IID) is a public entity organized in 1911 pursuant to the Irrigation District Law (California Water Code sections 20500 et. seq.). IID is empowered to provide irrigation and energy related services to customers within its district boundaries and, through service contracts, to customers outside of its district boundaries.

IID is located in Imperial County in southeastern California. The District is bounded to the south by Mexico. The district boundaries are comprised of four units: the Imperial Unit which is centrally located encompassing the Imperial Valley, the West Mesa Unit and the East Mesa Unit which are located immediately to the west and east, respectively, of the Imperial Unit. Pilot Knob Unit is located further east. The East Highline and Westside Main canals generally form the two sides of the water service area while the Central Main runs up the middle. To the north is the Salton Sea, into which all drainage from the IID water service area flows. IID delivers water to a few users in the East Mesa via the Coachella Canal (IID 2021).

VEGA SES 2 and 3

APN 025-260-011 and parts of APN 025-010-006 and APN 025-270-023 are located within IID's East Mesa Unit service area where water is only available for agricultural uses.

VEGA SES 5

VEGA SES 5 APN 025-260-011, APN 025-260-019, and the area of APN 025-260-022 east of the East Highline Canal are located within IID's East Mesa Unit, while 114.4 acres of the area of APN 025-260-022 west of the East Highline Canal is within IID's Imperial Unit. The VEGA SES 5 project parcel areas within the IID's East Mesa Unit do not currently have water service from IID.

Groundwater

VEGA SES 2 and 3

As shown in Figure 3.15-1, the VEGA SES 2 and 3 projects are located within the western part of the East Salton Sea Groundwater Basin (Basin), designated as basin number 7-033, as defined by the Department of Water Resources (DWR). The Basin is bounded on the northeast by the Chocolate Mountains and on the southwest by the San Andreas and Banning Mission Creek fault zones. The northwest and southeast edges of the groundwater basin are approximately defined by transitions between major surface drainages coming off of the Chocolate Mountains. The groundwater basin has an area of approximately 196,000 acres, or 306 square miles. The Basin has not been adjudicated (Appendix L1 of this EIR).

Groundwater occurs within unconsolidated to semi-consolidated coarse sediment eroded from the Chocolate Mountains. The sediment generally occurs within large alluvial fans that originate at drainages and canyons within the bedrock formations in the mountains and spread out as they decrease in elevation toward the floor of the Imperial Valley or the Salton Sea. The alluvial fan sediments range in age from Tertiary to Quaternary. DWR reports that the alluvium is at least 400 feet thick (Appendix L1 of this EIR).

VEGA SES 5

As shown in Figure 3.15-1, the majority of the VEGA SES 5 project is located within the western part of the East Salton Sea Groundwater Basin. However, approximately 20 acres in the southwest corner of APN 025-260-022 of the VEGA SES 5 site overlies the adjacent Imperial Valley Groundwater Basin, designated as basin number 7-030. All groundwater for the VEGA SES 5 project would be sourced from the East Salton Sea Groundwater Basin (Basin). Therefore, the Imperial Valley Groundwater Basin is not addressed further in this EIR (Appendix L2 of this EIR).

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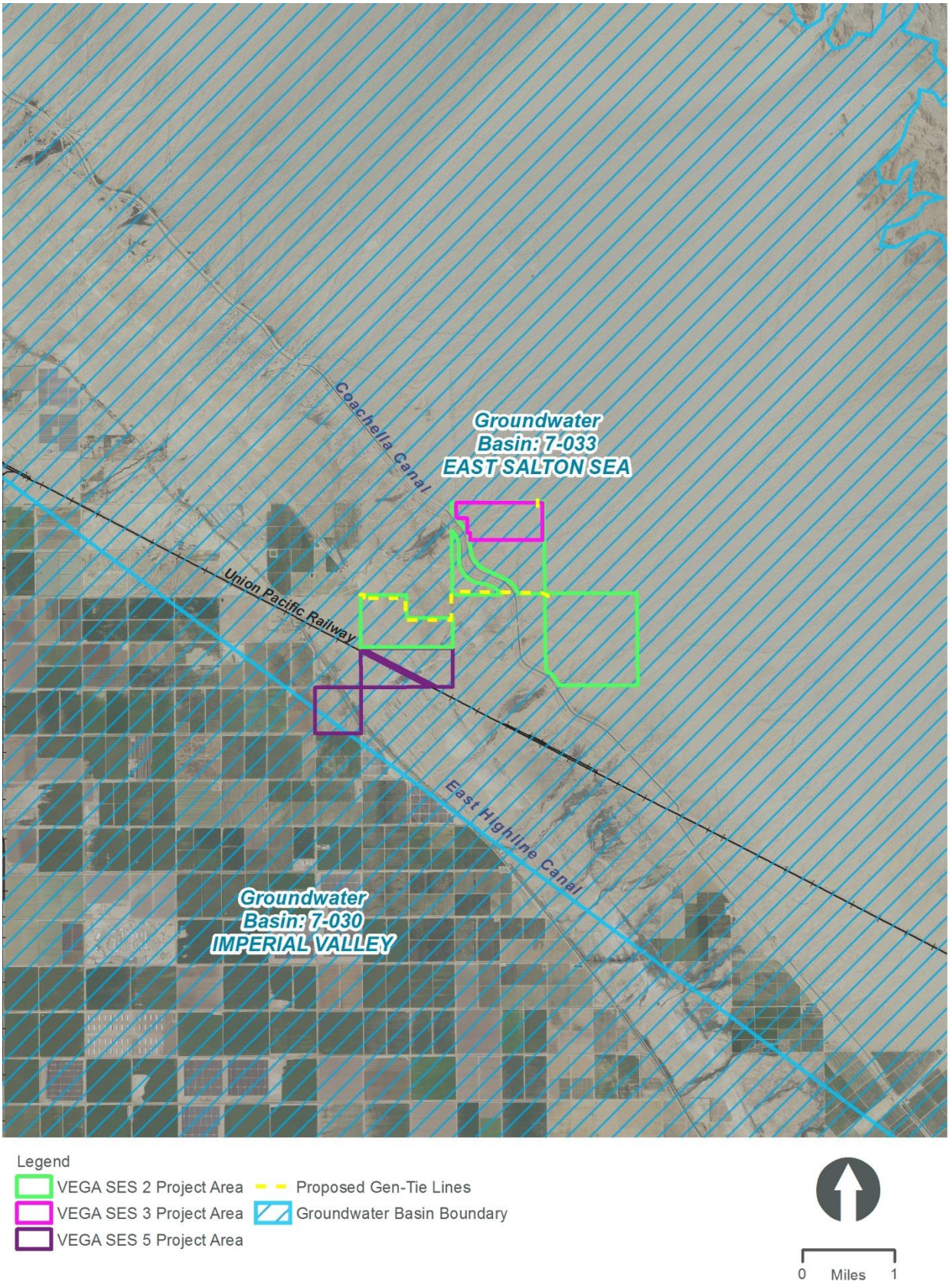
Figure 3.15-1. Groundwater Basins



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East Salton Sea Groundwater Basin - Groundwater Supply and Recharge

DWR reports that the population in the East Salton Sea Groundwater Basin in 2010 was approximately 1,093 persons and that the population is expected to decrease 10 percent by 2030. There are no public water supply wells in the Basin and 11 total wells present. Only 4,906 acres of the 196,000-acre Basin, or 2.54 percent, are irrigated. The total groundwater storage capacity of the groundwater basin is estimated to be 360,000 acre-feet (Appendix L1 of this EIR).

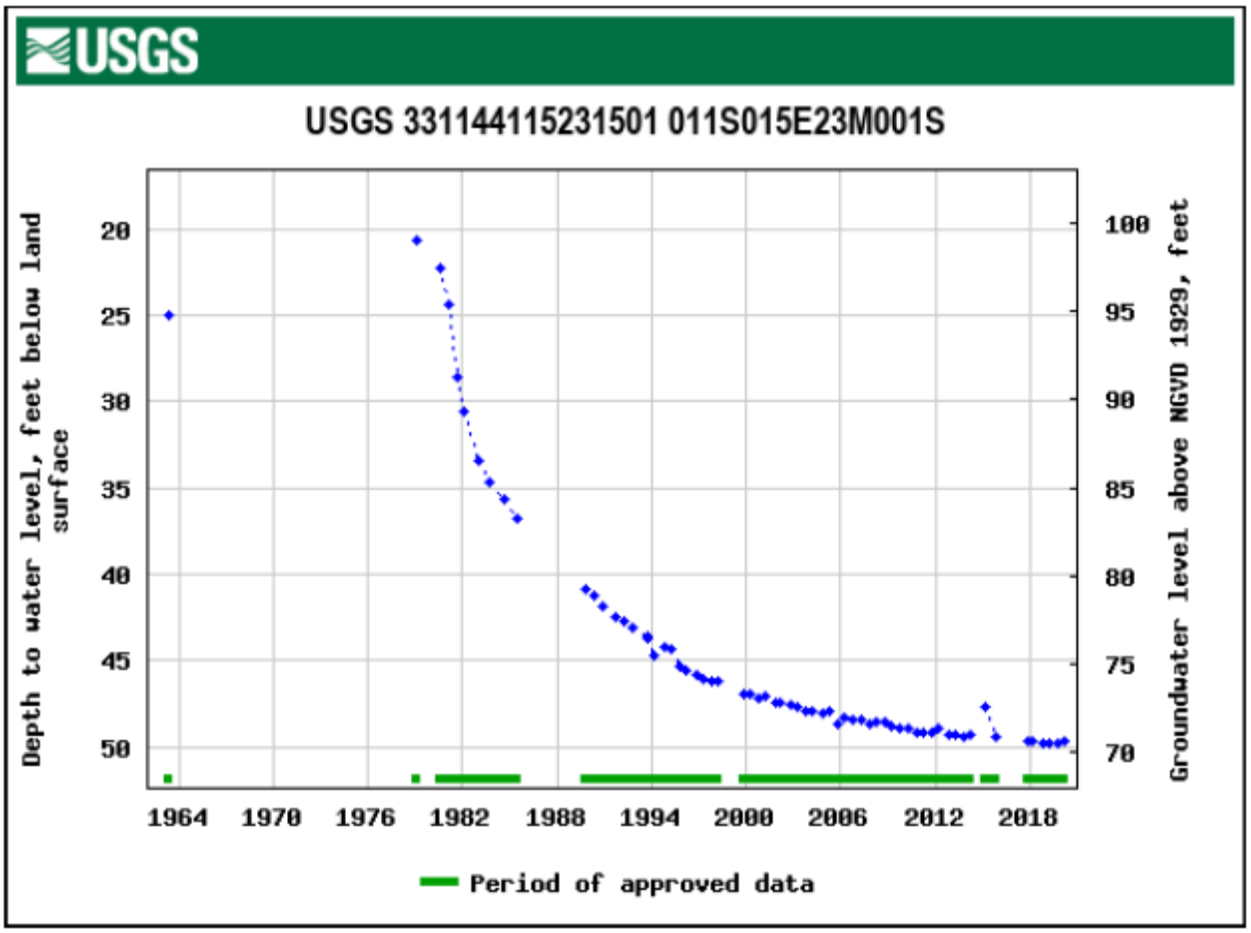
The average annual rainfall is very low and typically does not provide a sufficient quantity of moisture to percolate deep into the alluvial sediments. As a result, recharge of groundwater occurs primarily due to runoff from the Chocolate Mountains during major storm events, which may not occur every year. The average annual recharge is estimated to be 200 acre-feet per year. That estimate is from a 1975 version of DWR Bulletin 118. No changes to basin conditions are reported in the most recent updates to DWR Bulletin 118 (Appendix L1 of this EIR).

According to DWR's California Data Exchange Center and the USGS's National Water Information System mapping application, only one active groundwater monitoring location within the Basin was prepared and that well is located approximately 3,600 feet southeast of the southeast corner of the project and 950 feet northeast of the Coachella Canal. The well has USGS identification number 331144115231501, which identifies the latitude and longitude of the well (i.e., 33°11'44" latitude, -115°23'15" longitude), and California state well number 011S015E23M001, which indicates the township, range, and quarter-quarter section (i.e., northwest quarter or the southwest quarter of township 11S, range 15E, San Bernardino Base and Meridian). The ground surface elevation at the well location is reported to be 120 feet above mean sea level (ft msl) while the borehole in which the well was installed is reported to have been drilled to a depth of 550 feet below ground surface (ft bgs) (Appendix L1 of this EIR).

Figure 3.15-2 is a hydrograph from USGS showing the groundwater level and groundwater elevation measured since 1963 in the sole active monitoring well in the Basin. As indicated on Figure 3.15-2, the groundwater level decreased at a relatively rapid rate from 1979 to approximately 2000, with the depth to water dropping from approximately 21 ft bgs to approximately 47 ft bgs over that period. Since 2000, the groundwater level has continued to decrease, but at a slower rate, with the level in March 2020 (the last date with a reported measurement by USGS) being approximately 50 ft bgs. While the groundwater level has decreased by almost 30 feet since 1979, it has changed by less than one foot over the past decade. Based on the depth to groundwater and the borehole depth for the monitoring well, the potential loss of aquifer volume since 1979 is only six percent of the total available storage reported by DWR (Appendix L1 of this EIR).

Water quality samples were collected and analyzed from the monitoring well within the Basin in June and September 1963. Table 1 in Appendix L1 of this EIR shows the water quality results from June 1963. The September results were comparable. The groundwater sampled from the monitoring well has a normal pH but the levels of sodium, chloride, and sulfate are elevated compared to what would be expected from percolation of local rainfall. The dissolved solids concentration of 2,190 milligrams per liter (mg/L) is more than twice the value of the high end of the range of the secondary maximum contaminant level (MCL) for drinking water of 1,000 mg/L. The high dissolved solids concentration renders the water unsuitable for potable or agricultural uses without treatment. However, the existing water quality is suitable for use for construction and maintenance purposes (Appendix L1 of this EIR).

Figure 3.15-2. USGS Groundwater Level Hydrograph



Source: Appendix L1 of this EIR

Groundwater Sustainability

A series of three bills passed by the California legislature and were signed by Governor Brown on September 16, 2014. These three bills, Assembly Bill (AB) 1739, SB 1168, and SB 1319, together comprise the Sustainable Groundwater Management Act of 2014 (SGMA). SGMA provides a structure under which local agencies are to develop a sustainable groundwater management program. SGMA focuses on basins or subbasins designated by DWR as high or medium priority basins, and those with critical conditions of overdraft.

According to DWR, the East Salton Sea Groundwater Basin is a very low priority basin. DWR has not identified the Basin as over drafted, nor has it projected that the basin will become over drafted if present management conditions continue. Thus, the Basin is not subject to the current requirements of the SGMA, including the formation of a groundwater sustainability agency (GSA) and preparation of a groundwater sustainability plan (GSP) (Appendix L1 and L2 of this EIR).

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3.15.2 Regulatory Setting

This section identifies and summarizes laws, policies, and regulations that are applicable to the proposed project.

State

Senate Bill 610

With the introduction of SB 610, any project under CEQA shall provide a WSA if:

- The project meets the definition of the Water Code Section 10912:

  For the purposes of this part, the following terms have the following meanings:

  (a) ‘‘Project’’ means any of the following:

  (1) A proposed residential development of more than 500 dwelling units.

  (2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

  (3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

  (4) A proposed hotel or motel, or both, having more than 500 rooms.

  (5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

  (6) A mixed-use project that includes one or more of the projects specified in this subdivision.

  (7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

  (b) If a public water system has fewer than 5,000 service connections, then ‘‘project’’ means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system’s existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system’s existing service connections.

After review of Water Code Section 10912, the solar facility is deemed a “project” because it is a proposed industrial use occupying more than 40 acres of land.

California Water Code

Water Code Sections 10656 and 10657 restrict state funding for agencies that fail to submit their urban water management plan to the Department of Water Resources. In addition, Water Code Section 10910 describes the WSA that must be undertaken for projects referred under PRC Section 21151.9, including an analysis of groundwater supplies. Water agencies are given 90 days from the start of consultation in which to provide a WSA to the CEQA lead agency. Water Code Section 10910 also

specifies the circumstances under which a project for which a WSA was once prepared would be required to obtain another assessment. Water Code Section 10631, directs that contents of the urban water management plans include further information on future water supply projects and programs and groundwater supplies.

Water Quality Control Plan for the Colorado River Basin

The Water Quality Control Plan for the Colorado River Basin (or Basin Plan) prepared by the Colorado River RWQCB (Region 7) identifies beneficial uses of surface waters within the Colorado River Basin region, establishes quantitative and qualitative water quality objectives for protection of beneficial uses, and establishes policies to guide the implementation of these water quality objectives.

3.15.3 Impacts and Mitigation Measures

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to utilities and service systems are considered significant if any of the following occur:

Water Supply

- Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years

Methodology

The WSAs (Appendix L1 and L2 of this EIR) were prepared using project-specific data to calculate the project's water consumption during construction and at build-out collectively ("operational").

Impact Analysis

Impact 3.15-1 Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

VEGA SES 2, 3 and 5

Construction is anticipated to require 12 to 18 months to complete each project (VEGA SES 2, 3, and 5). Water demand varies depending on the project phase. During construction, water will be needed for dust control and soil conditioning during installation of the photovoltaic panels, battery storage units, and related infrastructure. During the operational phase of the project, water will be needed for routine maintenance activities, which primarily consists of washing the photovoltaic panels to maintain generation efficiency.

Table 3.15-1 provides the estimated water needs for construction and operation of the projects. The construction water demand is primarily for dust control. Thus, the water needs are proportional to the size of the disturbed area and the local climate. Construction of the VEGA SES 2 and 3 projects is expected to occur simultaneously, and the combined construction water demand is approximately 630 acre-feet. Construction is anticipated to require 12 to 18 months to complete. Thus, the monthly water demand during that period may range from 35 acre-feet to 52.5 acre-feet, on average (Appendix L1 of this EIR).

Table 3.15-1. Project Water Demand

Site	Area (acres)	Output (megawatts)	Construction Water (acre-feet)	Operational Water (acre-feet per year)
VEGA SES 2	1,323	240	630 (Total combined)	10
VEGA SES 3	230	60		2
VEGA SES 5	410	50	365	20

Source: Appendix L1 and L2 of this EIR

Construction of the VEGA SES 5 project would have a construction water demand of approximately 365 acre-feet. Construction is anticipated to require 12 months to complete. Thus, the monthly water demand during that period will average about 30 acre-feet (Appendix L2 of this EIR).

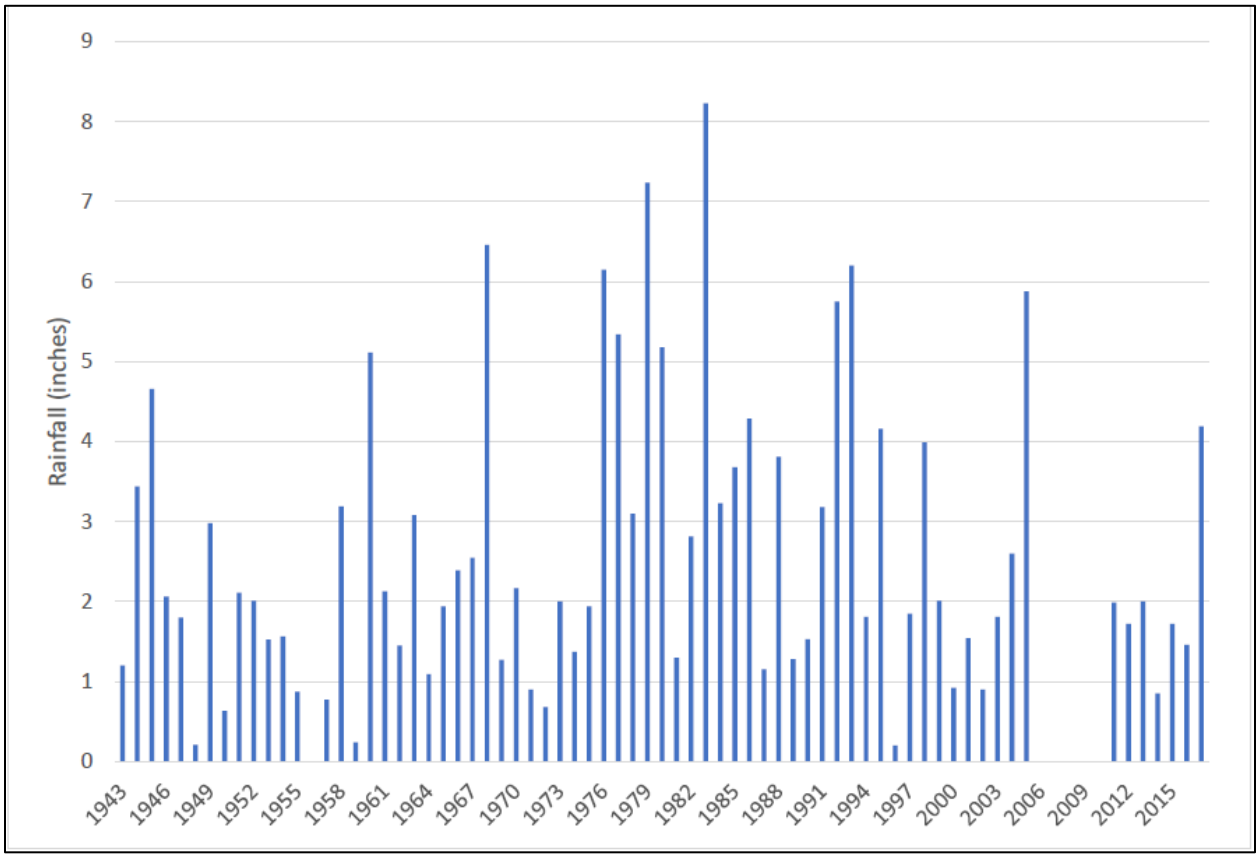
The operational water demand for panel washing and other maintenance needs is based primarily on the number of panels, which relates to the energy production or output, in megawatts. The operational water demand is anticipated to range from 10 acre-feet per year for VEGA SES 2 to two acre-feet per year for VEGA SES 3. The operational water demand is anticipated to be 20 acre-feet per year for VEGA SES 5. The maintenance activities for each system are anticipated to be conducted up to twice a year over a one-to-two-week period each event, so the maintenance water demand is intermittent and not spread throughout the year. The operational water demand will occur throughout the life of the projects.

Dry Year Supply

The volume and sustainability of dry-year water supply for the proposed projects was analyzed by comparing annual rainfall with changes in groundwater levels in the Basin. This comparison is made for a normal or average water year, for single dry year, and for multiple dry water years. Local rainfall data were obtained from the Western Region Climate Center for Niland, California, located approximately four miles northwest of the projects.

Figure 3.15-3 shows the annual water year rainfall for Niland, California from 1943 through 2017. The average water year rainfall during this period is 2.58 inches. The driest year was 1956, when no precipitation was recorded. The driest year during the period of available groundwater elevation data (see Figure 3.15-2) was 1996, with only 0.2 inch of rainfall reported. The wettest year was 1983, when 8.23 inches of rain was measured. As indicated on Figure 3.15-3, a relatively wet period occurred from 1976 to 1986, with 10 of 11 water years exceeding the average annual rainfall. In comparison, the period from 1996 to 2016 was relatively dry, with 18 of 21 water years having below normal rainfall (Appendix L1 of this EIR).

Figure 3.15-3. Water Year Rainfall at Niland



Source: Appendix L1 of this EIR

The historic rainfall data on Figure 3.15-3 can be compared with the groundwater levels shown on Figure 3.15-2 to assess the effects of wet and dry periods on groundwater supply in the Basin. The wettest year recorded, 1983, and the relatively wet period from 1976 to 1986, correspond to a period when groundwater levels were dropping rapidly. In contrast, the dry period from 1996 to 2016 corresponds to a period when the rate of decline of the groundwater elevation was attenuating rapidly and beginning to stabilize. Thus, the available groundwater level and rainfall data do not indicate any relationship between wet, normal, single dry year, or multiple dry years and available groundwater supply. As noted previously, recharge of groundwater occurs primarily due to runoff from the mountains during individual major storm events (Appendix L1 of this EIR).

The total groundwater storage capacity of the Basin is estimated to be 360,000 acre-feet and the groundwater level decline from 1979 to 2018 decreased groundwater storage by approximately six percent. Thus, the current storage in the Basin may be in the range of 335,000 to 340,000 acre-feet. The VEGA SES 2 and 3 projects' single year combined construction water demand of 630 acre-feet and the annual combined operational water needs of 12 acre-feet are miniscule (0.2 percent and 0.004 percent, respectively) compared to the available groundwater in storage (Appendix L1 of this EIR). The VEGA SES 5 project's single year construction water demand of 365 acre-feet and the annual combined operational water needs of 20 acre-feet are miniscule (0.1 percent and 0.006 percent, respectively) compared to the available groundwater in storage (Appendix L1 and L2 of this EIR). Furthermore, the long term annual operational water needs are much less than the estimated annual recharge of 200 acre-feet per year. Overall, there is adequate water available to supply the projects' water needs during single dry, and multiple dry year periods.

On a cumulative basis, the construction water demand for the VEGA SES 2, 3, and 5 solar energy projects is equivalent to 0.3 percent of the available groundwater in storage. The annual cumulative operational water needs for all three solar energy projects is equivalent to 0.01 percent of the available groundwater in storage in the Basin. Thus, the cumulative effect on groundwater availability in the Basin would also be miniscule such that there would be adequate water available to supply the water needs of all three solar projects during single dry, and multiple dry year periods.

Conclusion

The WSAs (Appendix L1 and L2 of this EIR) have determined that the groundwater water supply is adequate for the proposed projects.

The VEGA SES 2 and 3 projects have a maximum estimated cumulative one-year total water demand of 630 AF over 12 to 18 months, primarily for dust control. The operational demand is anticipated to be a combined total of 12 acre-feet per year for panel washing and other maintenance activities. The annual operational water needs are equivalent to six percent of the average annual recharge and 0.004 percent of the estimated current storage volume of the Basin (Appendix L1 of this EIR).

The VEGA SES 5 project has a maximum estimated cumulative one-year total water demand of 365 AF over 12 months, primarily for dust control. The operational demand is anticipated to be 20 acre-feet per year for panel washing and other maintenance activities. The annual operational water needs are equivalent to 10 percent of the average annual recharge and 0.006 percent of the estimated current storage volume of the Basin (Appendix L2 of this EIR).

The construction water demand exceeds the reported average annual recharge to the Basin of 200 acre-feet per year. However, the construction water needs are short-term and temporary. This temporary water use is not anticipated to cause persistent and long-term lowering of groundwater levels. Therefore, the construction water demand will not cause or contribute to overdraft, exhaustion of water supplies, lowering of groundwater levels to depths that would be uneconomic for pumping, land subsidence, or significant alteration of groundwater quality.

The annual operational water needs of the projects combined would be 16 percent of the annual recharge and 0.0010 percent of the estimated current storage volume of the Basin. Therefore, the long-term operation and maintenance of the projects would not have any measurable effect or impact on groundwater resources in the Basin.

For all the reasons described herein, there will be sufficient water available for existing water uses in the Basin, along with the projects' water demands during normal, single dry year, and multiple dry year periods for the anticipated life of the projects.

Mitigation Measure(s)

No mitigation measures are required.

3.15.4 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

If at the end of the PPA term, no contract extension is available for a power purchaser, no other buyer of the energy emerges, or there is no further funding of the projects, the projects will be decommissioned and dismantled. Water demand for decommissioning activities is assumed to be similar to construction activities. As described above, there will be sufficient water available for existing

water uses in the Basin, along with the projects' water demands during normal, single dry year, and multiple dry year periods for the anticipated life of the projects. The proposed projects would have sufficient water supplies available to serve the projects from existing entitlements and resources, and impacts would be less than significant.

Residual

The proposed projects would not result in significant impacts on the water supply of Imperial County; therefore, no mitigation is required. The proposed projects would not result in residual impacts.

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4 Analysis of Long-Term Effects

4.1 Growth-Inducing Impacts

In accordance with Section 15126.2(d) of CEQA Guidelines, an EIR must:

> *"discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth ... Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."*

Projects promoting direct growth will impose burdens on a community by directly inducing an increase in population or resulting in the construction of additional developments in the same area. For example, projects involving the expansion, modifications, or additions to infrastructure, such as sewer, water, and roads, could have the potential to directly promote growth by removing existing physical barriers or allowing for additional development through capacity increases. New roadways leading into a previously undeveloped area directly promote growth by removing previously existing physical barriers to development and a new wastewater treatment plant would allow for further development within a community by increasing infrastructure capacity. Because these types of infrastructure projects directly serve related projects and result in an overall impact to the local community, associated impacts cannot be considered isolated. Indirect growth typically includes substantial new permanent employment opportunities and can result from these aforementioned modifications.

The proposed projects are located within the unincorporated area of Imperial County and does not involve the development of permanent residences that would directly result in population growth in the area. The unemployment rate in Imperial County, as of September 2022, was 16.0 percent (State of California Employment Development Department 2022). The applicant expects to utilize construction workers from the local and regional area, a workforce similar to that involved in the development of other utility-scale solar facilities. Based on the unemployment rate, and the availability of the local workforce, construction of the proposed projects would not have a growth-inducing effect related to workers moving into the area and increasing the demand for housing and services.

Once construction is completed, the facilities would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. Security personnel may conduct unscheduled security rounds and would be dispatched to the project sites in response to a fence breach or other alarm. It is anticipated that maintenance of the facilities would require minimal site presence to perform periodic visual inspections and minor repairs. On intermittent occasions, the presence of additional workers may be required for repairs or replacement of equipment and panel cleaning; however, because of the nature of the facilities, such actions would likely occur infrequently. Overall, minimal maintenance requirements are anticipated. The proposed projects would not result in substantial population growth, as the number of employees required to operate and maintain the facility is minimal.

While the proposed projects would contribute to energy supply, which indirectly supports population growth, the proposed projects are a response to the state's need for renewable energy to meet its

Renewable Portfolio Standard, and while it would increase the availability of renewable energy, it would also replace existing sources of non-renewable energy. Unlike a gas-fired power plant, the proposed projects are not being developed as a source of base-load power in response to growth in demand for electricity. The power generated would be added to the state's electricity grid with the intent that it would displace fossil fueled power plants and their associated environmental impacts, consistent with the findings and declarations in SB 100 that a benefit of the Renewable Portfolio Standard is displacing fossil fuel consumption within the state. The projects are being proposed in response to state policy and legislation promoting development of renewable energy.

The proposed projects would supply energy to accommodate and support existing demand and projected growth, but the energy provided by the projects would not foster any new growth because (1) the additional energy would be used to ease the burdens of meeting existing statewide energy demands within and beyond the area of the project sites; (2) the energy would be used to support already-projected growth; or, (3) the factors affecting growth are so diverse that any potential connection between additional energy production and growth would necessarily be too speculative and uncertain to merit further analysis.

Under CEQA, an EIR should consider potentially significant energy implications of a project (CEQA Guidelines Appendix F(II); PRC Section 21100(b)(3)). However, the relationship between the proposed projects' increased electrical capacity and the growth-inducing impacts outside the surrounding area is too speculative and uncertain to warrant further analysis. When a project's growth-inducing impacts are speculative, the lead agency should consider 14 CCR §15145, which provides that, if an impact is too speculative for evaluation, the agency should note this conclusion and terminate discussion of the impact. As the court explained in Napa Citizens for Honest Gov't v. Napa County Board of Supervisors, 91 Cal. App.4th 342, 368: "Nothing in the Guidelines, or in the cases, requires more than a general analysis of projected growth" *Napa Citizens, 91* CA4th at 369. The problem of uncertainty of the proposed projects' growth-inducing effects cannot be resolved by collection of further data because of the diversity of factors affecting growth.

While this document has considered that the proposed projects, as energy projects, might foster regional growth, the particular growth that could be attributed to the proposed projects are unpredictable, given the multitude of variables at play, including uncertainty about the nature, extent, and location of growth and the effect of other contributors to growth besides the proposed projects. No accurate and reliable data is available that could be used to predict the amount of growth outside the area that would result from the proposed projects' contribution of additional electrical capacity. The County of Imperial has not adopted a threshold of significance for determining when an energy project is growth-inducing. Further evaluation of this impact is not required under CEQA.

Additionally, the projects would not involve the development of any new roadways, new water systems, or sewer; and thus, the projects would not further facilitate additional development into outlying areas. For these reasons, the proposed projects would not be growth-inducing.

4.2 Significant Irreversible Environmental Changes

In accordance with CEQA Guidelines Section 15126.2(c), an EIR must identify any significant irreversible environmental changes that would be caused by implementation of the proposed project being analyzed. Irreversible environmental changes may include current or future commitments to the use of non-renewable resources or secondary growth-inducing impacts that commit future generations to similar uses.

Energy resources needed for the construction of the proposed projects would contribute to the incremental depletion of renewable and non-renewable resources. Resources, such as timber, used in building construction are generally considered renewable and would ultimately be replenished. Non-renewable resources, such as petrochemical construction materials, steel, copper, lead and other metals, gravel, concrete, and other materials, are typically considered finite and would not be replenished over the lifetime of the project. Thus, the project would irretrievably commit resources over the anticipated 30-year life of the projects.

At the end of the projects' operation term, the applicant may determine that the projects should be decommissioned and deconstructed. Should the projects be decommissioned, the project applicant is required to restore land to its pre-project state. Consequently, some of the resources on the sites could potentially be retrieved after the sites have been decommissioned. Concrete footings, foundations, and pads would be removed and recycled at an off-site location. All remaining components would be removed, and all disturbed areas would be reclaimed and recontoured. The applicant anticipates using the best available recycling measures at the time of decommissioning.

Implementation and operation of the proposed projects would promote the use of renewable energy and contribute incrementally to the reduction in demand for fossil fuel use for electricity-generating purposes. Therefore, the incremental reduction in fossil fuels would be a positive effect of the commitment of nonrenewable resources. Additionally, the projects are consistent with the state's definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California PRC.

4.3 Unavoidable Adverse Impacts

In accordance with CEQA Guidelines Section 15126(b), EIRs must include a discussion of significant environmental effects that cannot be avoided if the proposed project is implemented. The impact analysis, as detailed in Section 3 of this EIR, concludes that no unavoidable significant impacts were identified. Where significant impacts have been identified, mitigation measures are proposed, that when implemented, would reduce the impact level to less than significant.

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5 Cumulative Impacts

The CEQA Guidelines (Section 15355) define a cumulative impact as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." The CEQA Guidelines [Section 15130(a)(1)] further states that "an EIR should not discuss impacts which do not result in part from the project."

Section 15130(a) of the CEQA Guidelines provides that "[A]n EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable..." Cumulatively considerable, as defined in Section 15065(a)(3), "means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

An adequate discussion of significant cumulative impacts requires either: (1) "a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency"; or (2) "a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact."

The CEQA Guidelines recognize that cumulative impacts may require mitigation, such as new rules and regulations that go beyond project-by-project measures. An EIR may also determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The Lead Agency must identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable (CEQA Guidelines Section 15130(a)(3)).

This EIR evaluates the cumulative impacts of the projects for each resource area, using the following steps:

1. Define the geographic and temporal scope of cumulative impact analysis for each cumulative effects issue, based on the project's reasonably foreseeable direct and indirect effects.
2. Evaluate the cumulative effects of the project in combination with past and present (existing) and reasonably foreseeable future projects and, in the larger context of the Imperial Valley.
3. Evaluate the projects' incremental contribution to the cumulative effects on each resource considered in Chapter 3, Environmental Analysis. When the projects' incremental contribution to a significant cumulative impact is considerable, mitigation measures to reduce the projects' "fair share" contribution to the cumulative effect are discussed, where required.

5.1 Geographic Scope and Timeframe of the Cumulative Effects Analysis

The geographic area of cumulative effects varies by each resource area considered in Chapter 3. For example, air quality impacts tend to disperse over a large area, while traffic impacts are typically more localized. Similarly, impacts on the habitats of special-status wildlife species need to be considered within its range of movement and associated habitat needs.

The analysis of cumulative effects in this EIR considers a number of variables including geographic (spatial) limits, time (temporal) limits, and the characteristics of the resource being evaluated. The geographic scope of each analysis is based on the topography surrounding the project sites and the natural boundaries of the resource affected, rather than jurisdictional boundaries. The geographic scope of cumulative effects will often extend beyond the scope of the direct effects of a project, but not beyond the scope of the direct and indirect effects of that project.

The cumulative development scenario includes projects that extend through year (2030), which is the planning horizon of the County of Imperial General Plan. Because of uncertain development patterns that are far in the future, it is too speculative to accurately determine the type and quantity of cumulative projects beyond the planning horizon of the County's adopted County General Plan. Evaluating the proposed projects' cumulative impacts when future facility decommissioning occurs is highly speculative because decommissioning is expected to occur in 25 to 30 years' time. Therefore, cumulative impacts during decommissioning are speculative for detailed consideration in this analysis.

5.2 Projects Contributing to Potential Cumulative Impacts

The CEQA Guidelines identify two basic methods for establishing the cumulative environment in which the projects are to be considered: the use of a list of past, present, and probable future projects (the "list approach") or the use of adopted projections from a general plan, other regional planning document, or certified EIR for such a planning document (the "plan approach").

For this EIR, the list approach has been utilized to generate the most reliable future projections of possible cumulative impacts. When the impacts of the projects are considered in combination with other past, present, and future projects to identify cumulative impacts, the other projects considered may also vary depending on the type of environmental impacts being assessed. As described above, the general geographic area associated with different environmental impacts of the projects defines the boundaries of the area used for compiling the list of projects considered in the cumulative impact analysis. Figure 5-1 provides the general location for each of these projects in relation to the project sites.

5.3 Cumulative Impact Analysis

This cumulative impact analysis utilizes an expanded list method (as defined under CEQA) and considers environmental effects associated with those projects identified in Table 5-1 in conjunction with the impacts identified for the projects in Chapter 3 of this EIR. Table 5-1 includes projects known at the time of release of the NOP of the Draft EIR, as well as additional projects that have been proposed since the NOP date. Figure 5-1 provides the general location for each of these projects in relation to the project sites.

Table 5-1. Projects Considered in the Cumulative Impact Analysis

Map Label[1]	Project Name	Project Type	Distance from Project Sites (miles)	Size (acres)	Capacity (MW)	Status[2]
1	IV Solar Company	PV Solar Facility	3.4	123	23	Operational
2	Arkansas Solar	PV Solar Facility	3.5	481	50	Operational
3	Alhambra Solar	PV Solar Facility	7.5	482	50	Operational
4	Sonora Solar	PV Solar Facility	1.5	488	50	Operational
5	Imperial Valley Solar 2	PV Solar Facility	4.2	158.65	20	Operational
6	Calipatria Solar Farm	PV Solar Facility	4.3	159	20	Operational
7	Midway Solar Farm I	PV Solar Facility	5.7	480	50	Operational
8	Midway Solar Farm II	PV Solar Facility	4.9	320	30	Operational
9	Midway Solar Farm III	PV Solar Facility	5.4	162	20	Operational
10	Midway Solar Farm IV	PV Solar Facility	5.9	150	20	Approved – Not Built
11	Citizens Solar	PV Solar Facility	Adjacent to the south of VEGA SES 5 site	223	30	Operational
12	Wilkinson Solar Farm	PV Solar Facility	4.7	302	30	Approved – Not Built
13	Lindsey Solar Farm	PV Solar Facility	4.9	148	20	Operational
14	Ormat Wister Solar	PV Solar Facility	4.5	640	20	Approved – Under Construction
15	Orni 30	PV Solar Facility	12.9	225	40/160	Pending Entitlement
16	Nider Solar	PV Solar Facility		320	100	Pending Entitlement

1 – See Figure 5-1 for cumulative project location.

2 – Project status based on information provided by County staff and on Imperial County Planning & Development Service's RE Geographic Information System Mapping Application (https://icpds.maps.arcgis.com/apps/webappviewer/index.html?id=0d869c18d11645cc918391fdcac24b80). Accessed on December 6, 2022.

MW – megawatts; PV – photovoltaic

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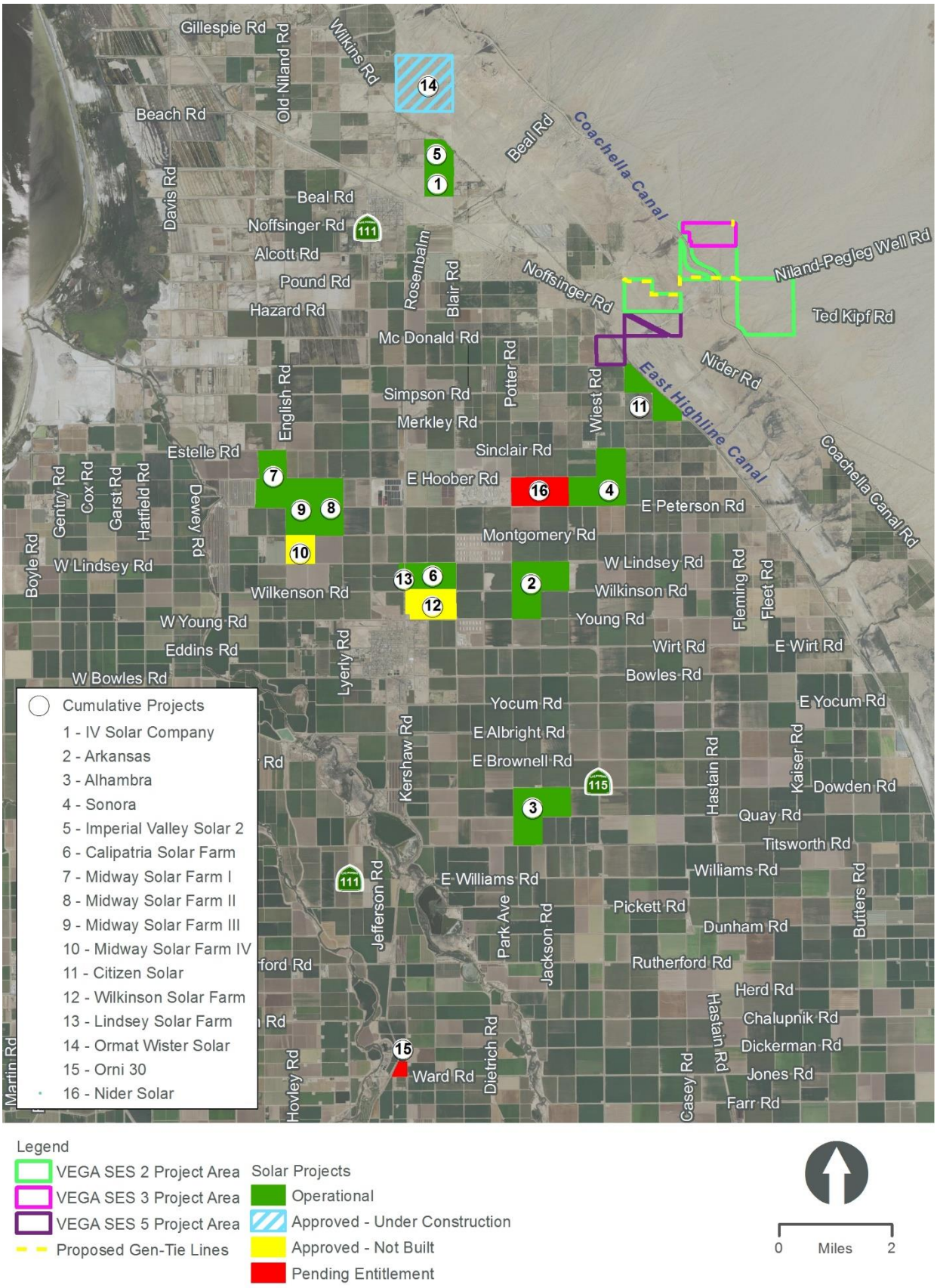
Figure 5-1. Cumulative Projects



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5.3.1 Aesthetics

The cumulative study area for projects considered in the visual resources cumulative impact analysis considers a 5-mile radius from the project sites. Views beyond 5 miles are obstructed by a combination of the flat topography coupled with the Earth's curvature. The short-term visual impacts of the project would be in the form of general construction activities including grading, use of construction machinery, and installation of the transmission poles and stringing of transmission lines, but would only be available to a very limited amount of people and would have to be in relative close proximity to the project site. Longer-term visual impacts of the project would be in the form of the presence of solar array grids, an electrical distribution and transmission system, and substation.

As provided in Section 3.2, Aesthetics, implementation of the proposed projects would convert the project sites from vacant and fallow agricultural lands to solar energy facilities. In the context of topographical conditions and relatively low profile of the project components, the proposed projects would not create an adverse or permanent visual obstruction of the background views of the desert or mountain areas to the north and east of the project sites. Existing views of the Chocolate Mountains are already partially obstructed by existing tall vegetation and masked by atmospheric conditions (e.g., haze). Additionally, as previously identified, proposed onsite apparatus would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. Solar PV arrays would be spaced approximately 15 to 25 feet apart allowing for views of the Chocolate Mountains from the public right-of-way. Further, views from project adjacent roadways that are publicly accessible, would be partially to fully obscured by roadside vegetation or berms, and such views would likely be of short duration given the probability of the viewers being in moving vehicles. Therefore, impacts to visual character would be less than significant.

The visual changes associated with the project would be located in a remote area viewed by a minimal number of people, the project site is not located within scenic vistas, and is not readily viewable from any frequently travelled interstates or scenic highways. Additionally, with the exception of the transmission line, the project's structural features would generally be less than 8 feet in height and, therefore, would not substantially disrupt background views of mountains to the north and east. Further, the project sites would be restored to their existing condition following the decommissioning of the solar uses. As a result, although the visual character of the project sites would change from undeveloped to one with developed characteristics, a less than significant impact associated with the proposed projects has been identified.

Development of the proposed projects in conjunction with the cumulative projects identified in Table 5-1 will gradually change the visual character of this portion of the Imperial Valley. However, projects located within private lands and/or under the jurisdiction of the County of Imperial are being designed in accordance with the County of Imperial's General Plan and Land Use Ordinance, which includes policies to protect visual resources in the County.

Finally, all projects listed in Table 5-1 would not produce a substantial amount of light and glare, as no significant source of light or glare is proposed; or the project will otherwise comply with the County lighting ordinance, as would all other related projects. Based on these considerations, there would be no significant cumulatively considerable aesthetic impact, and cumulative aesthetic impacts would be less than significant.

5.3.2 Agricultural Resources

Cumulative impacts on agricultural resources take into account the proposed projects' temporary impacts as well as those likely to occur as a result of other existing, proposed, and reasonably

foreseeable projects. To determine cumulative impacts on agricultural resources, an assessment is made of the temporal nature of the impacts on individual resources (e.g., temporary such as in solar projects versus permanent as in industrial or residential developments) as well as the inventory of agricultural resources within the cumulative setting.

As discussed in Section 3.3, Agricultural Resources, the project sites do not contain Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Therefore, the proposed projects would not convert land designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland to non-agricultural uses or incrementally add to the conversion of agricultural land in Imperial County on a temporary or permanent basis. Furthermore, the project sites are located within the Renewable Energy Zone and is, therefore, considered an appropriate use in this area. Additionally, as a condition of project approval (CUP condition), the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the project is decommissioned at the end of its lifespan.

The VEGA 2 and 3 project sites do not contain agricultural resources and are not mapped as agricultural land. The majority of the VEGA SES 5 project site is designated as Other Land with a portion of the VEGA SES 5 project site is designated as Farmland of Local Importance. It should be noted that analysis of Other Land and Farmland of Local Importance is not required under CEQA significance criteria, as these designations are not considered an “agricultural land” per CEQA Statute Section 21060.1(a). However, in terms of preservation of agricultural land Mitigation Measure AG-1 would be implemented to reduce potential impacts related to pests to a less than significant level.

Each individual cumulative project would be or would have been required to provide mitigation for any impacts on agricultural resources in accordance with the County’s policies directed at mitigating the impact associated with the conversion of important farmlands, the implementation of which would reduce the impact to less than significant. Because the project would not result in the conversion of farmland, the projects contribution to this impact would be less than cumulatively considerable.

5.3.3 Air Quality

Imperial County is used as the geographic scope for analysis of cumulative air quality impacts. As shown in Table 5-1, many of the cumulative projects are large-scale renewable energy generation projects, where the main source of air emissions would be generated during the construction phases of these projects; however, there would also be limited operational emissions associated with operations and maintenance activities for these facilities. Additionally, a majority of the projects listed in Table 5-1 are already constructed and operational. Furthermore, the remaining cumulative projects are currently under construction (Wister Solar), or approved and not built (Midway Solar Farm IV and Wilkinson Solar Farm), and not anticipated to involve overlapping construction activities with the proposed projects. Therefore the potential for a cumulative, short-term air quality impact as a result of construction activities is anticipated to be less than significant.

Currently, the SSAB is either in attainment or unclassified for all federal and state air pollutant standards with the exception of 8-Hour O_3 and $PM_{2.5}$. On November 13, 2009, EPA published Air Quality Designations for the 2006 24-Hour Fine Particle ($PM_{2.5}$) NAAQS wherein Imperial County was listed as designated nonattainment for the 2006 24-hour $PM_{2.5}$ NAAQS. However, the nonattainment designation for Imperial County is only for the urban area within the County and it has been determined that the proposed project is not located within the nonattainment boundaries for $PM_{2.5}$.

The AQAP for the SSAB, through the implementation of the AQMP and SIP for PM_{10}, sets forth a comprehensive program that will lead the SSAB into compliance with all federal and state air quality standards. With respect to PM_{10}, the ICAPCD implements Regulation VIII – Fugitive Dust Rules, to

control these emissions and ultimately lead the basin into compliance with air standards, consistent with the AQAP. Within Regulation VIII are Rules 800 through 806, which address construction and earthmoving activities, bulk materials, carry-out and track-out, open areas, paved and unpaved roads, and conservation management practices. Best Available Control Measures to reduce fugitive dust during construction and earthmoving activities include but are not limited to:

- Phasing of work in order to minimize disturbed surface area;
- Application of water or chemical stabilizers to disturbed soils;
- Construction and maintenance of wind barriers; and
- Use of a track-out control device or wash down system at access points to paved roads.

Compliance with Regulation VIII is mandatory on all construction sites, regardless of size. However, compliance with Regulation VIII does not constitute mitigation under the reductions attributed to environmental impacts. In addition, compliance for a project includes: (1) the development of a dust control plan for the construction and operational phase; and (2) notification to the air district is required 10 days prior to the commencement of any construction activity.

Construction

The proposed projects would generate air emissions due to vehicle and dust emissions associated with construction activities. Similar effects would also be realized upon site decommissioning, which would be carried out in conjunction with the project's restoration plan, and subject to applicable ICAPCD standards. Likewise, the other cumulative projects that are approved, but not yet built (Midway Solar Farm IV and Wilkinson Solar Farm) or pending entitlement (Nider Solar Project and Orni 30) identified in Table 5-1 would result in the generation of air emissions during construction activities.

With respect to the proposed projects, during the construction and decommissioning phases, the project would generate PM_{10}, $PM_{2.5}$, ROG, CO, SO_2, and NO_X emissions during each active day of construction. As discussed in Section 3.4, Air Quality, the VEGA SES 2 and 3 projects' daily construction emissions daily construction emissions would not exceed the ICAPCD thresholds for ROG, NOx, CO, SO_2, and $PM_{2.5}$. However, the VEGA SES 2 and 3 projects' daily construction emissions would exceed the ICAPCD threshold for PM_{10} and represents a significant air quality impact. The VEGA SES 2 and 3 projects' impact could be cumulatively considerable because the Imperial County portion of the SSAB are nonattainment already for O_3 and PM_{10} under state standards and for O_3 and $PM_{2.5}$ federal standards. Thus, existing O_3 and PM_{10} levels in the SSAB are at unhealthy levels during certain periods. Additionally, the cumulative construction effects could again be experienced in the future during decommissioning and site restoration activities.

Several of the projects listed in Table 5-1 are already constructed and in operation. In the event the proposed projects are constructed in conjunction with the Nider Solar Project (pending entitlement), Midway Solar Farm IV and Wilkinson Solar Farm (approved but not built), each project would be subject to mitigation pursuant to ICAPCD's Regulations. Therefore, the cumulative impact would be reduced to a level less than significant through compliance with these measures. Further, because the proposed projects will be required to implement measures consistent with ICAPCD regulations designed to alleviate the cumulative impact associated with fugitive dust (PM_{10}) and NO_X, the projects contribution would be rendered less than cumulatively considerable and is therefore, less than significant.

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Operation

As the proposed project would have no major stationary emission sources and would require minimal vehicular trips, operation of the proposed solar facilities would result in substantially lower emissions than project construction. The projects' operational emissions would not exceed the Tier I thresholds; therefore, the impact would be less than significant. Operational impacts of other renewable energy facilities identified in Table 5-1 would also be similar. Although these cumulative projects generally involve large areas, their operational requirements are very minimal, requiring minimal staff or use of machinery or equipment that generate emissions. Further, alternative energy projects, such as the project, would assist attainment of regional air quality standards and improvement of regional air quality by providing clean, renewable energy sources. Consequently, the projects would provide a positive contribution to the implementation of applicable air quality plan policies and compliance with EO S-3-05.

However, from a cumulative air quality standpoint, the potential cumulative impact associated with the generation of O_3, $PM_{2.5}$ and PM_{10} emissions during operation of the cumulative projects is a consideration because existing O_3 and PM_{10} levels in the SSAB are at unhealthy levels during certain periods. Imperial County is classified as non-attainment for $PM_{2.5}$ for the urban areas of Imperial County. However, the projects' operational contribution to O_3, $PM_{2.5}$ and PM_{10} would be below a level of significance. As with the construction phases, the cumulative projects would be required to comply with ICAPCD's Regulation VIII for dust control (Regulation VIII applies to both the construction and operational phases of projects). As a result, the ICAPCD would be required to comply with the various dust control measures and to prepare and implement operational dust control plans as approved by the ICAPCD, which is a component of ICAPCD's overall framework of the AQAP that sets forth a comprehensive program for SSAB's compliance with all federal and state air quality standards. Therefore, the projects would not contribute to long-term cumulatively considerable air quality impacts and the projects would not result in cumulatively significant air quality impacts, and cumulative impacts would be less than significant.

5.3.4 Biological Resources

The geographic scope for considering cumulative impacts on biological resources includes the Imperial Valley and related biological habitats. Table 5-1 lists the projects considered for the biological resources cumulative impact analysis.

In general terms, in instances where a potential impact could occur, CDFW and USFWS have promulgated a regulatory scheme that limits impacts on these species. The effects of the project would be rendered less than significant through mitigation requiring compliance with all applicable regulations that protect plant, fish, and animal species, as well as waters of the U.S. and state. Other cumulative projects would also be required to avoid impacts on special-status species and/or mitigate to the satisfaction of the CDFW and USFWS for the potential loss of habitat. As described in Section 3.4, Biological Resources, the projects have the potential to result in impacts on biological resources. These impacts are generally associated with the potential construction-related effects to burrowing owl, bird species, and bats (foraging only).

Burrowing Owls are protected by the CDFW mitigation guidelines for burrowing owl (CDFW 2012) and Consortium guidance (1993), which require a suite of mitigation measures to ensure direct effects to burrowing owls during construction activities are avoided and indirect effects through burrow destruction and loss of foraging habitat are mitigated at prescribed ratios. Mitigation measures identified in Section 3.5, Biological Resources, contain these requirements thereby minimizing

potential impacts on these species to a less than significant level. Additionally, as provided in Section 3.5, Biological Resources, special-status bird species have a potential to be present. In addition, several common bird species could nest on the project site. As a result of project-related construction activities, one or more of these species could be impacted. However, with the implementation of mitigation as identified in Section 3.5, Biological Resources, these impacts would be reduced to a level of less than significant, primarily through avoidance of direct and indirect impacts to these species via pre-construction surveys and monitoring requirements during construction. Similarly, the cumulative projects within the geographic scope of the project would be required to comply with the legal framework as described above, and similar avoidance and minimization measures. Based on these considerations, impacts on biological resources would not be cumulatively considerable.

As with the proposed projects, each of the cumulative projects would be required to provide mitigation for impacts on biological resources. The analysis below is conducted qualitatively and in the context that the cumulative projects would be subject to a variety of statutes and administrative frameworks that require mitigation for impacts on biological resources.

Birds listed at 50 CFR 10.3 are protected by the MBTA (16 USC 703 et seq.), a Federal statute that implements treaties with several countries on the conservation and protection of Birds listed at 50 CFR 10.3 are protected by the MBTA (16 USC 703 et seq.), a Federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The MBTA is enforced by USFWS. This act prohibits the killing of any migratory birds without a valid permit. Any activity which contributes to unnatural migratory bird mortality could be prosecuted under this act. With few exceptions, most birds are considered migratory under this act. Raptors and active raptor nests are protected under California FGCs 3503.5, 3503, and 3513.

The CWA and California's Porter-Cologne Water Quality Control Act provide protection for water-related biological resources by controlling pollution, setting water quality standards, and preventing jurisdictional streams, lakes, and rivers from being filled without a federal permit. Two types of jurisdictional features were documented within the BSA: USACE non-wetland Waters of the U.S. and CDFW State Waters. These drainages ultimately flow into the Salton Sea, which is considered a Traditionally Navigable Water. As such, these drainage features would likely be considered federally and state jurisdictional. Consultation will be initiated with USACE and CDFW to avoid or minimize impacts upon federally and state jurisdictional drainage features.

The proposed projects would comply with these and other laws, regulations and guidelines and therefore would not contribute substantially to a cumulative biological resources impact. Similarly, the cumulative projects within the geographic scope of the proposed projects will be required to comply with the legal frameworks set forth above, as well as others, and will be required to mitigate their impacts to a less than significant level. Therefore, the project would not contribute to a cumulatively considerable impact to biological resources, and cumulative impacts would be less than significant.

5.3.5 Cultural Resources

As discussed in Section 3.6, Cultural Resources, the Old Coachella Canal (P-13-7858) and East Highline Canal (P-13-8333) have been previously evaluated for potential eligibility for listing in the NRHP and CRHR. However, neither the Old Coachella Canal or the East Highline Canal would be impacted by project construction and no impact to historical resources would occur.

As discussed in Section 3.6, Cultural Resources, there are 168 cultural resources within the project area, therefore, there is potential of finding a buried archaeological site during construction. However, like all construction projects in the state, the possibility exists. This potential impact is considered

significant. Implementation of Mitigation Measures CR-1 through CR-4 would reduce potential impacts associated with the unanticipated discovery of unknown buried archaeological resources. Implementation of Mitigation Measure CR-5 would reduce potential impacts on human remains to a level less than significant.

Future projects with potentially significant impacts on cultural resources would be required to comply with federal, state, and local regulations and ordinances protecting cultural resources through implementation of similar project-specific mitigation measures during construction. Therefore, through compliance with regulatory requirements, standard conditions of approval, and Mitigation Measures CR-1 through CR-5, the proposed projects would have a less than cumulatively considerable contribution to impacts on cultural resources.

During operations and decommissioning of the projects, no additional impacts on archeological resources would be anticipated because the soil disturbance would have already occurred and been mitigated during construction.

As discussed in Section 3.6, Cultural Resources, no tribes have responded that indicate the potential for traditional cultural properties or sacred sites. Therefore, the proposed projects are not anticipated to cause a substantial adverse change in the significance of a tribal cultural resource, and impacts on tribal cultural resources would be less than significant. Future cumulative projects would also be required to comply with the requirements of AB 52 to determine the presence/absence of tribal cultural resources and engage in consultation to determine appropriate mitigation measures to minimize or avoid impacts on tribal cultural resources. Based on these considerations, the projects would not contribute to or result in a significant cumulatively considerable impact tribal cultural resources.

5.3.6 Geology and Soils

The Imperial Valley portion of the Salton Trough physiographic province of Southern California is used as the geographic scope for the analysis of cumulative impacts on geology/soils and mineral resources. Cumulative development would result in an increase in population and development that could be exposed to hazardous geological conditions, depending on the location of proposed developments. Geologic and soil conditions are typically site specific and can be addressed through appropriate engineering practices. Cumulative impacts on geologic resources would be considered significant if the project would be impacted by geologic hazard(s) and if the impact could combine with off-site geologic hazards to be cumulatively considerable. None of the projects identified within the geographic scope of potential cumulative impacts would intersect or be additive to the project's site-specific geology and soils impacts; therefore, no cumulatively considerable effects are identified for geology/soils, and cumulative impacts would be less than significant.

Development of the proposed projects, in combination with other projects in the area, has the potential to contribute to a cumulatively significant paleontological resources impact due to the potential loss of paleontological resources unique to the region. However, mitigation is included in this EIR to reduce potentially significant project impacts to paleontological resources during construction of the proposed project. Implementation of Mitigation Measure GEO-2 would ensure that the potential impacts on paleontological resources do not rise to the level of significance. Future projects with potentially significant impacts on paleontological resources would be required to comply with federal, state, and local regulations and ordinances protecting paleontological resources through implementation of similar project-specific mitigation measures during construction. Therefore, through compliance with regulatory requirements, standard conditions of approval, and Mitigation Measure GEO-2, the

proposed projects would have a less than cumulatively considerable contribution to impacts on paleontological resources.

5.3.7 Hazards/Hazardous Materials

The geographic scope considered for cumulative impacts from health, safety, and hazardous materials is the area within 1 mile of the boundary of the project sites. One mile is the standard American Society of Testing and Materials (ASTM) standard search distance for hazardous materials.

Under cumulative conditions, implementation of the projects in conjunction with the projects listed in Table 5-1 is not anticipated to present a public health and safety hazard to residents. Additionally, the projects and related projects would all involve the storage, use, disposal, and transport of hazardous materials to varying degrees during construction, operation, and decommissioning. Impacts from these activities are less than significant for the projects because the storage, use, disposal, and transport of hazardous materials are extensively regulated by various Federal, state, and local laws, regulations, and policies. It is foreseeable that the projects and related projects would implement and comply with these existing hazardous materials laws, regulations, and policies. Therefore, the related projects would not cause a cumulative impact, and the projects would not result in a cumulatively considerable incremental contribution to a cumulative impact related to use or routine transport of hazardous materials.

5.3.8 Greenhouse Gas Emissions

Emissions of GHGs have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. Although the emissions of the projects alone would not cause global climate change, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. In turn, global climate change has the potential to result in rising sea levels, which can inundate low-lying areas; affect rainfall and snowfall, leading to changes in water supply; and affect habitat, leading to adverse effects on biological resources. MDAQMD has proposed a threshold of 100,000 $MTCO_2e$ per year, for residential and commercial projects; which was applied to the projects' analysis as provided in Section 3.8, Greenhouse Gases. As provided, the proposed projects' CO_2 emissions would not exceed MDAQMD's threshold of 100,000 $MTCO_2e$ per year. As the projects' emissions do not exceed the MDAQMD's threshold, the proposed project would not result in a cumulatively considerable impact to GHG emissions and would not conflict with the State GHG reduction targets. Other cumulative projects identified in Table 5-1 largely consist of utility-scale solar facilities. The nature of these projects is such that, like the projects, they would be consistent with the strategies of the Climate Change Scoping Plan. In order to meet the AB 32 GHG emissions reduction mandate, the Scoping Plan relies on achievement of the RPS target of 33 percent of California's energy coming from renewable sources by 2020 and 50 percent by 2030. The RPS target was updated in September 2018 under SB 100 to 60 percent by 2030. The projects and other similar projects are essential to achieving the RPS.

Given that the projects are characterized as renewable energy projects and places emphasis on solar power generation, project operations would be almost carbon-neutral with the majority of the operational GHG emissions associated with vehicle trips. Based on these considerations, no significant long-term operational GHG impacts would occur and, therefore, project-related GHG impacts would not be cumulatively considerable.

5.3.9 Hydrology and Water Quality

Table 5-1 lists the projects considered for the hydrology and water quality cumulative impact analysis. The geographic scope for considering cumulative hydrology and water quality impacts is the Imperial Valley Hydrologic Unit as defined by the Colorado Basin RWQCB Basin Plan.

The construction of the projects is expected to result in short-term water quality impacts. Compliance with the SWRCB's NPDES general permit for activities associated with construction (2009-0009-DWQ) per Mitigation Measure HYD-1 would reduce water quality impacts. As with the proposed projects, each of the cumulative projects would be required to comply with the Construction General Permit. The SWRCB has determined that the Construction General Permit protects water quality, is consistent with the CWA, and addresses the cumulative impacts of numerous construction activities throughout the state. This determination in conjunction with the implementation of mitigation would ensure short-term water quality impacts are not cumulatively considerable.

The projects are not expected to result in long-term operations-related impacts related to water quality. The projects would mitigate potential water quality impacts by implementing site design, source control, and treatment control BMPs. Some cumulative projects would require compliance with the SWRCB's NPDES general permit for industrial activities, as well as rules found in the CWA, Section 402(p)(1) and 40 CFR 122.26, and implemented Order No. 90-42 of the RWQCB. With implementation of SWRCB, Colorado River RWQCB, and County policies, plans, and ordinances governing land use activities that may degrade or contribute to the violation of water quality standards, cumulatively considerable impacts on water quality would be minimized to a less than significant level.

Based on a review of the FEMA Flood Insurance Rate Map FIRM, the majority of the proposed projects are located within Zone X (unshaded). The FEMA Zone X (unshaded) designation is an area determined to be outside the 0.2 percent annual chance floodplain. However, there are ephemeral wash beds that transect the project site parcels and these areas are designated as Zone A or Special Flood Hazard Areas and are subject to "flash flooding." Compliance with County Flood Zone Ordinances, guidelines, and regulations would be required alongside the construction of retention basins to reduce potential impacts. Cumulative projects listed in Table 5-1 that are located in similar locations would also comply with County ordinances, guidelines, and regulations therefore, cumulatively considerable impacts on floodplains would be considered less than significant.

Based on these considerations, the projects would not contribute to or result in a significant cumulatively considerable impact to hydrology or water quality, and cumulative impacts would be less than significant.

5.3.10 Land Use Planning

The geographic scope for the analysis of cumulative land use and planning impacts is typically defined by government jurisdiction. The geographic scope for considering potential inconsistencies with the General Plan's policies from a cumulative perspective includes all lands within the County's jurisdiction and governed by its currently adopted General Plan. In contrast, the geographic scope for considering potential land use impacts or incompatibilities include the project site plus a one-mile buffer to ensure a consideration for reasonably anticipated potential direct and indirect effects.

As provided in Section 3.11, Land Use/Planning, the projects would not involve any facilities that could otherwise divide an established community. Based on this circumstance, no cumulatively considerable impacts would occur. As discussed in Section 3.11, Land Use/Planning, the projects would not conflict with the goals and objectives of the County of Imperial General Plan if all entitlements (Conditional

Use Permits) are approved by the County Board of Supervisors. In addition, a majority of the cumulative projects identified in Table 5-1 would not result in a conflict with applicable land use plans, policies, or regulations. In the event that incompatibilities or land use conflicts are identified for other projects listed in Table 5-1, the County would require mitigation to avoid or minimize potential land use impacts. The proposed projects would be consistent with the goals and objectives of the General Plan and no amendment to the General Plan for a zone change would be required because the project sites are entirely within the RE Overlay Zone. However, where General Plan Amendments and/or Zone Changes are required to extend the RE Overlay Zone for cumulative projects listed in Table 5-1, that project would be required to demonstrate consistency with the overall goals and policies of the General Plan, and would be required to demonstrate meeting the criteria for extending the RE Overlay onto the project site. Based on these circumstances, no significant cumulatively considerable impact would occur, and cumulative impacts would be less than significant.

5.3.11 Noise and Vibration

When determining whether the overall noise (and vibration) impacts from related projects would be cumulatively significant and whether the projects' incremental contribution to any significant cumulative impacts would be cumulatively considerable, it is important to note that noise and vibration are localized occurrences; as such, they decrease rapidly in magnitude as the distance from the source to the receptor increases. Therefore, only those related projects and identified in Table 5-1 that are in the vicinity of the project site and those that are considered influential in regards to noise and vibration would have the potential to be considered in a cumulative context with the project's incremental contribution.

Two cumulative projects (Orni 30 and Nider Solar) listed in Table 5-1 are pending entitlement and it is not anticipated that construction of the cumulative projects and proposed project would overlap. As discussed in Section 3.12, Noise and Vibration, the projects' noise levels would not exceed the County's 75 dBA L_{eq} construction noise threshold. Therefore, impacts from construction noise are considered less than significant. Similar to the proposed projects, other cumulative projects would be required to comply with the County's construction noise standards. Construction activity is limited to the hours of 7 a.m. to 7 p.m. Monday through Friday, and 9 a.m. to 5 p.m. on Saturdays. Adhering to the County's construction hours would reduce the noise and vibration impacts to below a level of significance. Thus, the incremental contribution of the projects to a cumulative noise impact would not be cumulatively considerable.

Stationary-source and vehicular noise from the aforementioned related projects would be similar in nature and magnitude to those discussed for the projects in Section 3.12, Noise and Vibration. For the proposed projects, no noise impacts have been identified. Operation of the other cumulative projects listed in Table 5-1 could result in the long-term stationary source noise levels that exceed applicable standards at nearby sensitive receptors and/or result in substantial increases in ambient noise levels. However, given that the project facilities would be constructed within the A-2-RE, A-3-RE, and S-2-RE zones, and components of the project associated with noise during operation would be located at appropriate distances from the residential uses scattered in this portion of the County, long-term operational noise levels are not expected to exceed normally acceptable noise levels for these zones (e.g., 70 dBA L_{dn}). Thus, the incremental contribution of the projects to significant cumulative noise impacts would not be cumulatively considerable.

5.3.12 Transportation/Traffic

During the construction phase of the project, the maximum number of trips generated on a daily basis would be approximately 510 daily trips ends for VEGA SES 2 and 3, and 260 daily trips ends for VEGA SES 5. Under construction year conditions with and without the proposed projects, all roadway segments analyzed would operate at LOS A, and all intersections would operate at LOS B or better during both AM and PM peak hours. Implementation of the proposed projects would not require any public road widening to accommodate vehicular trips associated with the proposed projects (construction phase and operational phase), while maintaining adequate LOS. Additionally, future operations and maintenance would be conducted remotely, with minimal trips to the project sites for panel washing and other solar maintenance.

Since the proposed projects are located in a rural portion of the County there are no fixed routes for alternative transportation or non-motorized travel within the general area of the project sites that would be impacted by project construction or operation. Although the proposed projects would increase VMT during the construction phase, these increases are temporary in nature. Operation of proposed projects would only require intermittent maintenance which would result in a nominal amount of vehicle trips generated.

A majority of the projects listed in Table 5-1 are already constructed and in operation. As shown on Table 5-1, there are cumulative projects that are approved under construction (Wister Solar), approved and not built (Midway Solar Farm IV and Wilkinson Solar Farm), or pending entitlement (Orni 30 and Nider Solar). The construction phasing of these projects is not anticipated to overlap with the proposed projects. Furthermore, the cumulative projects are not anticipated to use the same construction haul route as the proposed projects. Future operations and maintenance would be conducted remotely, with minimal trips to the project site for panel washing and other solar maintenance. Based on these findings, the projects would not result in cumulatively considerable roadway or intersection impacts, and this impact would be less than significant.

5.3.13 Tribal Cultural Resources

As discussed in Section 3.14, Tribal Cultural Resources, a SLF search request was submitted on November 6 and November 16, 2020 to the California NAHC and the search results were received on December 22, 2020, and January 8, 2021. The search of the SLF was negative and failed to indicate the presence of Native American cultural resources in the project area. Additionally, on April 8, 2021, the Quechan Indian Tribe requested consultation with the County on the proposed projects. The County is in the process of consulting with the Quechan Indian Tribe and has requested that they to provide any information regarding any Traditional Cultural Properties, Sacred Sites, resource collecting areas, or any other areas of concern known to occur in the project area. However, the proposed projects are not anticipated to cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC section 21074 or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1 and Section 5024.1.

Future cumulative projects would also be required to comply with the requirements of AB 52 to determine the presence/absence of tribal cultural resources and engage in consultation to determine appropriate mitigation measures to minimize or avoid impacts on tribal cultural resources. Based on these considerations, the projects would not contribute to or result in a significant cumulatively considerable impact to tribal cultural resources. During operations and decommissioning of the

projects, no impacts on tribal cultural resources are anticipated because the soil disturbance would have already occurred and been mitigated during construction.

5.3.14 Utilities/Service Systems

Future development in Imperial County would increase the demand for utility service in the region. In terms of cumulative impacts, the appropriate service providers are responsible for ensuring adequate provision of public utilities within their jurisdictional boundaries. The proposed projects would not require or result in the relocation or construction of new or expanded wastewater facilities, storm water facilities, or water facilities. Additionally, the projects would be comprised of mostly recyclable materials and would not generate significant volumes of solid waste that could otherwise contribute to significant decreases in landfill capacity. Based on these considerations, the projects would result in less than significant impacts on existing utility providers and, therefore, would not result in cumulatively considerable impacts.

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6 Effects Found Not Significant

In accordance with Section 15128 of the CEQA Guidelines, an EIR must contain a statement briefly indicating the reasons that various potential significant effects of a project were determined not to be significant. Based on the Initial Study and Notice of Preparation prepared for the proposed projects (Appendix A of this EIR), Imperial County has determined that the proposed projects would not have the potential to cause significant adverse effects associated with the topics identified below. Therefore, these topics are not addressed in this EIR; however, the rationale for eliminating these topics is briefly discussed below.

6.1 Agriculture and Forestry Resources

6.1.1 Forestry Resources

No portion of the project sites or the immediate vicinity is zoned or designated as forest lands, timberlands, or timberland production. As such, the proposed projects would not result in a conflict with existing zoning or cause the need for a zone change. Therefore, implementation of the proposed projects would not impact forestry resources.

6.2 Energy

Information for this section is summarized from the Energy Impact Assessment prepared by ECORP Consulting, Inc. This report is included in Appendix M of this EIR.

6.2.1 Energy Types and Sources

California relies on a regional power system comprised of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Natural gas provides California with a majority of its electricity followed by renewables, large hydroelectric and nuclear. IID, the sixth largest electrical utility in California serving more than 150,000 customers in the Imperial Valley and parts of Riverside and San Diego counties, provides electrical services to the project area. IID controls more than 1,100 megawatts of energy derived from a diverse resource portfolio that includes its own generation, and long- and short-term power purchases. Located in a region with abundant sunshine, enviable geothermal capacity, wind and other renewable potential, IID has met or exceeded all Renewable Portfolio Standard requirements to date, procuring renewable energy from diverse sources, including biomass, biowaste, geothermal, hydroelectric, solar and wind (Appendix M of this EIR).

The Southern California Gas Company provides natural gas services to Imperial County. As the nation's largest natural gas distribution utility, the Southern California Gas Company delivers natural gas energy to 21.6 million consumers through 5.9 million meters in more than 500 communities. The Southern California Gas Company’s service territory encompasses approximately 24,000 square miles throughout Central and Southern California, from Visalia to the Mexican border (Appendix M of this EIR).

6.2.2 Imperial County Energy Consumption

Electricity

The non-residential electricity consumption associated with all uses in Imperial County from 2017 to 2021 is shown in Table 6-1. As shown, the demand has increased since 2017.

Table 6-1. Non-Residential Electricity Consumption in Imperial County 2017-2021

Year	Electricity Consumption (kilowatt hours)
2021	841,302,847
2020	834,483,019
2019	839,095,659
2018	831,318,925
2017	817,450,656

Source: Appendix M of this EIR

Natural Gas

The non-residential natural gas consumption associated with all uses in Imperial County from 2017 to 2021 is shown in Table 6-2. As shown, the demand has remained relatively constant since 2017.

Table 6-2. Non-Residential Natural Gas Consumption in Imperial County 2017-2021

Year	Natural Gas Consumption (therms)
2021	33,421,848
2020	33,813,700
2019	34,736,596
2018	31,159,562
2017	33,090,927

Source: Appendix M of this EIR

Automotive Fuel Consumption

Automotive fuel consumption in Imperial County from 2017 to 2021 is shown in Table 6-3. As shown, fuel consumption has decreased between 2016 and 2020.

Table 6-3. Automotive Fuel Consumption in Imperial County 2017-2021

Year	Total Fuel Consumption (gallons)
2021	217,447,173
2020	195,778,823
2019	219,032,998
2018	219,075,991
2017	220,921,357

Source: Appendix M of this EIR

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6.2.3 Proposed Project Energy Consumption

Collectively, the proposed projects involve the construction of up to 350 MW alternating current PV solar energy facility with an integrated 350 MW battery storage system. Operation of the proposed projects would not result in the consumption of electricity or natural gas and thus, would not contribute to the County wide usage and would directly support the RPS goal of increasing the percentage of electricity procured from renewable sources.

Therefore, the energy analysis focuses on the two sources of energy that are most relevant to the projects: the equipment fuel necessary for construction and the automotive fuel necessary for ongoing maintenance activities. The amount of total construction-related fuel use was estimated using ratios provided in the Climate Registry's General Reporting Protocol for the Voluntary Reporting Program, Version 2.1. The amount of operational fuel use was estimated using CARB's EMFAC2021 computer program, which provides projections for typical daily fuel usage in Imperial County. This analysis conservatively assumes that all of the automobile trips projected to arrive at the project sites during operations would be new to Imperial County.

Energy consumption associated with the proposed projects is summarized in Table 6-4. Project increases in automotive fuel consumption are compared with the countywide fuel consumption in 2021 (Table 6-3), the most recent full year of data.

Table 6-4. Proposed Project Energy and Fuel Consumption

Energy Type	Annual Energy Consumption	Percentage Increase Countywide
Electricity Consumption[1]	0 kilowatt-hours	0.00000 percent
Natural Gas[2]	0 therms	0.00000 percent
Automotive Fuel Consumption		
VEGA SES 2 and 3		
Project Construction 2023	94,680 gallons	0.0435 percent
VEGA SES 5		
Project Construction 2024	77,635 gallons	0.0357 percent
VEGA SES 2, 3, and 5 (combined)		
Construction	172,315 gallons	0.0792 percent
Operation[3]	225.5 gallons	0.0001 percent

Source: Appendix M of this EIR

Notes:

[1]CalEEMod; [2]Climate Registry 2016; [3]EMFAC2021

The project increases in electricity and natural gas consumption are compared with all uses in Imperial County in 2021, the latest data available. The project increases in automotive fuel consumption are compared with the countywide fuel consumption in 2021, the most recent full year of data.

Fuel necessary for project construction would be required for the operation and maintenance of construction equipment and the transportation of materials to the project site. The fuel expenditure necessary to construct the solar facility and infrastructure would be temporary, lasting only as long as project construction. As shown in Table 6-4, the project's gasoline fuel consumption during the VEGA SES 2 and 3 construction period is estimated to be 94,680 gallons during 2023 construction, which would increase the annual countywide gasoline fuel usage by 0.0435 percent. The gasoline fuel consumption during VEGA SES 5 construction is estimated to be 77,635 gallons during 2024 construction, which would increase the annual countywide gasoline fuel usage by 0.0357 percent.

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Additionally, the construction during the VEGA SES 2, 3, and 5 projects (combined) has an estimated gasoline usage of 172,315 gallons, which would increase the annual countywide gasoline fuel usage by 0.0792 percent. As such, project construction would have a nominal effect on local and regional energy supplies. No unusual project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the state. Construction contractors would purchase their own gasoline and diesel fuel from local suppliers and would judiciously use fuel supplies to minimize costs due to waste and subsequently maximize profits. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and requiring recycling of construction debris, would further reduce the amount of transportation fuel demand during project construction. For these reasons, it is expected that construction fuel consumption associated with the projects would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

Once construction is completed the projects would be remotely controlled. No employees would be based at the project sites. The only operational emissions associated with the projects would be associated with motor vehicle use for routine maintenance work and site security as well as panel upkeep and cleaning. A conservative estimate of two vehicle trip per day was assumed. This is a conservative estimate as most days would require no operational related vehicle trips. As shown in Table 6-4, this would estimate to a consumption of approximately 225.5 gallons of automotive fuel per year, which would increase the annual countywide automotive fuel consumption by 0.0001 percent. Fuel consumption associated with both the construction equipment needed to construction the projects and the vehicle trips generated by the projects during ongoing maintenance activities would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. The proposed projects would result in a less than significant impact related to energy.

6.2.4 Compliance with State or Local Plans for Renewable Energy or Energy Efficiency

The purpose of the proposed projects is the construction of a renewable energy and storage facilities in Imperial County. Once in operation, it will decrease the need for energy from fossil fuel–based power plants in the state. The result would be a net increase in electricity resources available to the regional grid, generated from a renewable source. Therefore, the projects would directly support the RPS goal of increasing the percentage of electricity procured from renewable sources. Additionally, the projects would also be consistent with the County's General Plan Conservation and Open Space Element, Objective 9.2 which encourages renewable energy developments. Therefore, the projects would directly support state and local plans for renewable energy development. The proposed projects would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency; therefore, no impact would occur.

6.3 Mineral Resources

The project sites are not used for mineral resource production and the applicant is not proposing any form of mineral extraction. According to Figure 8: Imperial County Existing Mineral Resources of the Conservation and Open Space Element of the General Plan (County of Imperial 2016), no known mineral resources occur within the project sites nor do the project sites contain mapped mineral resources. Therefore, the proposed projects would not result in the loss of availability of any known mineral resources that would be of value to the region and the residents of California nor would the proposed projects result in the loss of availability of a locally important mineral resource.

Based on a review of the California Department Division of Oil, Gas, and Geothermal Resources Well Finder, there are no wells located on the project sites (California Department of Oil, Gas, and Geothermal Resources 2021). Therefore, implementation of the proposed projects would not impact any wells.

6.4 Population and Housing

Development of housing is not proposed as part of the projects. No full-time employees are required to operate the projects. The project facilities will be monitored remotely. It is anticipated that maintenance of the facilities will require minimal site presence to perform periodic visual inspections and minor repairs. On intermittent occasions, the presence of additional workers may be required for repairs or replacement of equipment and panel cleaning; however, due to the nature of the facilities, such actions will likely occur infrequently. Therefore, the proposed projects would not result in a substantial growth in the area, as the number of employees required to operate and maintain the facilities is minimal.

No housing exists within the project sites and no people reside within the project sites. Therefore, the proposed projects would not displace substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere. The proposed projects would result in no impact to population and housing.

6.5 Public Services

Fire Protection. Fire protection and emergency medical services in the area are provided by the Imperial County Fire Department. The project sites are located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan (County of Imperial 1997), the potential for a major fire in the unincorporated areas of the County is generally low. Both the access and service roads (along the perimeter of the project facility) would have turnaround areas to allow clearance for fire trucks per fire department standards (70 feet by 70 feet, and 20-foot-wide access road). Although the proposed projects would be designed, constructed, and operated in accordance with applicable fire protection and other environmental, health, and safety requirements (e.g., CPUC safety standards), the project applicant will be required to consult and coordinate with the Fire Department to address any fire safety and service concerns (i.e, battery storage system fire prevention and control components), and emergency response site access, so that adequate service is maintained. While the proposed projects may result in an increase in demand for fire protection service, with installation of internal fire prevention systems and ICFD consultation, including adherence to any special conditions regarding fire control and access, the projects would not result in an increase in demand that would, in turn, result in a substantial adverse physical impact associated with the provision of new or physically altered fire protection facilities; the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services. Based on these considerations, the project would not result in a need for fire facility expansion and a less than significant impact would occur.

Imperial County requires payment of impact fees for new development projects. Fire Impact Fees are imposed pursuant to Ordinance 1418 §2 (2006), which was drafted in accordance with the County's TischlerBise Impact Fee Study. The ordinance has provisions for non-residential industrial projects based on square footage. The project applicant will be required to pay the fire protection services'

impact fees. These fees would be included in the Conditions of Approval for the CUP and would therefore be less than significant.

Police Protection. Police protection services in the project area is provided by the Imperial County Sheriff's Department. Although the potential is low, the proposed project may attract vandals or other security risks. The increase in construction related traffic could increase demand on law enforcement services. However, the project sites would be fenced with 6-foot high chain link security fence and points of ingress/egress would be accessed via locked gates. In addition, periodic on-site personnel visitations for security would occur during operations and maintenance of the proposed projects, thereby minimizing the need for police surveillance. While the proposed projects may result in a temporary increase in demand for law enforcement service, the projects would not result in an increase in demand that would, in turn, result in a substantial adverse physical impact associated with the provision of new or physically altered sheriff facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. Further, as conditions of approval of the projects, the project applicant will be required to participate in the Imperial County Public Benefit Program for the life of the CUPs and shall at all times be a party to a public benefit agreement in a form acceptable to County Counsel in order to pay for all costs, benefits, and fees associated with the approved projects, and the applicant will be required to reimburse the Sheriff's Department for any investigations regarding theft on the project sites and related law enforcement. Approval of this public benefit agreement will be by the Board of Supervisors prior to the issuance of the first building permit. These potential impacts are less than significant.

Schools. The proposed projects do not include the development of residential land uses that would result in an increase in population or student generation. Construction of the proposed projects would not result in an increase in student population within the Imperial County's School District since it is anticipated that construction workers would commute in during construction operations. The proposed projects would have no impact on Imperial County schools.

Parks and Other Public Facilities. No full-time employees are required to operate the projects. The project facilities will be monitored remotely. It is anticipated that maintenance of the facilities will require minimal site presence to perform periodic visual inspections and minor repairs. Therefore, substantial permanent increases in population that would adversely affect local parks, libraries, and other public facilities are not expected. The projects are not expected to have an impact on parks, libraries, and other public facilities.

6.6 Recreation

The project sites are not used for formal recreational purposes. Also, the proposed projects would not generate new employment on a long-term basis. As such, the projects would not significantly increase the use or accelerate the deterioration of regional parks or other recreational facilities. The temporary increase of population during construction that might be caused by an influx of workers would be minimal and not cause a detectable increase in the use of parks. Additionally, the projects do not include or require the expansion of recreational facilities. Therefore, no impact is identified for recreation.

6.7 Utilities and Service Systems

Wastewater Facilities. The projects would generate a minimal volume of wastewater during construction. During construction activities, wastewater would be contained within portable toilet

facilities and disposed of at an approved site. No habitable structures are proposed on the project sites, such as O&M buildings; therefore, there would be no wastewater generation from the proposed projects. The proposed projects would not require or result in the relocation or construction of new or expanded wastewater facilities.

Storm Water Facilities. The proposed projects will involve the construction of drainage control facilities within the project sites, and included in the project impact footprint, of which environmental impacts have been evaluated. Otherwise, the projects do not require expanded or new storm drainage facilities off-site (i.e., outside of the project footprint) because the proposed solar facilities would not generate a significant increase in the amount of impervious surfaces that would increase runoff during storm events, and therefore, would not require the construction of off-site storm water management facilities. Water from solar panel washing would continue to percolate through the ground, as a majority of the surfaces within the project sites would remain pervious. The proposed projects would not require or result in the relocation or construction of new or expanded storm water facilities beyond those proposed as part of the projects and evaluated in the EIR.

Water Facilities. The proposed projects are not anticipated to result in a significant increase in water demand/use during operation; however, water will be needed for solar panel washing and dust suppression. During operation, water would be trucked to the project sites from a local water source. Therefore, the proposed projects would not require or result in the relocation or construction of new or expanded water facilities.

Power, Natural Gas, and Telecommunication Facilities. The proposed projects would involve construction of power facilities. However, these are components of the projects as evaluated in the EIR. The proposed projects would not otherwise generate the demand for or require or result in the relocation or construction of new or expanded electric power, natural gas, or telecommunications facilities that would in turn, result in a significant impact to the environment.

Solid Waste Facilities. Solid waste generation would be minor for the construction and operation of the projects. Solid waste would be disposed of using a locally-licensed waste hauling service, most likely Allied Waste. Trash would likely be hauled to the Calexico Solid Waste Site (13-AA-0004) located approximately 13 miles west of the proposed projects in Calexico. As of August 1, 2019, the Calexico Solid Waste Site has approximately 1,561,235 cubic yards of remaining capacity and is estimated to remain in operation through 2179 (CalRecycle 2021). Therefore, there is ample landfill capacity in the County to receive the minor amount of solid waste generated by construction and operation of the proposed projects.

Additionally, because the proposed projects would generate solid waste during construction and operation, the projects would be required to comply with state and local requirements for waste reduction and recycling; including the 1989 California Integrated Waste Management Act and the 1991 California Solid Waste Reuse and Recycling Access Act of 1991. Also, conditions of the CUPs would contain provisions for recycling and diversion of Imperial County construction waste policies.

Further, when the proposed projects reach the end of their operational life, the components would be decommissioned and deconstructed. When the projects conclude operations, much of the wire, steel, and modules of which the system is comprised would be recycled to the extent feasible. The project components would be deconstructed and recycled or disposed of safely, and the sites could be converted to other uses in accordance with applicable land use regulations in effect at the time of closure. Commercially reasonable efforts would be used to recycle or reuse materials from the decommissioning. All other materials would be disposed of at a licensed facility. A less than significant impact is identified for this issue.

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6.8 Wildfire

According to the Draft Fire Hazard Severity Zone Map for Imperial County prepared by the California Department of Forestry and Fire Protection, the project sites are not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2007). Therefore, the proposed projects would not substantially impair an adopted emergency response plan or emergency evacuation plan; expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire; exacerbate fire risk; or, expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. No impact is identified for wildfire.

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7 Alternatives

7.1 Introduction

The identification and analysis of alternatives is a fundamental concept under CEQA. This is evident in that the role of alternatives in an EIR is set forth clearly and forthrightly within the CEQA statutes. Specifically, CEQA §21002.1(a) states:

> *"The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided."*

The CEQA Guidelines require an EIR to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (CEQA Guidelines §15126.6(a)). The CEQA Guidelines direct that selection of alternatives focus on those alternatives capable of eliminating any significant environmental effects of the project or of reducing them to a less-than significant level, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly. In cases where a project is not expected to result in significant impacts after implementation of recommended mitigation, review of project alternatives is still appropriate.

The range of alternatives required within an EIR is governed by the "rule of reason" which requires an EIR to include only those alternatives necessary to permit a reasoned choice. The discussion of alternatives need not be exhaustive. Furthermore, an EIR need not consider an alternative whose implementation is remote and speculative or whose effects cannot be reasonably ascertained.

Alternatives that were considered but were rejected as infeasible during the scoping process should be identified along with a reasonably detailed discussion of the reasons and facts supporting the conclusion that such alternatives were infeasible.

Based on the alternatives analysis, an environmentally superior alternative is designated among the alternatives. If the environmentally superior alternative is the No Project Alternative, then the EIR shall identify an environmentally superior alternative among the other alternatives (CEQA Guidelines §15126.6(e)(2)).

7.2 Criteria for Alternatives Analysis

As stated above, pursuant to CEQA, one of the criteria for defining project alternatives is the potential to attain the project objectives. Established objectives of the project applicant for the proposed project include:

- Construct and operate a solar energy facility capable of producing up to 350 megawatt (MW) alternating current (AC) of electricity to assist the State of California in achieving its 60 percent renewable portfolio standard by 2030.
- Provide a 350 MW energy (battery storage) system, that would accommodate and store the power generated by the project so that the facility can continue to provide renewable energy during non-daylight hours.

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- Interconnect directly to IID's existing electrical transmission system.
- Help California meet its statutory and regulatory goal of increasing renewable power generation, including greenhouse gas reduction goals of Senate Bill 32.
- Minimize and mitigate any potential impact to sensitive environmental resources within the project area.

7.3 Alternatives Considered but Rejected

7.3.1 Alternative Site

Section 15126.6(f)(2) of the CEQA Guidelines addresses alternative locations for a project. The key question and first step in the analysis is whether any of the significant effects of the proposed project would be avoided or substantially lessened by constructing the proposed project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need to be considered for inclusion in the EIR. Further, CEQA Guidelines Section 15126.6(f)(1) states that among the factors that may be taken into account when addressing the feasibility of alternative locations are whether the project proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent).

The proponent does not have control of an alternate site; if control were viable, the proponent would have to re-initiate the application process as a new project. Similar to the proposed project site, an alternate site would require environmental review once the proponent has prepared sufficient project description information. At present, the proponent does not have control of an alternate site. This alternative would be the most complex, costly, and time-consuming alternative to implement. It is unknown if the environmental impacts associated with this Alternative would be less than the proposed project because it would be speculative to evaluate an unsecured alternate site. This is primarily due to the fact that the proponent does not have control of an alternate site. Therefore, an alternative site was eliminated from further consideration in this EIR.

7.4 Alternative 1: No Project/No Development Alternative

The CEQA Guidelines require analysis of the No Project Alternative (PRC Section 15126). According to Section 15126.6(e)(1), "the specific alternative of 'no project' shall also be evaluated along with its impact." Also, pursuant to Section 15126.6(e)(2); "The 'no project' analysis shall discuss the existing conditions at the time the notice of preparation is published, … at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services."

The No Project/No Development Alternative assumes that the projects, as proposed, would not be implemented and the project sites would not be further developed with solar energy facilities. The No Project/No Development Alternative would not meet the project objectives.

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7.4.1 Environmental Impact of Alternative 1: No Project/No Development Alternative

Aesthetics

Under the No Project/No Development Alternative, the project sites would not be developed and would continue to be undeveloped and fallow agricultural land. The No Project/No Development Alternative would not modify the existing project sites or add construction to the project sites; therefore, there would be no change to the existing condition of the sites. Under this alternative, there would be no potential to create a new source of light or glare associated with the PV arrays. As discussed in greater detail in Section 3.2, Aesthetics, the proposed projects would result in a less than significant impact associated with introduction of new sources of light and glare. Under the No Project Alternative, no new sources of light, glare, or other aesthetic impacts would occur. Under this alternative, light, glare, and aesthetic impacts would be less compared to the projects as the existing visual conditions would not change.

Agricultural Resources

As discussed in Section 3.3, Agricultural Resources, the majority of the project sites are designated as Other Land (DOC 2021). A portion of the VEGA SES 5 project site (APN 025-260-022) is designated as Farmland of Local Importance. Compared to the proposed projects, implementation of this alternative would avoid the conversion of land designated as Other Land and Farmland of Local Importance per the FMMP. However, as previously indicated, these designations are not considered an “agricultural land” per CEQA Statute Section 21060.1(a). Therefore, this alternative would not contribute to the conversion of agricultural lands or otherwise adversely affect agricultural operations. Compared to the proposed projects, this alternative would avoid the need for future restoration of the project sites to pre-project conditions.

Air Quality

Under the No Project/No Development Alternative, there would be no air emissions associated with project construction or operation, and no project- or cumulative-level air quality impact would occur. Therefore, no significant impacts to air quality or violation of air quality standards would occur under this alternative. Moreover, this alternative would be consistent with existing air quality attainment plans and would not result in the creation of objectionable odors.

As discussed in Section 3.4, Air Quality, the proposed projects would not exceed the ICAPCD’s significance thresholds for emissions of ROG, CO, SO_2, and $PM_{2.5}$ during both the construction and operational phases of the project. However, the VEGA SES 2 and 3 projects would exceed the ICAPCD threshold for PM_{10}, prior to implementation of mitigation. Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII – Fugitive Dust Control Measures. The projects must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust (Mitigation Measure AQ-1). With the implementation of the ICAPCD Regulation VIII requirements (Mitigation Measure AQ-1), the projects would not exceed the ICAPCD’s thresholds of significance for PM_{10} emissions. This alternative would result in less air quality emissions compared to the proposed projects, the majority of which would occur during construction. The No Project/No Development Alternative would not reduce the long-term need for renewable electricity generation. As a consequence, while the No Project/No Development Alternative would not result in new impacts to air quality as a result of construction, it would likely not realize the overall benefits to regional air quality when compared to the operation of the proposed projects.

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Biological Resources

Under the No Project/No Development Alternative, existing biological resource conditions within the project sites would largely remain unchanged and no impact would be identified. Unlike the proposed projects which requires mitigation for biological resources including rare plants, burrowing owl and other migratory birds, nesting birds, sensitive natural communities, and aquatic resources, this alternative would not result in construction of a solar facility that could otherwise result in significant impacts to these biological resources. Compared to the proposed projects, this alternative would avoid impacts to biological resources.

Cultural Resources

The proposed projects would involve ground-disturbing activities that have the potential to disturb previously undocumented cultural resources that could qualify as historical resources or unique archaeological resources pursuant to CEQA. Under the No Project/No Development Alternative, the project sites would not be developed and no construction-related ground disturbance would occur. Therefore, compared to the proposed projects, this alternative would avoid impacts to cultural resources.

Geology and Soils

Because there would be no development at the project sites under the No Project/No Development Alternative, no grading or construction of new facilities would occur. Therefore, there would be no impact to project-related facilities as a result of local seismic hazards (strong ground shaking), soil erosion, and paleontological resources. In contrast, the proposed projects would require the incorporation of mitigation measures related to potential seismic hazards, soil erosion, and paleontological resources to minimize impacts to a less than significant level. Compared to the proposed projects, this alternative would avoid significant impacts related to local geology and soil conditions and paleontological resources.

Greenhouse Gas Emissions

Under the No Project/No Development Alternative, there would be no GHG emissions resulting from project construction or operation or corresponding impact to global climate change. The No Project/No Development Alternative would not help California meet its statutory and regulatory goal of increasing renewable power generation, including GHG reduction goals of SB 32. While this alternative would not further implement policies (e.g., SB X1-2) for GHG reductions, this alternative would also not directly conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. This alternative would not create any new GHG emissions during construction but would not lead to a long-term beneficial impact to global climate change by providing renewable clean energy. For the proposed projects, a less than significant impact was identified for construction-related GHG emissions, and in the long-term, the projects would result in an overall beneficial impact to global climate change as the result of creation of clean renewable energy, that does not generate GHG emissions. Compared to the proposed projects, while the No Project/No Development Alternative would not result in new GHG emissions during construction, it would be less beneficial to global climate change as compared to the proposed projects. Further, the construction emissions associated with the projects would be off-set by the beneficial renewable energy provided by the projects, negating any potential that the No Project/No Development alternative would reduce construction-related GHG emissions.

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Hazards and Hazardous Materials

The No Project/No Development Alternative would not include any new construction. Therefore, no potential exposure to hazardous materials would occur. Therefore, no impact is identified for this alternative for hazards and hazardous materials. As with the proposed projects, this alternative would not result in safety hazards associated with airport operations. Compared to the proposed projects, this alternative would have less of an impact related to hazards and hazardous materials.

Hydrology/Water Quality

The No Project/No Development Alternative would not result in modifications to the existing drainage patterns or volume of storm water runoff as attributable to the proposed projects, as the existing site conditions and on-site pervious surfaces would remain unchanged. In addition, no changes with regard to water quality would occur under this alternative. Compared to the proposed projects, from a drainage perspective, this alternative would avoid changes to existing hydrology. Unlike the proposed projects, this alternative would not result in the placement of structures within flood zone A. This alternative would have less of an impact associated with hydrology/water quality as compared to the proposed projects.

Land Use/Planning

As discussed in Section 3.11, Land Use/Planning, the proposed projects would not physically divide an established community or conflict with applicable plans, policies, or regulations.

Under the No Project/No Development Alternative, the project sites would not be developed and continue to be undeveloped and fallow agricultural land. Current land uses would remain the same. No CUPs would be required under this alternative. No existing community would be divided, and no inconsistencies with planning policies would occur. Because no significant Land Use and Planning impact has been identified associated with the proposed projects, this alternative would not avoid or reduce a significant impact related to this issue and therefore, it is considered similar to the proposed projects.

Noise

This alternative would not require construction or operation of the project facilities; therefore, this alternative would not increase ambient noise levels within the vicinity of the project sites. For this reason, no significant noise impacts would occur. As discussed in Section 3.12, Noise and Vibration, the proposed projects would not result in significant noise impacts to sensitive receptors during construction and operation. Compared to the proposed projects, this alternative would not generate noise and would have less of an impact associated with noise.

Transportation

There would be no new development under the No Project/No Development Alternative. Therefore, this alternative would not generate vehicular trips during construction or operation. For these reasons, no impact would occur and this alternative would not impact any applicable plan, ordinance, or policy addressing the performance of the circulation system, substantially increase hazards because of a design feature, result in inadequate emergency access, or conflict with public transit, bicycle, or pedestrian facilities. Although the proposed projects would result in less than significant transportation impacts, this alternative would avoid an increase in vehicle trips on local roadways, and any safety

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related hazards that could occur in conjunction with the increase vehicle trips and truck traffic, primarily associated with the construction phase of the projects.

Tribal Cultural Resources

As discussed in Section 3.14, Tribal Cultural Resources, no tribes have responded that indicate the potential for traditional cultural properties or sacred sites on the project sites. Therefore, the projects are not anticipated to cause a substantial adverse change in the significance of a tribal cultural resource. Impacts to tribal cultural resources under the No Project/No Development Alternative are similar to the proposed projects.

Utilities and Service Systems

The No Project/No Development Alternative would not require the expansion or extension of existing utilities, since there would be no new project facilities that would require utility service. No solid waste would be generated under this alternative. The proposed projects would not result in any significant impacts to existing utilities or solid waste facilities. Compared to the proposed projects, this alternative would have less of an impact related to utilities and solid waste facilities.

Conclusion

Implementation of the No Project/No Development Alternative would generally result in reduced impacts for a majority of the environmental issues areas considered in Chapter 3, Environmental Analysis when compared to the proposed projects. A majority of these reductions are realized in terms of significant impacts that are identified as a result of project construction. However, this alternative would not realize the benefits of reduced GHG emissions associated with energy use, which are desirable benefits that are directly attributable to the proposed projects.

Comparison of the No Project/No Development Alternative to Project Objectives

The No Project/No Development Alternative would not meet the objectives of the projects. Additionally, the No Project/No Development Alternative would not help California meet its statutory and regulatory goal of increasing renewable power generation, including GHG reduction goals of SB 32.

7.5 Alternative 2: Reduced Project Site

The purpose of this alternative is to reduce the size of the project sites to minimize impacts on sensitive vegetation communities and riparian habitat. Iodine bush scrub, bush seepweed scrub, tamarisk thickets, and blue palo verde-ironwood woodland occur within the project sites and are considered sensitive natural communities by CDFW.

In addition, riparian habitat associated with the drainage systems throughout the VEGA SES 2 and 3 project sites consists of blue palo verde-ironwood woodland and tamarisk thickets. Riparian habitat associated with the drainage systems throughout the VEGA SES 5 project site consists of tamarisk thickets.

This alternative would remove the portion of VEGA SES 2 that is located on APN 025-010-006 and remove APN 025-260-019 and a portion of APN 025-260-011 from VEGA SES 5. Therefore, the project site would be reduced by 660 acres from a total of 1,963 acres to 1,303 acres. Figure 7-1 depicts this alternative.

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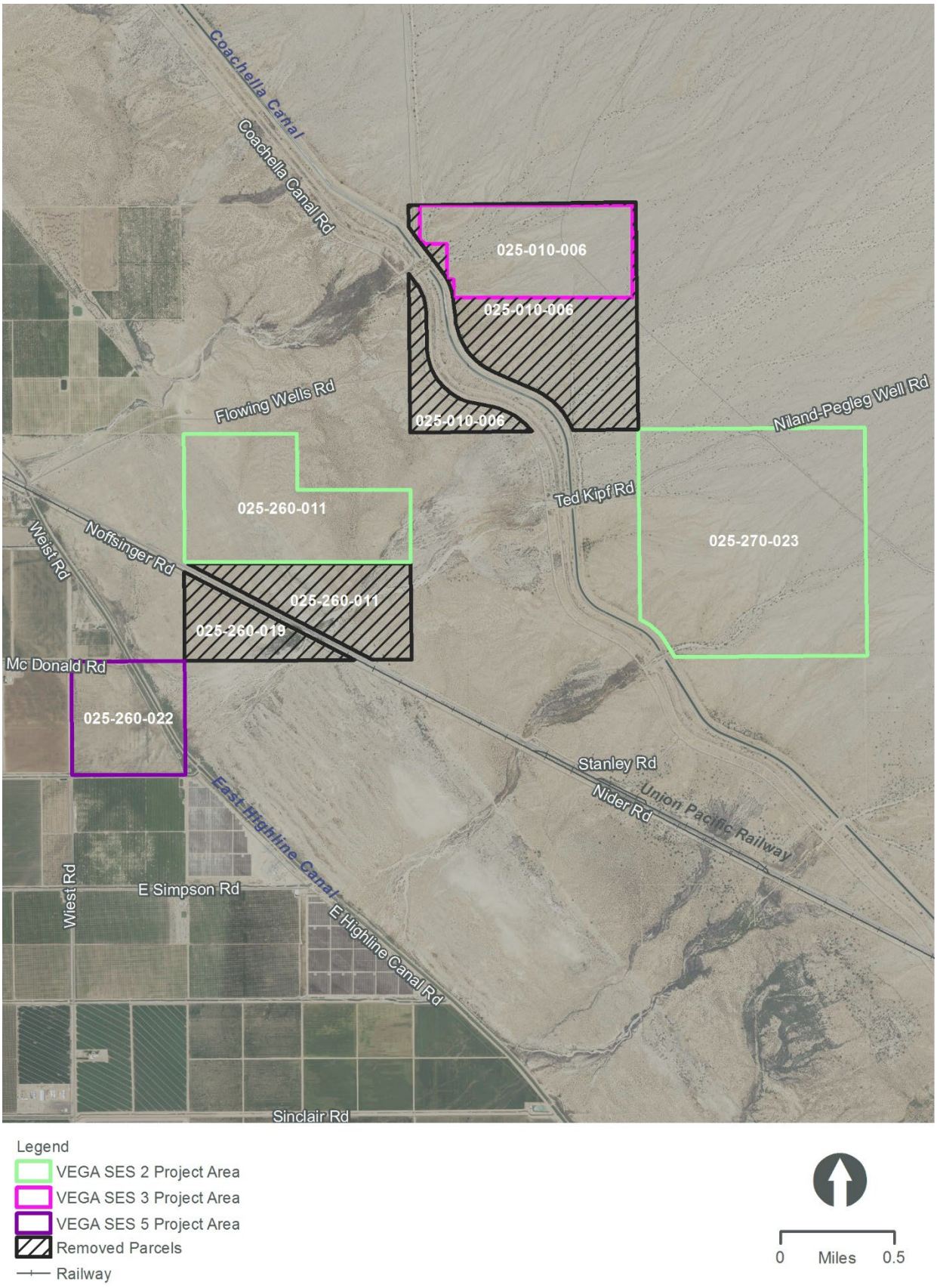
Figure 7-1. Alternative 2: Reduced Project Site



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7.5.1 Environmental Impact of Alternative 2: Reduced Project Site

Aesthetics

Under Alternative 2, the overall size of the solar energy facility would be reduced. No significant visual aesthetic impact has been identified as the proposed projects' facilities would not impact scenic resources, result in the substantial degradation of the existing visual character of the project sites, or add a substantial amount of light and glare. As such, this alternative would not avoid or reduce any significant impacts identified for the projects and the aesthetic impact would be similar to the proposed projects.

Agricultural Resources

Under Alternative 2, the overall size of the solar energy facility would be reduced. As discussed in Section 3.3, Agricultural Resources, the proposed projects would not result in the conversion of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland and Williamson Act contracts. However, a portion of the VEGA SES 5 project site (APN 025-260-022) is designated as Farmland of Local Importance, and it was noted that project implementation may change the physical and chemical makeup of soil materials within the upper soil horizon on site and impact future agricultural productivity. Under this alternative, the project applicant would still be required to adhere to the terms of the comprehensive reclamation plan that would restore the VEGA SES 5 project site to preexisting (pre-project) conditions following decommissioning of the project (after its use for solar generation activities). In addition, the VEGA SES 5 project would still be required to implement a weed and pest management control plan per Mitigation Measure AG-1. Compared to the proposed projects, this alternative would have similar impacts as the proposed projects.

Air Quality

Under Alternative 2, air emissions during construction would be less than the proposed projects because of the reduced site development. A less than significant impact with mitigation incorporated has been identified for the proposed projects during construction. Similar to the proposed projects, this alternative would be required to comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. Similar to the proposed projects, this alternative would be consistent with existing AQMPs and would not result in the creation of objectionable odors. This alternative would provide less MW generation compared to the proposed projects, thereby reducing its ability to provide a long-term source of renewable energy. Compared to the proposed projects, while this alternative would result in less air quality impacts, it would likely provide fewer desirable benefits to overall regional air quality as attributable to the proposed project.

Biological Resources

Under Alternative 2, the overall size of the solar energy facility would be reduced by 660 acres. Under Alternative 2, impacts on biological resources would be reduced by reducing the size of the project sites to minimize impacts on sensitive vegetation communities and riparian habitat. Although the overall size of the solar energy facilities would be reduced, there is still potential for impacts on special-status species, sensitive vegetation communities, and riparian habitat. Compared to the proposed projects, this alternative would result in a reduction in impacts on biological resources, but would still require mitigation.

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Cultural Resources

Although the overall size of the solar energy facilities would be reduced by 660 acres, this alternative would still require ground-disturbing activities, which has the potential to disturb undocumented cultural resources that could qualify as historical resources or unique archaeological resources pursuant to CEQA, and human remains. This alternative would not avoid any direct impacts to any significant cultural resources sites, as none have been identified. Compared to the proposed projects, this alternative would result in a reduction in impacts on cultural resources because of the reduced site development, but would still require mitigation related to monitoring for inadvertent discovery.

Geology and Soils

Under Alternative 2, while the overall project footprint would be reduced, grading and construction of new facilities, such as the solar facility, battery energy storage, and gen-tie, would still occur. Similar to the proposed projects, this alternative would also be subject to potential impacts related to strong ground shaking, liquefaction, soil erosion, collapsible soils, expansive soils, and paleontological resources, and incorporation of mitigation measures would be required to minimize these impacts to a less than significant level. This alternative would result in similar geology and soil and paleontological resources impacts as the proposed projects.

Greenhouse Gas Emissions

Under Alternative 2, the overall project footprint would be reduced by approximately 660 acres, thereby contributing to reductions in GHG emissions during project construction. However, as a consequence of the reduced size of the projects, this alternative would result in a reduced power production capacity as compared to the proposed projects; hence, the overall benefits of the projects to global climate change through the creation of renewable energy would also be reduced. This alternative would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Similar to the proposed projects, this alternative would not exceed MDAQMD's threshold of 100,000 $MTCO_2e$.This alternative would contribute to similar and desirable reductions in GHG emissions and associated contribution to global climate change through the production of renewable energy, although to a lesser degree. Because no significant GHG impact has been identified associated with the proposed projects, this alternative would not avoid or reduce a significant impact related to this issue and, therefore, it is considered similar to the proposed projects.

Hazards and Hazardous Materials

Similar to the proposed projects, construction of this alternative would involve the limited use of hazardous materials, such as fuels and greases to fuel and service construction equipment. Also, as with the proposed projects, because the Phase I ESAs prepared for the proposed projects did not identify and on-site RECs, ASTs, or USTs, this alternative would not avoid or reduce impacts associated with hazardous materials. Further, no impact associated with potential safety hazards to the public residing or working within proximity to a public airport would occur. Implementation of this alternative would result in a similar hazards and hazardous materials impact as the proposed projects. This alternative would not avoid or lessen the impact to hazards and hazardous materials as no significant impact associated with the proposed projects has been identified.

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Hydrology/Water Quality

Alternative 2 would result in modifications to the existing drainage patterns and the volume of storm water runoff, as this alternative would introduce impervious area on-site, although to a lesser degree than the proposed projects. Because the overall project footprint would be reduced, this alternative would realize a minor reduction in the corresponding impacts on hydrology and on-site drainage; however, the same mitigation measures would be applicable to this alternative. Compared to the proposed projects, this alternative would result in less of an impact on hydrology/water quality.

Land Use Planning

Implementation of this alternative would not avoid or reduce a land use and planning impact, as no significant impact associated with the projects has been identified. As with the proposed projects, this alternative would be consistent with the County Land Use Ordinance, Division 17, RE Overlay Zone, which authorizes the development and operation of RE projects with an approved CUP. Implementation of this alternative would be similar to the proposed projects with respect to land use and planning.

Noise

As with the proposed projects, Alternative 2 would not result in significant noise impacts associated with construction activities. As with the proposed projects, operational impacts associated with this alternative would not expose persons or generate noise levels in excess of applicable noise standards, exposure persons to, or generate excessive groundborne vibration, or expose persons to excessive aircraft noise. Because no significant noise impact has been identified associated with the proposed projects, this alternative would not avoid or reduce a significant impact related to this issue and therefore, it is considered similar to the proposed projects.

Transportation

This alternative would result in a similar level of construction and operation-related vehicle and truck trips as compared to the proposed projects. However, the increase in vehicular traffic was identified as a less than significant impact for the proposed projects. In this context, Alternative 2 would not reduce or avoid an impact related to transportation and would result in less than significant impacts similar to the proposed projects. As with the proposed projects, Alternative 2 would not impact any applicable plan, ordinance, or policy addressing the performance of the circulation system, substantially increase hazards because of a design feature, result in inadequate emergency access, or conflict with public transit, bicycle, or pedestrian facilities. This alternative would result in a similar impact related to transportation as the proposed projects.

Tribal Cultural Resources

Implementation of this alternative would not avoid or reduce a tribal cultural resources impact, as no significant impact associated with the projects has been identified. Impacts to tribal cultural resources under this alternative are similar to the proposed projects.

Utilities and Service Systems

Implementation of this alternative would result in an overall less demand for utilities, including water. However, this alternative would not avoid or reduce a significant impact associated with the projects as a less than significant impact to utilities has been identified associated with the projects.

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Implementation of this alternative would not achieve to the same degree the beneficial impacts of providing renewable energy. As compared to the proposed projects, the overall demand for utilities would be less under this alternative.

Conclusion

As shown on Table 7-1, this alternative would reduce impacts to air quality, biological resources, cultural resources, hydrology/water quality, and utilities/service systems.

Comparison of Alternative 2: Reduced Project Site

Alternative 2 would meet most of the basic objectives of the proposed projects and should remain under consideration. However, this alternative would make it more difficult to achieve the overall objective of providing a total of 350 MW of renewable solar energy, as there would be less area available for the placement of PV structures.

7.6 Environmentally Superior Alternative

Table 7-1 provides a qualitative comparison of the impacts for each alternative compared to the proposed projects. As noted on Table 7-1, the No Project/No Development Alternative would be considered the environmentally superior alternative, since it would eliminate all of the significant impacts identified for the projects. However, CEQA Guidelines Section 15126.6(e)(2) states that “if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.” As shown on Table 7-1, Alternative 2 would be the environmental superior alternative because it would reduce impacts for the following environmental issue areas as compared to the proposed projects: air quality, biological resources, cultural resources, hydrology/water quality, and utilities/service systems.

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Table 7-1. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Aesthetics	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* *Less than Significant* *Comparison to Proposed Project:* Similar Impact
Agricultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact
Air Quality	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Biological Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Cultural Resources	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* *Less than Significant with Mitigation* *Comparison to Proposed Project:* Less Impact

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Table 7-1. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Geology and Soils	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Similar Impact
GHG Emissions	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Hazards and Hazardous Materials	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Hydrology/ Water Quality	Less than Significant with Mitigation	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact (Avoid)	*CEQA Significance:* Less than Significant with Mitigation *Comparison to Proposed Project:* Less Impact
Land Use/Planning	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact

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Table 7-1. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Project Site
Noise	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Transportation	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Similar Impact
Tribal Cultural Resources	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Similar Impact	*CEQA Significance:* *Less than Significant* *Comparison to Proposed Project:* Similar Impact
Utilities/Service Systems	Less than Significant	*CEQA Significance:* No Impact *Comparison to Proposed Project:* Less Impact	*CEQA Significance:* Less than Significant *Comparison to Proposed Project:* Less Impact

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9 EIR Preparers and Persons and Organizations Contacted

9.1 EIR Preparers

This EIR was prepared for the County of Imperial by HDR at 591 Camino de la Reina, Suite 300, San Diego, CA 92108. The following professionals participated in its preparation:

County of Imperial

Jim Minnick, Planning & Development Services Director

Michael Abraham, AICP, Assistant Planning & Development Services Director

Diana Robinson, Planning Division Manager

David Black, Planner IV

HDR

Tim Gnibus, Principal

Sharyn Del Rosario, Project Manager

Andrew Belcourt, Senior Environmental Planner

Regan Del Rosario, Environmental Planner

Shelly Austin, Biological Resources Project Manager

Ronell Santos, Biologist 2

Manuel Guzman, Civil Engineer Geotechnical Section

Sharon Jacob, Geographic Information Systems Analyst

Katherine Turner, Document Production Administrator

HDR was assisted by the following consultants:

ECORP Consulting, Inc.

Visual Impact Assessment; Air Quality and Greenhouse Gas Assessment; Biological Technical Report; Aquatic Resources Delineation; Cultural Resources Inventory; Archeological and Built Resources Inventory Report; Noise Impact Assessment; Energy Impact Assessment; Water Supply Assessment

GS Lyon Consultants, Inc.

Phase I Environmental Site Assessment

KOA

Traffic Impact Study

9.2 Persons and Organizations Contacted

The following persons and organizations were contacted in preparation of this document:

- Imperial Irrigation District

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Appendix A

Initial Study and Notice of Preparation and Comment Letters

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Notice of Preparation

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To: Office of Planning & Research
(Agency)

P.O. Box 3044, 1400 Tenth Street, Room 212
(Address)

Sacramento, CA 95812-3044

Subject: Notice of Preparation of a Draft Environmental Impact Report

Lead Agency:		**Consulting Firm** (If applicable):	
Agency Name	Imperial County, Planning & Dev Svcs.	Firm Name	HDR
Street Address	801 Main Street	Street Address	591 Camino de la Reina, Suite 300
City/State/Zip	El Centro, CA 92243	City/State/Zip	San Diego, CA 92108
Contact	Patricia Valenzuela	Contact	Tim Gnibus

The County of Imperial will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the project identified below. We need to know the views of your agency as to the scope and content of the Environmental Information, which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study is attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but ***not later than 35 days*** after receipt of this notice.

Please send your response to Imperial County Planning & Development Services, Attn: Patricia Valenzuela at the address shown above. We will need the name for a contact person in your agency.

Project Title: VEGA SES 2, 3,and 5 Solar Energy Project

Project Location: The project area is located on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA. The project area is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The project area is transected by the Coachella and East Highline Canals and the Union Pacific Railway. As shown on Figure 1, the project area is located entirely within the County's Renewable Energy Overlay Zone.

Project Description (brief)**:** The project applicant, Apex Energy Solutions, LLC, proposes to construct and operate an expansive photovoltaic (PV) solar energy facility and associated infrastructure on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA.

Three separate Conditional Use Permits (CUPs) have been filed with the County, which together define the project sites. The three CUP applications or individual site locations consist of the following:

- CUP 20-0021: VEGA SES 2 (APNs 025-010-006, 025-260-011, and 025-270-023)
- CUP 20-0022: VEGA SES 3 (APN 025-010-006)
- CUP 20-0023: VEGA SES 5 (APNs 025-260-019 and 025-260-022)

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Collectively, the proposed projects involve the construction of up to 350 megawatt (MW) alternative current (AC) photovoltaic (PV) solar energy facility with an integrated 350 MW battery storage system (not to exceed 700 MW). The projects propose to utilize either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The projects would include electronic/electrical equipment, on-site substations, interconnection facilities, access roads and fencing. The electrical energy produced by the projects would be conducted through the projects' interconnection facilities to the following:

- VEGA SES 2 - IID KN/KS Line
- VEGA SES 3 - IID 161 kV "F" Transmission Line
- VEGA SES 5 - IID 92 kV Midway Substation

Project Applicant: Apex Energy Solutions, LLC

Date _____ Signature _____

Title _____

Telephone _____

Reference: California Administrative Code, Title 14, (CEQA Guidelines) Section 15082(a), 15103, 15375.

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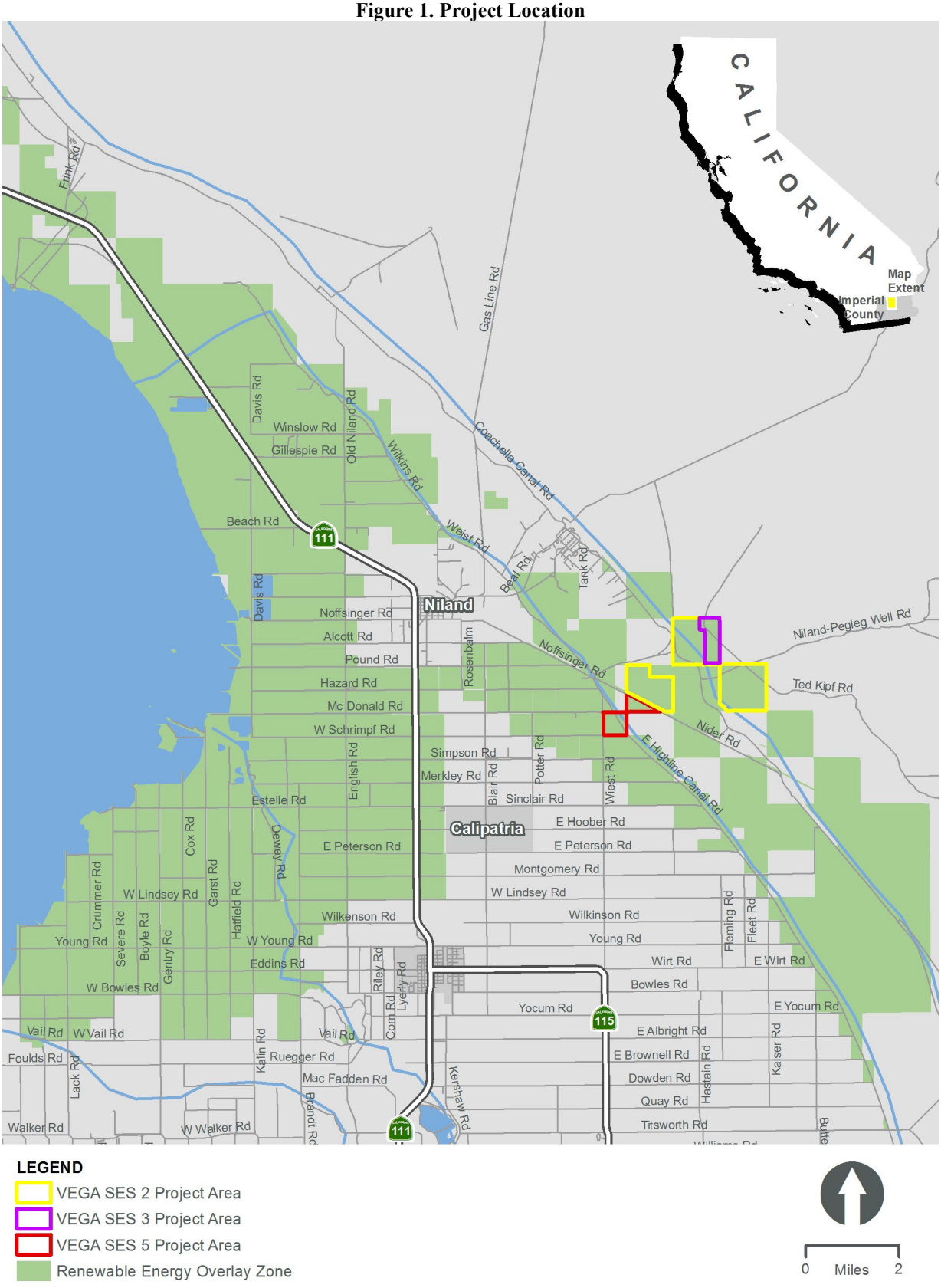
Figure 1. Project Location



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Imperial County
Planning & Development Services Department

NOTICE OF PREPARATION OF DRAFT EIR FOR VEGA SES 2,3 & 5 SOLAR ENERGY PROJECT AND NOTICE OF PUBLIC EIR SCOPING MEETING

The Imperial County Planning & Development Services Department intends to prepare an Environmental Impact Report (EIR) for the proposed VEGA SES 2, 3 & 5 Solar Energy Project as described below. A public scoping meeting for the proposed EIR will be held by the Imperial County Planning & Development Services Department on **May 13 at 6:00 P.M**. The scoping meeting will be held at the Board of Supervisors Chambers, 2nd Floor, County Administration Center located at 940 Main Street, El Centro, CA 92243. Comments regarding the scope of the EIR will be accepted at this meeting.

SUBJECT: VEGA SES 2, 3 & 5 Solar Energy Project EIR

BOARD OF SUPERVISORS CONSIDERATION: To Be Determined.

PROJECT LOCATION: The project area is located on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA. The project area is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The project area is transected by the Coachella and East Highline Canals and the Union Pacific Railway. The project area is located entirely within the County's Renewable Energy Overlay Zone.

PROJECT DESCRIPTION: The project applicant, Apex Energy Solutions, LLC, proposes to construct and operate an expansive photovoltaic (PV) solar energy facility and associated infrastructure on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA.

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- CUP 20-0022: VEGA SES 3 (APN 025-010-006)
- CUP 20-0023: VEGA SES 5 (APNs 025-260-019 and 025-260-022)

Collectively, the proposed projects involve the construction of up to 350 megawatt (MW) alternating current (AC) photovoltaic (PV) solar energy facility with an integrated 350 MW battery storage system (not to exceed 700 MW). The projects propose to utilize either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The projects would include electronic/electrical equipment, on-site substations, interconnection facilities, access roads and fencing. The electrical energy produced by the projects would be conducted through the projects' interconnection facilities to the following:

- VEGA SES 2 - IID KN/KS Line
- VEGA SES 3 - IID 161 kV "F" Transmission Line
- VEGA SES 5 - IID 92 kV Midway Substation

Project Applicant: Apex Energy Solutions, LLC

URBAN AREA PLAN: None, located in unincorporated area of County of Imperial

BOARD OF SUPERVISORS DISTRICT: District 4, Supervisor Ryan E. Kelley

ANTICIPATED SIGNIFICANT EFFECTS: The EIR will analyze potential impacts associated with the following: Aesthetics; Agricultural Resources; Air Quality; Biological Resources; Cultural Resources; Geology/Soils; Greenhouse Gas Emissions/Climate Change; Hazards and Hazardous Materials; Hydrology/Water Quality; Land Use/Planning; Noise; Public Services; Transportation; Tribal Cultural Resources; Utilities and Service Systems including water supply; Cumulative Impacts; and, Growth-Inducing Impacts.

COMMENTS REQUESTED: The Imperial County Planning & Development Services Department would like to know your ideas about the potential effects this project might have on the environment and your suggestions as to mitigation or ways the project may be revised to reduce or avoid any potentially significant environmental impacts. Your comments will guide the scope and content of potential environmental issues to be examined in the EIR. Your comments may be submitted in writing to Patricia Valenzuela, Imperial County Planning & Development Services Department, 801 Main Street, El Centro, CA 92243. Available project information may be reviewed at this location.

NOTICE OF PREPARATION REVIEW PERIOD: May 4, 2021 through June 7, 2021

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Initial Study

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Initial Study and NOP

VEGA SES 2, 3, & 5 Solar Energy Project

Imperial County, CA

December 2022

Reviewed by:

County of Imperial

Planning & Development Services Department

801 Main Street

El Centro, CA 92243

Prepared by:

HDR Engineering, Inc.

591 Camino de la Reina, Suite 300

San Diego, CA 92108

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Introduction

A. Purpose

This document is a ☐ policy-level; ☒ project-level Initial Study for evaluation of potential environmental impacts resulting with the proposed VEGA SES 2, 3, & 5 Solar Energy Project.

B. CEQA Requirements and the Imperial County's Rules and Regulations for Implementing CEQA

As defined by Section 15063 of the State California Environmental Quality Act (CEQA) Guidelines and Section 7 of the County's Rules and Regulations for Implementing CEQA, an **Initial Study** is prepared primarily to provide the Lead Agency with information to use as the basis for determining whether an Environmental Impact Report (EIR), Negative Declaration, or Mitigated Negative Declaration would be appropriate for providing the necessary environmental documentation and clearance for any proposed project.

☐ According to Section 15065, an **EIR** is deemed appropriate for a particular proposal if the following conditions occur:

- The proposal has the potential to substantially degrade quality of the environment.
- The proposal has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.
- The proposal has possible environmental effects that are individually limited but cumulatively considerable.
- The proposal could cause direct or indirect adverse effects on human beings.

☐ According to Section 15070(a), a **Negative Declaration** is deemed appropriate if the proposal would not result in any significant effect on the environment.

☐ According to Section 15070(b), a **Mitigated Negative Declaration** is deemed appropriate if it is determined that though a proposal could result in a significant effect, mitigation measures are available to reduce these significant effects to insignificant levels.

This Initial Study has determined that the proposed applications will result in potentially significant environmental impacts and therefore, an Environmental Impact Report is deemed as the appropriate document to provide necessary environmental evaluations and clearance for the proposed project.

This Initial Study and Notice of Preparation are prepared in conformance with the California Environmental Quality Act of 1970, as amended (Public Resources Code, Section 21000 et. seq.); the State CEQA Guidelines & County of Imperial's CEQA Regulations, Guidelines for the Implementation of CEQA; applicable requirements of the County of Imperial; and the regulations, requirements, and procedures of any other responsible public agency or an agency with jurisdiction by law.

Pursuant to the County of Imperial's CEQA Regulations, Guidelines for the Implementation of CEQA, depending on the project scope, the County of Imperial Board of Supervisors, Planning

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Commission and/or Planning Director is designated the Lead Agency, in accordance with Section 15050 of the CEQA Guidelines. The Lead Agency is the public agency which has the principal responsibility for approving the necessary environmental clearances and analyses for any project in the County.

C. Intended Uses of Initial Study and Notice of Preparation

This Initial Study and Notice of Preparation are informational documents which are intended to inform County of Imperial decision makers, other responsible or interested agencies, and the general public of potential environmental effects of the proposed applications. The environmental review process has been established to enable public agencies to evaluate environmental consequences and to examine and implement methods of eliminating or reducing any potentially adverse impacts. While CEQA requires that consideration be given to avoiding environmental damage, the Lead Agency and other responsible public agencies must balance adverse environmental effects against other public objectives, including economic and social goals.

The Initial Study and Notice of Preparation, prepared for the project will be circulated for a period of no less than 35 days for public and agency review and comments.

D. Contents of Initial Study and Notice of Preparation

This Initial Study is organized to facilitate a basic understanding of the existing setting and environmental implications of the proposed applications.

SECTION 1

I. INTRODUCTION presents an introduction to the entire report. This section discusses the environmental process, scope of environmental review, and incorporation by reference documents.

SECTION 2

II. ENVIRONMENTAL CHECKLIST FORM contains the County's Environmental Checklist Form. The checklist form presents results of the environmental evaluation for the proposed applications and those issue areas that would have either a significant impact, potentially significant impact, or no impact.

PROJECT SUMMARY, LOCATION AND ENVIRONMENTAL SETTINGS describes the proposed project entitlements and required applications. A description of discretionary approvals and permits required for project implementation is also included. It also identifies the location of the project and a general description of the surrounding environmental settings.

ENVIRONMENTAL ANALYSIS evaluates each response provided in the environmental checklist form. Each response checked in the checklist form is discussed and supported with sufficient data and analysis as necessary. As appropriate, each response discussion describes and identifies specific impacts anticipated with project implementation.

SECTION 3

III. MANDATORY FINDINGS presents Mandatory Findings of Significance in accordance with Section 15065 of the CEQA Guidelines.

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E. Scope of Environmental Analysis

For evaluation of environmental impacts, each question from the Environmental Checklist Form is summarized and responses are provided according to the analysis undertaken as part of the Initial Study. Impacts and effects will be evaluated and quantified, when appropriate. To each question, there are four possible responses, including:

1. No Impact: A “No Impact” response is adequately supported if the impact simply does not apply to the proposed applications.
2. Less Than Significant Impact: The proposed applications will have the potential to impact the environment. These impacts, however, will be less than significant; no additional analysis is required.
3. Less Than Significant With Mitigation Incorporated: This applies where incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact."
4. Potentially Significant Impact: The proposed applications could have impacts that are considered significant. Additional analyses and possibly an EIR could be required to identify mitigation measures that could reduce these impacts to less than significant levels.

F. Policy-Level or Project-Level Environmental Analysis

This Initial Study will be conducted under a ☐ policy-level, ☒project-level analysis.

Regarding mitigation measures, it is not the intent of this document to “overlap” or restate conditions of approval that are commonly established for future known projects or the proposed applications. Additionally, those other standard requirements and regulations that any development must comply with, that are outside the County’s jurisdiction, are also not considered mitigation measures, and therefore, will not be identified in this document.

G. Tiered Documents and Incorporation by Reference

Information, findings, and conclusions contained in this document are based on incorporation by reference of tiered documentation, which are discussed in the following section.

1. Tiered Documents

As permitted in Section 15152(a) of the CEQA Guidelines, information and discussions from other documents can be included into this document. Tiering is defined as follows:

“Tiering refers to using the analysis of general matters contained in a broader EIR (such as the one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project.”

Tiering also allows this document to comply with Section 15152(b) of the CEQA Guidelines, which discourages redundant analyses, as follows:

“Agencies are encouraged to tier the environmental analyses which they prepare for separate but related projects including the general plans, zoning changes, and development

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projects. This approach can eliminate repetitive discussion of the same issues and focus the later EIR or negative declaration on the actual issues ripe for decision at each level of environmental review. Tiering is appropriate when the sequence of analysis is from an EIR prepared for a general plan, policy or program to an EIR or negative declaration for another plan, policy, or program of lesser scope, or to a site-specific EIR or negative declaration."

Further, Section 15152(d) of the CEQA Guidelines states:

"Where an EIR has been prepared and certified for a program, plan, policy, or ordinance consistent with the requirements of this section, any lead agency for a later project pursuant to or consistent with the program, plan, policy, or ordinance should limit the EIR or negative declaration on the later project to effects which:

(1) Were not examined as significant effects on the environment in the prior EIR; or

(2) Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means."

2. **Incorporation by Reference**

Incorporation by reference is a procedure for reducing the size of EIRs/MND and is most appropriate for including long, descriptive, or technical materials that provide general background information, but do not contribute directly to the specific analysis of the project itself. This procedure is particularly useful when an EIR or Negative Declaration relies on a broadly-drafted EIR for its evaluation of cumulative impacts of related projects (*Las Virgenes Homeowners Federation v. County of Los Angeles* [1986, 177 Ca.3d 300]). If an EIR or Negative Declaration relies on information from a supporting study that is available to the public, the EIR or Negative Declaration cannot be deemed unsupported by evidence or analysis (*San Francisco Ecology Center v. City and County of San Francisco* [1975, 48 Ca.3d 584, 595]).

When an EIR or Negative Declaration incorporates a document by reference, the incorporation must comply with Section 15150 of the CEQA Guidelines as follows:

- The incorporated document must be available to the public or be a matter of public record (CEQA Guidelines Section 15150[a]). The General Plan EIR is available, along with this document, at the County of Imperial Planning & Development Services Department, 801 Main Street, El Centro, CA 92243 Ph. (442) 265-1736.
- This document must be available for inspection by the public at an office of the lead agency (CEQA Guidelines Section 15150[b]). These documents are available at the County of Imperial Planning & Development Services Department, 801 Main Street, El Centro, CA 92243, Ph. (442) 265-1736.
- These documents must summarize the portion of the document being incorporated by reference or briefly describe information that cannot be summarized. Furthermore, these documents must describe the relationship between the incorporated information and the analysis in the tiered documents (CEQA Guidelines Section 15150[c]). As discussed above, the tiered EIRs address the entire project site and provide background and inventory information and data which apply to the project site. Incorporated information and/or data will be cited in the appropriate sections.

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- These documents must include the State identification number of the incorporated documents (CEQA Guidelines Section 15150[d]). The State Clearinghouse Number for the 'County of Imperial General Plan EIR is SCH #93011023.

The material to be incorporated in this document will include general background information (CEQA Guidelines Section 15150[f])

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Environmental Checklist Form

1. **Project Title:** VEGA SES 2,3, and 5 Solar Energy Project
2. **Lead Agency name and address:** Imperial County Planning & Development Services Department, 801 Main Street, El Centro, CA 92243
3. **Contact person and phone number:** Patricia Valenzuela, Planner IV, 442-265-1749
4. **Project location:** The project site is located on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA. The project area is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The project area is transected by the Coachella and East Highline Canals and the Union Pacific Railway.
5. **Project sponsor's name and address:** Apex Energy Solutions, LLC, 604 Sutter Street, Suite 250, Folsom, CA 95630
6. **General Plan Designation:** Recreation/Open Space, Agriculture
7. **Zoning:** A-2-RE (General Agriculture with a Renewable Energy Zone Overlay), A-3-RE (Heavy Agriculture with a Renewable Energy Zone Overlay), and S-2-RE (Open Space/Preservation with a Renewable Energy Zone Overlay)
8. **Description of project:** The project applicant, Apex Energy Solutions, LLC, proposes to construct and operate an expansive photovoltaic (PV) solar energy facility and associated infrastructure on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA.

   Three separate Conditional Use Permits (CUPs) have been filed with the County, which together define the project sites. The three CUP applications or individual site locations consist of the following:

   - CUP 20-0021: VEGA SES 2 (APNs 025-010-006, 025-260-011, and 025-270-023)
   - CUP 20-0022: VEGA SES 3 (APN 025-010-006)
   - CUP 20-0023: VEGA SES 5 (APNs 025-260-019 and 025-260-022)

   Collectively, the proposed projects involve the construction of up to 350 megawatt (MW) alternating current (AC) photovoltaic (PV) solar energy facility with an integrated 350 MW battery storage system (not to exceed 700 MW). The projects propose to utilize either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The projects would include electronic/electrical equipment, on-site substations, interconnection facilities, access roads and fencing. The electrical energy produced by the projects would be conducted through the projects' interconnection facilities to the following:

   - VEGA SES 2 - IID KN/KS Line
   - VEGA SES 3 - IID 161 kV "F" Transmission Line
   - VEGA SES 5- IID 92 kV Midway Substation

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9. **Surrounding land uses and setting: Briefly describe the project's surroundings:**

   The project area is characterized by flat agricultural and vacant land. The project area is generally surrounded by agricultural lands to the west, vacant land to the north, east and south.

10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.):**

    - Department of Public Works – Ministerial permits (building, grading, encroachment)
    - Imperial County Air Pollution Control District – Fugitive dust control plan, Authority to construct
    - California Regional Water Quality Control Board – Notice of Intent for General Construction Permit
    - Imperial Irrigation District – Water supply agreement/permit for water use lease agreement
    - Bureau of Land Management – Right-of-way/easement

11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

    Yes, the Torrez Martinez Desert Cahuilla Indians and Quechan Indian Tribe. These tribes were sent an AB 52 consultation request letter on April 7, 2021. On April 8, 2021, the Quechan Indian Tribe requested consultation with the County on the project.

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Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☒	Aesthetics	☒	Agriculture and Forestry Resources	☒	Air Quality
☒	Biological Resources	☒	Cultural Resources	☐	Energy
☒	Geology/Soils	☒	Greenhouse Gas Emissions	☐	Hazards & Hazardous Materials
☒	Hydrology / Water Quality	☐	Land Use/Planning	☐	Mineral Resources
☐	Noise	☐	Population/Housing	☒	Public Services
☐	Recreation	☒	Transportation	☒	Tribal Cultural Resources
☒	Utilities/Service Systems	☐	Wildfire	☒	Mandatory Findings of Significance

Environmental Evaluation Committee Determination

After Review of the Initial Study, the Environmental Evaluation Committee (EEC) has:

- ☐ Found that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ Found that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ Found that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ Found that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ Found that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

CALIFORNIA DEPARTMENT OF FISH AND GAME DE MINIMIS IMPACT FINDING:

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☐Yes ☐No

EEC VOTES	YES	NO	ABSENT
PUBLIC WORKS	☐	☐	☐
ENVIRONMENTAL HEALTH	☐	☐	☐
OFFICE EMERGENCY SERVICES	☐	☐	☐
APCD	☐	☐	☐
AG	☐	☐	☐
SHERIFF DEPARTMENT	☐	☐	☐
ICPDS	☐	☐	☐

Jim Minnick, Director of Planning/EEC Chairman

Signature

Date:

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Project Summary

Project Location

The project site is located on approximately 1,963 acres of privately-owned land in the unincorporated area of Imperial County, CA. The project area is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The project area is transected by the Coachella and East Highline Canals and the Union Pacific Railway.

Project Summary

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Collectively, the proposed projects involve the construction of up to 350 megawatt (MW) alternative current (AC) photovoltaic (PV) solar energy facility with an integrated 350 MW battery storage system (not to exceed 700 MW). The projects propose to utilize either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The projects would include electronic/electrical equipment, on-site substations, interconnection facilities, access roads and fencing. The electrical energy produced by the projects would be conducted through the projects' interconnection facilities to the following:

- VEGA SES 2- IID KN/KS Line
- VEGA SES 3 - IID 161 kV "F" Transmission Line
- VEGA SES 5 - IID 92 kV Midway Substation

Environmental Setting

The project area is characterized by flat agricultural and vacant land. The project area is generally surrounded by agricultural lands to the west, vacant land to the north, east and south.

General Plan Consistency

The proposed projects are located within an unincorporated area of the County. The existing General Plan land use designations are Recreation/Open Space and Agriculture. The project sites are currently zone A-2-RE (General Agriculture with a Renewable Energy Zone Overlay), A-3-RE (Heavy Agriculture with a Renewable Energy Zone Overlay), and S-2-RE (Open Space/Preservation

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with a Renewable Energy Zone Overlay) . Construction of a solar facility would be allowed within the existing zoning under a Conditional Use Permit.

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Figure 1. Regional Location

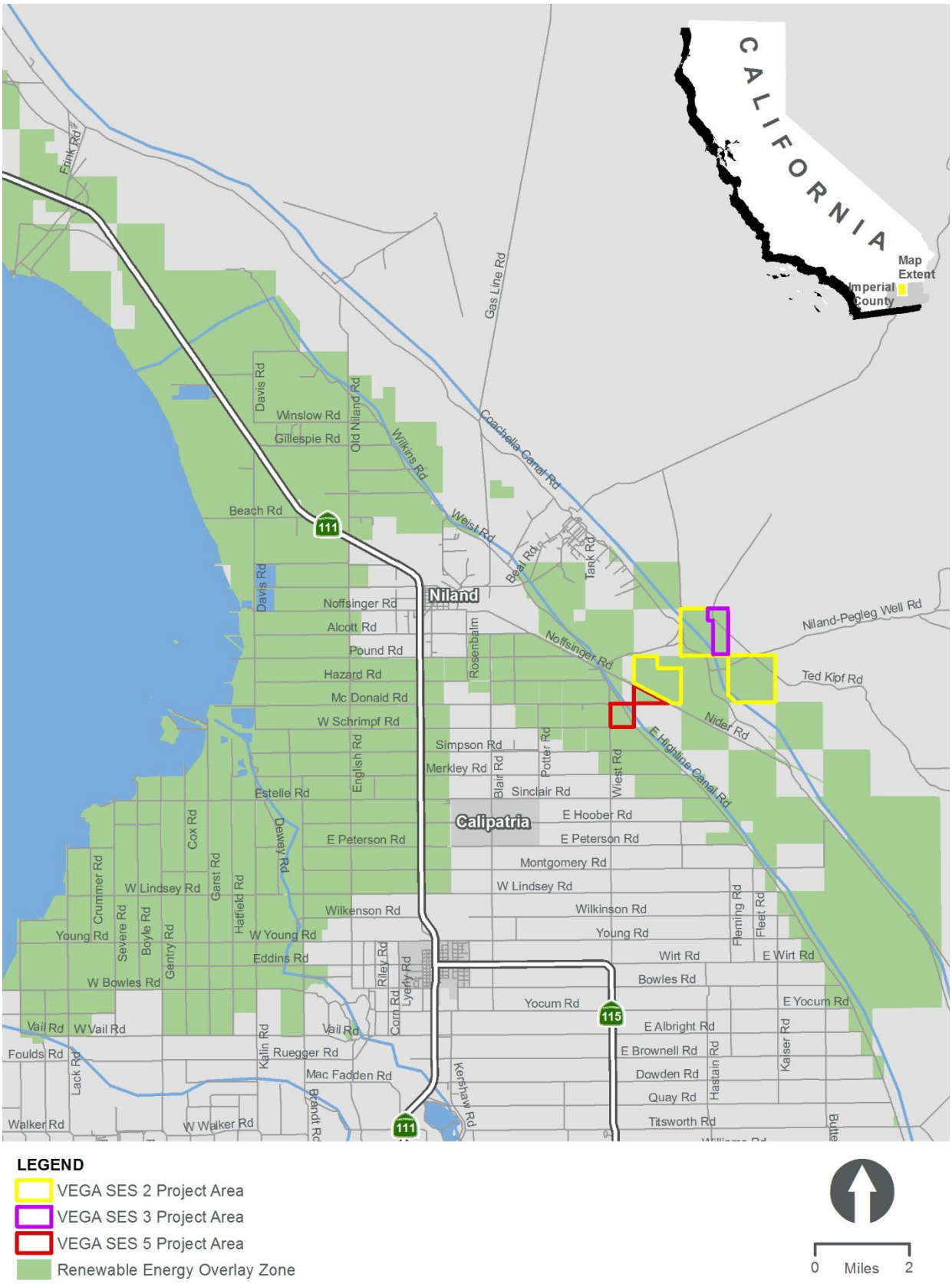

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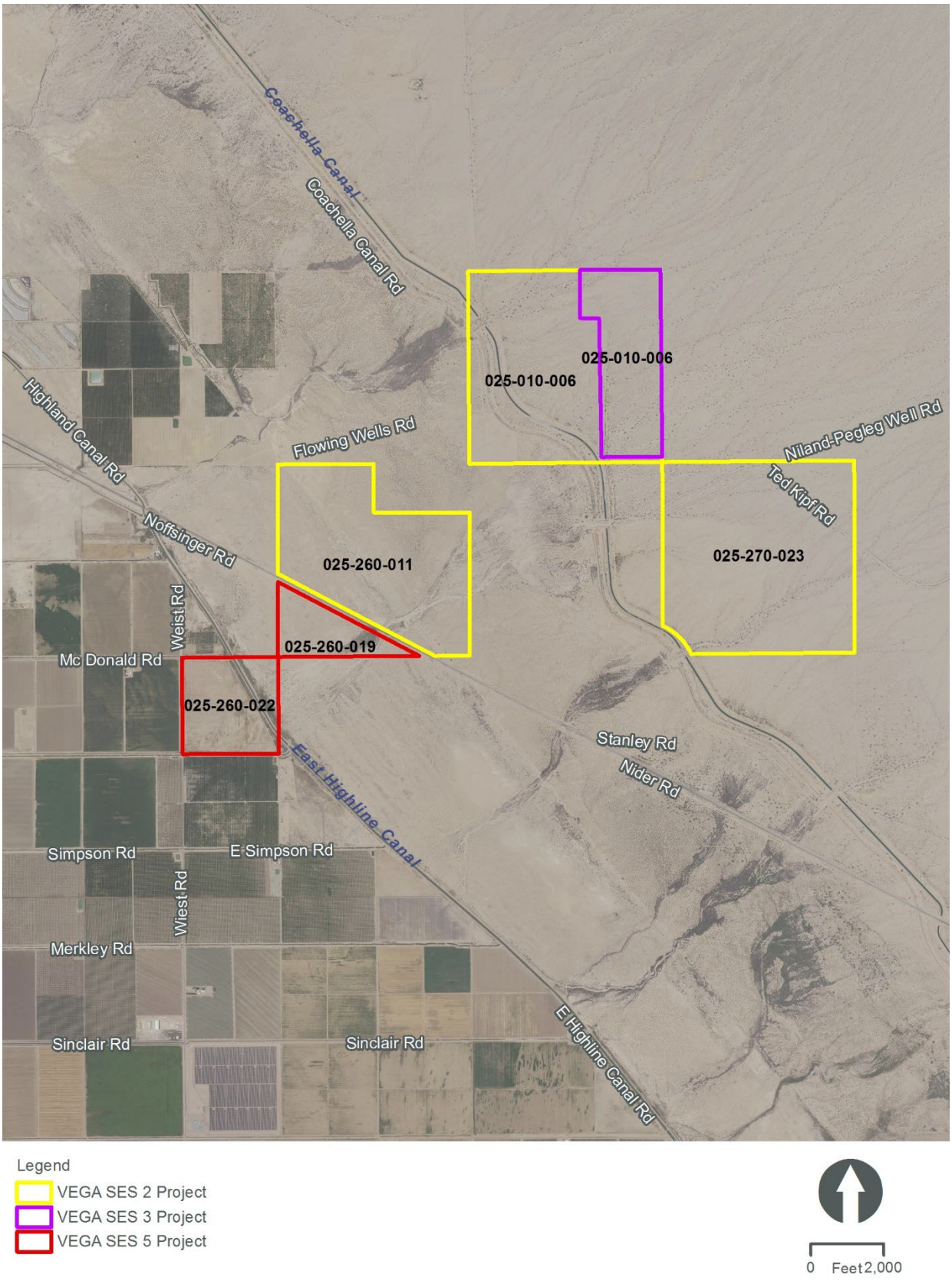
Figure 2. Project Sites



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Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a. Earlier Analysis Used. Identify and state where they are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

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6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
    a. The significance criteria or threshold, if any, used to evaluate each question; and
    b. The mitigation measure identified, if any, to reduce the impact to less than significance.

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I. Aesthetics

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☒	☐	☐	☐

Impact Analysis

a) **No Impact.** The project sites are not located within an area that has been formally identified as a federal, state, or county scenic vista. No scenic vistas or areas with high visual quality would be disrupted. Thus, no impact is identified for this issue area and no further analysis is warranted.

b) **No Impact.** According to the California Department of Transportation (Caltrans) California Scenic Highway Mapping System (Caltrans 2018), the project sites are not located within a state scenic highway corridor, nor are there any state scenic highways located in proximity to the project sites. The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway. Therefore, no impact is identified for this issue area and no further analysis is warranted.

c) **Potentially Significant Impact.** Although the project sites are not located near a scenic highway or designated scenic vista, the proposed projects may result in a change to the look and rural character of the area. Therefore, a potentially significant impact is identified for this issue area. A visual assessment will be prepared for the projects and this issue will be addressed in the EIR.

d) **Potentially Significant Impact.** Minimal lighting is required for project operation and is limited to safety and security functions. All lighting will be directed away from any public right-of-way; however, there is no heavily traveled public roadway in immediate proximity to the project sites. The solar panels will be constructed of low reflective materials; therefore, it is not anticipated that they would result in creating glare. The proposed project is located in a rural undeveloped area of Imperial County. There are no established residential neighborhoods immediately adjacent to the project sites. Although the proposed projects are not expected to create a new source of substantial light or glare affecting day or nighttime views, this issue will be analyzed further in the EIR. Therefore, a potentially significant impact is identified for this issue area.

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II. Agriculture and Forestry Resources

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☒	☐	☐	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Impact Analysis

a) **No Impact.** According to the farmland maps prepared by the California Department of Conservation (2016), the majority of the project sites are designated as Other Land. A portion of the VEGA 5 project site (APN 025-260-022) is designated as Farmland of Local Importance. Farmland of Local Importance is not considered an "agricultural land" per CEQA Statute Section 21060.1(a). Furthermore, the project sites do not contain Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Therefore, no impact would result from the conversion of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland to non-agricultural use.

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b) **Potentially Significant Impact.** The project parcels are currently zoned as A-2-RE, A-3-RE, and S-2-RE.Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County: solar energy electrical generator, battery storage facility, and facilities for the transmission of electrical energy. Pursuant to Title 9, Division 5, Chapter 9, the following uses are permitted in the A-3 zone subject to approval of a CUP from Imperial County: solar energy plants and battery storage facility. Transmission lines, including supporting towers, poles, microwave towers, and utility substations are permitted uses in the A-3 zone. Because the project site is located on lands designated for agricultural uses, this issue will be analyzed in further detail in the EIR.

According to the 2016/2017 Imperial County Williamson Act Map produced by the California Department of Conservation's Division of Land Resource Protection, the project sites are not located on Williamson Act contracted land. Therefore, the proposed projects would not conflict with a Williamson Act contract and no impact would occur.

c) **No Impact.** There are no existing forest lands, timberlands, or timberland zoned "Timberland Production" within or immediately adjacent to the project sites that would conflict with existing zoning or cause rezoning. Therefore, no impact is identified for this issue area.

d) **No Impact.** There are no existing forest lands within or immediately adjacent to the project sites. The proposed projects would not result in the loss of forest land or conversion of forest land to non-forest use. Therefore, no impact is identified for this issue area.

e) **No Impact.** Refer to response II. a) above.

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III. Air Quality

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☒	☐	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	☐	☐	☐	☒

Impact Analysis

a) **Potentially Significant Impact.** The project sites are located within the jurisdiction of Imperial County Air Pollution Control District (ICAPCD) in the Imperial County portion of the Salton Sea Air Basin. Construction of the proposed project would create temporary emissions of dust, fumes, equipment exhaust, and other air contaminants that may conflict with the ICAPCD's rules and regulations. No stationary source emissions are proposed from the proposed project; however, temporary construction emissions have the potential to result in a significant air quality impact.

b) **Potentially Significant Impact.** Currently, the Salton Sea Air Basin is either in attainment or unclassified for all federal and state air pollutant standards, with the exception of the federal ozone (O_3), particulate matter less than 10 microns in diameter (PM_{10}) and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) standards, and state standards for O_3 and PM_{10}. Air pollutants transported into the Salton Sea Air Basin from the adjacent South Coast Air Basin (Los Angeles County, San Bernardino County, Orange County, and Riverside County) and Mexicali (Mexico) substantially contribute to the non-attainment conditions in the Salton Sea Air Basin. A potentially significant impact is identified for this issue area. An air quality and greenhouse gas study will be prepared to analyze the proposed project's potential air quality impacts and will be included in the EIR analysis.

c) **Potentially Significant Impact.** The project sites are located in a rural agricultural area of Imperial County. The nearest sensitive receptor is a single-family residence located approximately 523 feet from the southwestern corner of APN 025-260-022. This issue is potentially significant and will be addressed in the air quality and greenhouse gas study and EIR analysis.

d) **No Impact**. Land uses commonly considered to be potential sources of odorous emissions include wastewater treatment plants, sanitary landfills, food processing facilities, chemical manufacturing plants, rendering plants, paint/coating operations, and concentrated agricultural feeding operations and dairies. The construction and operation of a solar facility is not an odor producer and the project sites are not located near an odor producer. Therefore, no impact is identified for this issue area.

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IV. Biological Resources

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	☒	☐	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☒	☐	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Impact Analysis

a) **Potentially Significant Impact.** According to the Conservation and Open Space Element of the General Plan (County of Imperial 2016), numerous special-status species occur in the County of Imperial, and of particular concern are the western burrowing owl and flat-tailed horned lizard which may have the potential to occur within the project sites. A The project sites have the potential to support native habitats and/or sensitive species. Burrowing owls and burrows are commonly found along canals and drains. The VEGA SES 5 project site (APN 025-260-022) is bisected by the East Highline Canal and E. Highline Canal Road, and the VEGA SES 3 project site (APN 025-010-006) is bisected by the Coachella Canal and Coachella

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Canal Road. Therefore, the project sites have the potential to be used as burrowing owl foraging habitat, as burrowing owls and burrows are commonly found along canals and drains. Thus, a potentially significant impact is identified for this issue area. A biological resources technical report that will address the proposed project's potential impacts on biological resources will be prepared and this issue will be addressed in the EIR.

b) **Potentially Significant Impact.** Refer to response IV. a) above.

c) **Potentially Significant Impact.** According to the National Wetland Inventory, there is one freshwater pond and several Riverine features mapped within the project areas. An aquatic resources delineation that will address the proposed project's potential impacts on state or federally protected wetlands will be prepared and included in the EIR analysis.

d) **Potentially Significant Impact.** Refer to response IV. a) above.

e) **Potentially Significant Impact.** Refer to response IV. a) above.

f) **No Impact.** The project sites are not located in a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No impact is identified for this issue area.

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V. Cultural Resources

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☒	☐	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☒	☐	☐	☐

Impact Analysis

a) **Potentially Significant Impact.** The project sites have been disturbed by past farming and/or off-road vehicles. Thus, the presence of significant or undamaged cultural resources on the sites are unlikely. Although the proposed projects are not expected to cause a substantial adverse change in the significance of a historical resource or archaeological resource, this issue will be analyzed further in the EIR. Therefore, a potentially significant impact is identified for this issue area. A cultural resources report that will address the proposed project's potential impacts on historic and prehistoric resources will be prepared and this issue will be addressed in the EIR.

b) **Potentially Significant Impact.** Refer to response V. a) above.

c) **Potentially Significant Impact.** Although unlikely, there is a potential for unknown human remains to be unearthed during earthwork activities. This issue is potentially significant and will be addressed in the cultural resources report and EIR analysis.

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VI. Energy

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Impact Analysis

a) **Less than Significant Impact.** The use of energy associated with the proposed projects include both construction and operational activities. Construction activities consume energy through the use of heavy construction equipment and truck and worker traffic. The proposed projects will use energy-conserving construction equipment, including standards for construction combustion equipment recommended in the ICAPCD CEQA Air Quality Handbook. The use of better engine technology, in conjunction with the ICAPCD's standards will reduce the amount of energy used for the proposed projects. Additionally, implementation and operation of the proposed projects would promote the use of renewable energy and contribute incrementally to the reduction in demand for fossil fuel use for electricity-generating purposes. Therefore, the proposed projects would generate renewable energy resources and is considered a beneficial effect.

Based on these considerations, the proposed projects would not result in significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation. A less than significant impact has been identified for this issue area.

b) **No Impact.** The proposed projects would help California meet its Renewable Portfolio Standard of 60 percent of retail electricity sales from renewable sources by the end of 2030 and 100 percent by 2045. The electricity generation process associated with the projects would utilize solar technology to convert sunlight directly into electricity. Solar PV technology is consistent with the definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code (CPUC) and the definition of "in-state renewable electricity generation facility" in Section 25741 of the CPUC. Therefore, the proposed projects would not conflict with or obstruct a state or local plan for renewable energy of energy efficiency. No Impact is identified for this issue area and no further analysis is warranted.

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VII. Geology and Soils

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii. Strong seismic ground shaking?	☒	☐	☐	☐
iii. Seismic-related ground failure, including liquefaction?	☒	☐	☐	☐
iv. Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☒	☐	☐	☐
d) Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property?	☒	☐	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐

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Impact Analysis

ai) **No Impact.** The project sites are not located within a State of California, Alquist-Priolo Earthquake Fault Zone. Therefore, no impact is identified for this issue area.

aii) **Potentially Significant Impact.** The project sites are located in the seismically-active Imperial Valley in Southern California and considered likely to be subjected to moderate to strong ground motion from earthquakes in the region. The project sites could be affected by the occurrence of seismic activity to some degree but no more than the surrounding properties. A potentially significant impact has been identified for this issue area. A geotechnical report that will address the proposed project's potential impacts on geology and soils will be prepared and this issue will be addressed in the EIR.

aiii) **Potentially Significant Impact.** Liquefaction occurs when granular soil below the water table is subjected to vibratory motions, such as vibratory motion produced by earthquakes. With strong ground shaking, an increase in pore water pressure develops as the soil tends to reduce in volume. If the increase in pore water pressure is sufficient to reduce the vertical effective stress (suspending the soil particles in water), the soil strength decreases, and the soil behaves as a liquid (similar to quicksand). Liquefaction can produce excessive settlement, ground rupture, lateral spreading, or failure of shallow bearing foundations.

Four conditions are generally required for liquefaction to occur:

1) The soil must be saturated (relatively shallow groundwater).
2) The soil must be loosely packed (low to medium relative density).
3) The soil must be relatively cohesionless (not clayey).
4) Groundshaking of sufficient intensity must occur to function as a trigger mechanism.

All these conditions may exist to some degree at the project sites. Therefore, there is a potentially significant impact associated with liquefaction. A geotechnical report that will address the proposed projects' potential impacts on geology and soils will be prepared and this issue will be addressed in the EIR.

aiv) **No Impact.** According to Figure 2: Landslide Activity in the Seismic and Public Safety Element of the General Plan (County of Imperial 1997), the project sites are not located in an area that is prone to landslide hazards. Furthermore, the project sites and surrounding area are relatively flat. Therefore, no impact is identified for this issue area.

b) **Less than Significant Impact.** According to Figure 3: Erosion Activity in the Soil the Seismic and Public Safety Element of the General Plan (County of Imperial 1997), the project sites are within a generally flat area with low levels of natural erosion. However, soil erosion can result during construction as grading and construction can loosen surface soils and make soils susceptible to wind and water movement across the surface. Impacts are not considered significant because erosion would be controlled on-site in accordance with Imperial County standards including preparation, review, and approval of a grading plan by the Imperial County engineer. Implementation of Imperial County standards would reduce the potential impacts to a less than significant level.

c) **Potentially Significant Impact.** Near surface soils within the project sites will need to be identified to determine if the soils are unstable. Therefore, this issue is potentially significant and will be analyzed in the EIR.

d) **Potentially Significant Impact.** Near surface soils within the project sites will need to be identified to determine if they consist of soils having expansion potential. Therefore, this issue is potentially significant and will be analyzed in the EIR.

e) **No Impact.** The proposed projects would not include the installation of septic tanks or alternative wastewater disposal systems. The proposed solar facilities would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. Therefore, no impact is identified for this issue area.

f) **Potentially Significant Impact.** Many paleontological fossil sites are recorded in Imperial County and have been discovered during construction activities. Paleontological resources are typically impacted when earthwork activities, such as mass excavation cut into geological deposits (formations) with buried fossils. It is not known if any paleontological resources are located on the project sites. The proposed projects' potential to impact paleontological resources will be addressed in the EIR.

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VIII. Greenhouse Gas Emissions

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐

Impact Analysis

a) **Potentially Significant Impact.** In the long-term, the proposed projects are expected to provide a benefit with respect to reduction of greenhouse gas emissions. However, the proposed projects have the potential to generate greenhouse gas emissions during construction, in addition to construction worker trips to and from the project sites. Thus, a potentially significant impact is identified for this issue area. A greenhouse gas emissions/climate change technical report will be prepared for the proposed project, and this issue will be addressed in the EIR.

b) **Potentially Significant Impact.** Refer to response VIII. a) above.

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IX. Hazards and Hazardous Materials

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☒	☐

Impact Analysis

a) **Less than Significant Impact.** Construction of the proposed projects will involve the limited use of hazardous materials, such as fuels and greases to fuel and service construction equipment. No extremely hazardous substances are anticipated to be produced, used, stored, transported, or disposed of as a result of project construction. Operation of the projects will be conducted remotely. Therefore, no habitable structures (e.g. housing or operation and maintenance [O&M] building) are proposed on the project sites. Regular and routine maintenance of the proposed projects may result in the potential to handle hazardous materials. However, the hazardous materials handled on-site would be limited to small amounts of everyday use cleaners and common chemicals used for maintenance. The applicant will be required to comply with

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State laws and County Ordinance restrictions, which regulate and control hazardous materials handled on-site. Such hazardous wastes would be transported off-site for disposal according to applicable State and County restrictions and laws governing the disposal of hazardous waste during construction and operation of the project. Therefore, this is considered a less than significant impact.

b) **Less than Significant Impact.** Refer to response IX. a) above.

c) **No Impact.** The project sites are not located within 0.25 mile of an existing or proposed school. No impact is identified for this issue area.

d) **No Impact.** Based on a review of the Cortese List conducted in March 2021, the project sites are not listed as a hazardous materials site. No impact is identified for this issue area.

e) **No Impact.** The project sites are not located within 2 miles of a public airport. The nearest airport to the proposed projects is the Cliff Hatfield Memorial Airport, located approximately 6 miles southwest of the VEGA SES 5 project site. Therefore, implementation of the proposed projects would not result in a safety hazard or excessive noise for people residing or working in the project area. No impact is identified for this issue area.

f) **Less than Significant Impact.** The proposed projects are not expected to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The project applicant will be required, through the conditions of approval, to prepare a street improvement plan for the projects that will include emergency access points and safe vehicular travel. In addition, local building codes would be followed to minimize flood, seismic, and fire hazard. Therefore, the proposed projects would result in a less than significant impact associated with the possible impediment to emergency plans.

g) **Less than Significant Impact.** The project sites are located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan (County of Imperial 1997), the potential for a major fire in the unincorporated areas of the County is generally low. 10,000-gallon aboveground water storage tanks will be installed to serve all three project sites as required by the Imperial County Fire Department. The water tank(s) would be sized to meet the requirements of the County of Imperial to supply sufficient fire suppression water during operations. Furthermore, proposed project facilities would be designed, constructed, and operated in accordance with applicable fire protection and other environmental, health, and safety requirements. Based on these considerations, a less than significant impact is identified for this issue area.

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X. Hydrology and Water Quality

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☒	☐	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. impede or redirect flood flows?	☒	☐	☐	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☒	☐	☐	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

Impact Analysis

a) **Potentially Significant Impact.** The proposed projects have the potential to create urban non-point source discharge (e.g., synthetic/organic chemicals). Potentially significant water quality impacts have been identified and will be addressed in the EIR.

b) **Less than Significant Impact.** During construction, potable water would be brought to the project sites for drinking and domestic needs, while construction water would be brought to the project sites for soil

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conditioning and dust suppression. During operations, potable water would be trucked onto the project sites. Because the solar panels will be pole-mounted above ground, they are not considered “hardscape”, such as roads, building foundations, or parking areas, as they do not require a substantial amount of impervious material. The panels and their mounting foundation would not impede groundwater recharge. Therefore, impacts would be less than significant.

ci) **Less than Significant Impact.** The proposed projects would not substantially alter the existing drainage pattern of the site and would not impact the E. Highline Canal and Coachella Canal. The project applicant would be required to implement on-site erosion control measures in accordance with Imperial County standards including preparation, review, and approval or a grading plan by the Imperial County Engineer. The proposed projects are not anticipated to generate a significant increase in the amount of runoff water from water use involving solar panel washing. Water will continue to percolate through the ground, as the majority of the surfaces on the project sites will remain pervious. Therefore, the proposed projects would not substantially increase the rate of runoff, in a manner which would exceed the capacity of existing or planned stormwater drainage systems and result in flooding on- or off-site. A less than significant impact is identified for this issue area.

cii) **Less than Significant Impact.** Refer to response X. ci) above.

ciii) **Less than Significant Impact.** Refer to response X. ci) above.

civ) **Potentially Significant Impact.** According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (Panel 06025C0750C) (FEMA 2008), the majority of the project sites are within Zone X, which is an area determined to be outside of the 0.2 percent annual chance of a flood. However, there are dry wash beds that transect the project sites and designated as Zone A or Special Flood Hazard Areas. Therefore, the proposed projects have the potential to impede or redirect flood flows and this is considered a potentially significant impact.

d) **Potentially Significant Impact.** The project sites are not located near any large bodies of water. The project sites are located at least 10 miles west of the Salton Sea and over 100 miles inland from the Pacific Ocean. In addition, the project sites are relatively flat. Therefore, the proposed projects would not risk release of pollutants due to project inundation by tsunami or seiche.

As described above in response X. civ) above, there are dry wash beds that transect the project sites and designated as Zone A or Special Flood Hazard Areas. Therefore, the proposed projects have the potential to risk release of pollutants due to project inundation by flood. This is considered a potentially significant impact and will be analyzed in the EIR.

e) **No Impact.** The proposed projects will not involve the use of groundwater nor require dewatering activities. Water to be used during project-related construction activities will be brought to the sites and limited to the amount necessary for soil conditioning and to conduct dust control activities. Water is anticipated to be provided by adjacent IID irrigation canals or laterals in conformance with IID construction water acquisition requirements. Therefore, the proposed projects will not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. No impact is identified for this issue area.

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XI. Land Use and Planning

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Impact Analysis

a) **No Impact.** The proposed projects are located in a sparsely populated, agriculturally zoned portion of Imperial County. There are no established residential communities located within or in the vicinity of the project sites. Therefore, implementation of the proposed projects would not divide an established community. No impact is identified for this issue area.

b) **Less than Significant Impact**. The project parcels are currently zoned as A-2-RE, A-3-RE, and S-2-RE.

Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 zone subject to approval of a CUP from Imperial County: solar energy electrical generator, battery storage facility, and facilities for the transmission of electrical energy.

Pursuant to Title 9, Division 5, Chapter 9, the following uses are permitted in the A-3 zone subject to approval of a CUP from Imperial County: solar energy plants and battery storage facility. Transmission lines, including supporting towers, poles microwave towers, and utility substations are permitted uses in the A-3 zone.

Pursuant to Title 9, Division 5, Chapter 19, the following uses are permitted in the S-2 zone subject to approval of a CUP from Imperial County: Major facilities relating to the generation and transmission of electrical energy providing such facilities are not under State or Federal law, to [be] approved exclusively by an agency, or agencies of the State or Federal government, and provided such facilities shall be approved subsequent to coordination review of the Imperial Irrigation District for electrical matters. Such uses shall include but be limited to the following:

- Electrical generation plants
- Facilities for the transmission of electrical energy (100-200 kV)
- Electrical substations in an electrical transmission system (500 kv/230 kv/161 kV)
- Communication towers: including radio, television, cellular, digital, along with the necessary support equipment such as receivers, transmitters, antennas, satellite dishes, relays, etc.

The County Land Use Ordinance, Division 17, includes the Renewable Energy Overlay Zone, which authorizes the development and operation of renewable energy projects, with an approved CUP. As shown on Figure 1, the project sites are located entirely within the County's Renewable Energy Overlay Zone. With approval of the CUPs, the proposed solar facilities would be consistent with the Imperial County Land Use Ordinance.

Based on these considerations, the proposed project would not conflict with any applicable land use plan, policy, or regulation. Thus, a less than significant impact is identified for this issue area.

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XII. Mineral Resources

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Impact Analysis

a) **No Impact.** The project sites are not used for mineral resource production. According to Figure 8: Imperial County Existing Mineral Resources of the Conservation and Open Space Element of the General Plan (County of Imperial 2016), no known mineral resources occur within the project sites nor do the project sites contain mapped mineral resources. Therefore, the proposed projects would not result in the loss of availability of any known mineral resources that would be of value to the region and the residents of California nor would the proposed projects result in the loss of availability of a locally important mineral resource. Thus, no impact is identified for this issue area and no further analysis is warranted.

b) **No Impact.** Refer to response XII. a) above.

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XIII. Noise

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Impact Analysis

a) **Less than Significant Impact.** The Imperial County Title 9 Land Use Ordinance, Division 7, Chapter 2, Section 90702.00 - Sound level limits, establishes one-hour average sound level limits for the County's land use zones. Agricultural/industrial operations are required to comply with the noise levels prescribed under the general industrial zones. Therefore, the proposed projects will be required to maintain noise levels below 75 decibels (dB) (averaged over one hour) during any time of day.

The proposed projects will also be expected to comply with the Noise Element of the General Plan which states that construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB, when averaged over an eight hour period, and measured at the nearest sensitive receptor. Construction equipment operation is also limited to the hours of 7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m. on Saturday. Nevertheless, the proposed projects will result in the increase in ambient noise levels during construction A noise report that will address the proposed projects' potential noise impacts will be prepared and this issue will be addressed in the EIR.

b) **Less than Significant Impact.** Groundborne vibration and noise could originate from earth movement during the construction phase of the proposed projects. However, significant vibration is typically associated with activities such as blasting or the use of pile drivers, neither of which would be required during project construction. The proposed projects would be expected to comply with all applicable requirements for long-term operation, as well as with measures to reduce excessive groundborne vibration and noise to ensure that the proposed projects would not expose persons or structures to excessive groundborne vibration. Therefore, a less than significant impact has been identified for this issue area.

c) **No Impact.** The project sites are not located within 2 miles of a public airport or private airstrip. The nearest airport to the proposed site is the Cliff Hatfield Memorial Airport, located approximately 6 miles southwest of the VEGA SES 5 project site. Therefore, the proposed projects would not expose people residing or working in the project area to excess noise levels and no impact is identified for this issue area.

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XIV. Population and Housing

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Impact Analysis

a) **No Impact.** Development of housing is not proposed as part of the proposed projects. No full-time employees are required to operate the proposed projects since the project facilities will be monitored remotely. However, it is anticipated that maintenance of the facilities will require minimal site presence to perform periodic visual inspections and minor repairs. On intermittent occasions, the presence of additional workers may be required for repairs or replacement of equipment and panel cleaning; however, due to the nature of the facility, such actions will likely occur infrequently. Therefore, the proposed projects would not result in a substantial growth in the area, as the number of employees required to operate and maintain the facility is minimal. No impact is identified for this issue area.

b) **No Impact.** No housing exists within the project sites. Therefore, the proposed projects would not displace any existing people or housing, which would require the construction of replacement housing elsewhere. No impact is identified for this issue area.

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XV. Public Services

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i. Fire Protection?	☐	☐	☒	☐
ii. Police Protection?	☒	☐	☐	☐
iii. Schools?	☐	☐	☐	☒
iv. Parks?	☐	☐	☐	☒
v. Other public facilities?	☐	☐	☐	☒

Impact Analysis

ai) **Less than Significant Impact.** Fire protection and emergency medical services in the project area are provided by the Imperial County Fire Department. The proposed projects are located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan (County of Imperial 1997), the potential for a major fire in the unincorporated areas of the County is generally low.

However, 10,000-gallon aboveground water storage tanks would be installed to serve all three project sites as required by the Imperial County Fire Department. The water tank(s) would be sized to meet the requirements of the County of Imperial to supply sufficient fire suppression water during operations. Both the access and service roads (along the perimeter of the project facility) would have turnaround areas to allow clearance for fire trucks per fire department standards (70 feet by 70 feet, and minimum 20-foot-wide access road). The project applicant will be required to consult with the fire department to address any fire safety and service concerns so that adequate service is maintained. Based on these considerations, the projects would not result in a need for fire facility expansion and a less than significant impact is identified for this issue area.

aii) **Potentially Significant Impact.** Police protection services in the project area is provided by the Imperial County Sheriff's Department. Although the potential is low, the proposed projects may attract vandals or other security risks and the increase in construction related traffic could increase demand on law enforcement services. Therefore, on-site security systems would be provided and access would be limited to the areas surrounding the project sites during construction and operation, thereby minimizing the need for police surveillance. The proposed projects' potentially significant impacts on sheriff services will be addressed in the EIR.

aiii) **No Impact.** The proposed projects do not include the development of residential land uses that would result in an increase in population or student generation. Additionally, construction of the proposed projects would not result in an increase in student population within the Imperial County's School District since it is anticipated that construction workers would commute in during construction operations. Therefore, no impact is identified for this issue area.

aiv) **No Impact.** Although maintenance of the project facilities will require minimal site presence to perform periodic visual inspections and minor repairs, no full-time employees are required to operate the proposed projects because the project facilities will be monitored remotely. Therefore, substantial permanent

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increases in population that would adversely affect local parks is not expected. No impact is identified for this issue area.

av) **No Impact.** Although maintenance of the project facilities will require minimal site presence to perform periodic visual inspections and minor repairs, no full-time employees are required to operate the proposed projects because the project facilities will be monitored remotely. Therefore, substantial permanent increases in population that would adversely affect libraries and other public facilities (such as post offices) is not expected. The proposed projects are not expected to have an impact on other public facilities such as post offices, and libraries. No impact is identified for this issue area.

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XVI. Recreation

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Impact Analysis

a) **No Impact.** The proposed projects would not generate new employment on a long-term basis. As such, the proposed projects would not significantly increase the use or accelerate the deterioration of regional parks or other recreational facilities. The temporary increase of population during construction that might be caused by an influx of workers would be minimal and not cause a detectable increase in the use of parks. Additionally, the proposed projects would not include or require the expansion of recreational facilities. No impact is identified for this issue area.

b) **No Impact.** Refer to response XVI. a) above.

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XVII. Transportation

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☒	☐	☐	☐
b) Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☒	☐	☐	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐

Impact Analysis

a) **Potentially Significant Impact.** Construction of the proposed projects would result in a small increase of traffic to the area, which may result in a potentially significant impact. Therefore, a traffic impact study that will address the proposed project's potential impacts on traffic will be prepared, and this issue will be addressed in the EIR.

b) **Potentially Significant Impact.** Section 15064.3(b) of the CEQA Guidelines provides guidance on determining the significance of transportation impacts and focuses on the use of vehicle miles traveled (VMT), which is defined as the amount and distance of automobile travel associated with a project. Given the nature of the projects, after construction, there would be a nominal amount of vehicle trips generated by the projects. Once the proposed projects are implemented, the proposed projects would require intermittent maintenance requiring a negligible amount of traffic trips on an annual basis. However minimal, the proposed projects would increase the number of vehicular trips related to construction and the need for intermittent maintenance on an annual basis. Therefore, this issue is potentially significant and will be addressed in the traffic impact study and EIR analysis.

c) **No Impact.** To accommodate emergency access, PV panels would be spaced to maintain proper clearance. Access roads, up to 30-feet wide, would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles. Internal access roads would be graded and compacted (native soils) as required for construction, operations, maintenance, and emergency vehicle access. These access roads would not increase hazards because of design features or incompatible uses. Therefore, no impact will occur.

d) **Less than Significant Impact.** To accommodate emergency access, PV panels would be spaced to maintain proper clearance. 30-foot wide internal access roads would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles. The internal access roads would be graded and compacted (native soils) as required for construction, operations, maintenance, and emergency vehicle access. The access and service roads would also have turnaround areas at any dead-end to allow clearance for fire trucks per fire department standards. Based on this context, impacts are considered less than significant.

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XVIII. Tribal Cultural Resources

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	☒	☐	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	☒	☐	☐	☐

Impact Analysis

a-b) **Potentially Significant Impact.** Assembly Bill 52 was passed in 2014 and took effect July 1, 2015. It established a new category of environmental resources that must be considered under CEQA called tribal cultural resources (Public Resources Code 21074) and established a process for consulting with Native American tribes and groups regarding those resources. Assembly Bill 52 requires a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed projects.

In accordance with AB 52, Imperial County, as the CEQA lead agency, sent an AB 52 consultation request letter to appropriate tribes with the potential for interest in the region on March 26, 2021. On April 8, 2021, the Quechan Indian Tribe requested consultation with the County on the project. The County is in the process of consulting with the Quechan Indian Tribe on the project. This issue will be further analyzed in the EIR.

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XIX. Utilities and Service Systems

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☒	☐	☐	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☒	☐	☐	☐
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Impact Analysis

a) **Potentially Significant Impact.** No IID drains or canals (e.g. East Highline Canal and Coachella Canal) will be impacted by the proposed projects. The proposed projects do not require expanded or new storm drainage facilities because the proposed solar facilities would not generate a significant increase in the amount of impervious surfaces that would increase runoff during storm events and exceed the capacity of existing or planned stormwater drainage systems. Water from solar panel washing would continue to percolate through the ground, as a majority of the surfaces within the project sites would remain pervious.

The wastewater generated during construction would be contained within portable toilet facilities and disposed of at an approved site. The minimal volume of wastewater generated during construction would not require the relocation expansion, or construction of wastewater treatment facilities. Further, no habitable structures (e.g. housing or O&M buildings) are proposed on the project sites. Therefore, the proposed projects would not require or result in the relocation or construction of new or expanded electric power, natural gas, or telecommunications facilities.

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Although water for solar panel washing and fire protection (on-site storage) during project operation is not anticipated to result in a significant increase in water demand/use, IID would provide the water required for operations and maintenance and potable water will be trucked onto the site. Thus, a potentially significant impact is identified for the availability of sufficient water supplies to serve the proposed projects for the reasonably foreseeable future. A water supply assessment that will address the proposed projects' potential impacts on water supplies will be prepared and included in the EIR analysis.

b) **Potentially Significant Impact.** Refer to response XIX. a) above.

c) **Less than Significant Impact.** The proposed projects would generate a minimal volume of wastewater during construction. During construction activities, wastewater would be contained within portable toilet facilities and disposed of at an approved site. Further, no habitable structures (e.g. housing or O&M buildings) are proposed on the project sites; therefore, there would be no wastewater generation from the proposed projects during operation. The proposed projects would not exceed wastewater treatment requirements of the RWQCB. Therefore, a less than significant impact is identified for this issue area.

d) **Less than Significant Impact.** Solid waste generation would be minor for the construction and operation of the proposed project. Solid waste will be disposed of using a locally-licensed waste hauling service, most likely Allied Waste. Trash would likely be hauled to the Niland Solid Waste Site (13-AA-0009) located approximately 4.7 miles northwest of the project site in Niland. The Niland Solid Waste Site has approximately 211,439 cubic yards of remaining capacity and is estimated to remain in operation through 2046 (CalRecycle n.d.). Therefore, there is ample landfill capacity in the County to receive the minor amount of solid waste generated by construction and operation of the proposed projects.

Additionally, because the proposed projects would generate solid waste during construction and operation, they will be required to comply with state and local requirements for waste reduction and recycling; including the 1989 California Integrated Waste Management Act and the 1991 California Solid Waste Reuse and Recycling Access Act of 1991. Also, conditions of the conditional use permits will contain provisions for recycling and diversion of Imperial County construction waste policies. Therefore, a less than significant impact is identified for this issue area.

e) **Less than Significant Impact.** Refer to response XIX. d) above.

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XX. Wildfire

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Impact Analysis

a) **No Impact.** According to the Fire Hazard Severity Zone Viewer provided by the California Department of Forestry and Fire Protection, the proposed project area is not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2020). Therefore, the proposed projects would not substantially impair an adopted emergency response plan or emergency evacuation plan. No impact is identified for this issue area

b) **No Impact.** The proposed projects are not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2020). Therefore, the proposed projects would not exacerbate wildfire risks. No impact is identified for this issue area

c) **Less than Significant Impact.** Fire protection and emergency medical services in the area are provided by the Imperial County Fire Department. The proposed projects are not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2020). Further, the proposed projects are located in an unincorporated area of Imperial County, which has a generally low potential for a major fire (County of Imperial 2016).

The project involves the installation of solar PV panels on fixed frames or single-axis horizontal trackers, an on-site substation and inverters, transformers, underground or aboveground electrical cables, and 10,000-gallon aboveground water storage tanks as required by the Imperial County Fire Department. The water tank(s) would be sized to meet the requirements of the County of Imperial to supply sufficient fire suppression water during operations. Further, each project site would be accessible from a primary and secondary (if required) access driveway that would have turnaround areas to allow clearance for fire trucks per fire department standards and 30-foot double swing gates with keyed entry. In addition, operation and maintenance would not affect the ability of fire personnel to respond to fires. Therefore, the proposed

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projects would not exacerbate fire risk and would continue to be adequately supported by the existing fire protection services. A less than significant impact is identified for this issue area.

d) **No Impact.** The proposed project is not located in or near state responsibility areas or lands classified as very high hazard severity zones (California Department of Forestry and Fire Protection 2020). Additionally, the proposed project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. No impact is identified for this issue area.

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XXI. Mandatory Findings of Significance

Environmental Issue Area:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☒	☐	☐	☐
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Impact Analysis

a) **Potentially Significant Impact.** The proposed projects have the potential to result in significant environmental effects on biological resources and cultural resources, which could directly or indirectly cause adverse effects on the environment. These issues will be further evaluated in the EIR.

b) **Potentially Significant Impact.** Implementation of the proposed projects have the potential to result in impacts related to: aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology/soils, greenhouse gas emissions, hydrology and water quality, public services, transportation, tribal cultural resources, and utilities/service systems.. The proposed projects have the potential to result in cumulative impacts with regards to the identified issue areas. Cumulative impacts will be discussed and further analyzed in the EIR.

c) **Potentially Significant Impact.** Implementation of the proposed project has the potential to result in impacts related to: air quality and geology/soils. These potential environmental effects could cause substantial adverse effects on human beings. These issues will be further evaluated in the EIR.

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List of Preparers

This Initial Study was prepared for the Imperial County Planning and Development Services Department by HDR at 591 Camino de la Reina, Suite 300, San Diego, CA 92108. The following professionals participated in its preparation:

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Comment Letters Received on Notice of Preparation

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May 3, 2021

Patricia Valenzuela
Imperial County
801 Main Street
El Centro, CA 92243

Re: 2021050013, VEGA SES 2, 3, and 5 Solar Energy Project, Imperial County

Dear Ms. Valenzuela:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

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AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

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7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

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SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

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3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

cc: State Clearinghouse

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California Department of Transportation

DISTRICT 11
4050 TAYLOR STREET, MS-240
SAN DIEGO, CA 92110
(619) 709-5152 | FAX (619) 688-4299 TTY 711
www.dot.ca.gov

July 22, 2021

11-IMP-111
PM 39.2
VEGA SES 2, 3, and 5 Solar Energy Project
May 2021 SCH 2021050013

Patricia Valenzuela
Imperial County
801 Main Street
El Centro, CA 92243

Dear Ms. Valenzuela:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Vega SES 2, 3, & 5 Solar Energy project located in Imperial County. The mission of Caltrans is to provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability. The Local Development-Intergovernmental Review (LD-IGR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities.

Caltrans has the following comments:

Traffic/Hauling

Caltrans has discretionary authority with respect to facilities under its jurisdiction and may, upon application and if good cause appears, issue a special permit to operate or move a vehicle or combination of vehicles or special mobile equipment of a size or weight of vehicle or load exceeding the maximum limitations specified in the California Vehicle Code. The Caltrans Transportation Permits Issuance Branch is responsible for the issuance of these special transportation permits for oversize/overweight vehicles on the State Highway network. Additional information is provided online at:
http://www.dot.ca.gov/trafficops/permits/index.html

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Right-of-Way
Any work performed within Caltrans' Right-of-Way (R/W) will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans' R/W prior to construction.

If you have any questions, please contact Roger Sanchez at (619) 987-1043 or by email at roger.sanchez-rangel@dot.ca.gov.

Sincerely,

Maurice A. Eaton

MAURICE EATON
Branch Chief
Local Development and Intergovernmental Review

PC ORIGINAL PKG

From: Diana Robinson
To: vandvfarmsllc@gmail.com
Cc: Michael Abraham; Gnibus, Tim; Del Rosario, Sharyn
Subject: RE: Conditional Use Permit #20-0020
Date: Thursday, May 27, 2021 12:11:54 PM

CAUTION: [EXTERNAL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon,

The project consists on a proposed solar farm with battery storage. The environmental consultant is preparing the Environmental Impact Report (EIR) which will be released in draft form after the commenting period of the Notice of Preparation ends on June 7th. If you have specific questions or concerns, please let us know. Once the draft EIR is ready for review, we can provide so you are aware of the foreseeable impacts.

Thank you,
Diana

From: vandvfarmsllc@gmail.com <vandvfarmsllc@gmail.com>
Sent: May 26, 2021 9:26 AM
To: Diana Robinson <DianaRobinson@co.imperial.ca.us>
Subject: Conditional Use Permit #20-0020

CAUTION: This email originated outside our organization; please use caution.

Hi,

We were just wanting to know how this project is going to affect our parcel, that is the little red triangle along the canal on the north side on the map that you sent out.

Thank you,

Wildia Maness
Office Manager
V & V Farms, LLC
PO Box 445
Holtville, CA 92250-0445
760-356-7080 Office
760-356-7081 Fax

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November 28, 2022

Ramon Gonzalez
ZGlobal, Inc.
750 W. Main Street
El Centro, CA 92243

RE: Visual Impact Assessment Letter Report– Vega SES 2, LLC and Vega SES 3, LLC Projects

Dear Mr. Gonzalez:

The purpose of this Visual Impact Assessment (VIA) letter report is to evaluate the potential visual impacts associated with the construction and implementation of the Vega SES 2 and Vega SES 3 Solar Energy Storage Projects located in Imperial County, California. This VIA includes an analysis and description of the existing visual setting and potential visual impacts. If the Projects result in any adverse visual impacts, the purpose of the VIA is also to propose measures to minimize those impacts.

1.0 PROJECT DESCRIPTION, LOCATION, AND SETTING

The Projects are located in Imperial County between the unincorporated communities of Iris and Slab City, running parallel to the Coachella Canal. Figures 1 and 2 depict the Project location and vicinity (Attachment A).

Vega SES 2 is located on Imperial County Assessor's Parcel Numbers (APNs) 025-260-011 (approximately 288 acres), APN 025-270-023 (approximately 625 acres) and APN 025-010-006 (approximately 410 of the 640 acres). Vega SES 3 is located on the remainder of APN 025-010-006 (approximately 230 of the 640 acres). All Project parcels, for both Vega SES 2 and Vega SES 3, are designated as "Recreation/Open Space" in the Imperial County General Plan and are zoned S-2-RE (Open Space/Preservation with a Renewable Energy overlay).

Project Characteristics

Solar panels would use either thin film or crystalline solar photovoltaic (PV) technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The fixed-frame racks would be secured at a fixed tilt of 20 degrees to 30 degrees from horizontal facing a southerly direction. Current Project designs would have individual PV modules, mounted two high on a fixed frame, providing a two-foot ground clearance and resulting in the tops of the panels at approximately 7.5 feet above the ground. The fixed PV modules would be arranged in arrays spaced approximately 15 to 25 feet apart (pile-to-pile) to maximize performance and to allow access for panel cleaning (if necessary). These arrays would be separated from each other and the perimeter security fence by up to 30-foot wide interior roads. If HSAT technology is used, the PV modules would rotate around the north-south HSAT axis so that the PV modules would continue to face the sun as the sun moves across the sky throughout the day. The PV

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modules would reach their maximum height (up to nine (9) feet above the ground, depending on the final design) at both sunrise and sunset, when the HSAT is rotated to point the modules at the rising or setting sun. At noon, or when stowed during high winds, when the HSAT system is rotated so that the PV modules are horizontal, the nominal height would be about six feet above the ground, depending on the final design. The individual PV systems would be arranged in large arrays by placing them in columns spaced approximately ten feet apart to maximize operational performance and to allow access for panel cleaning and maintenance. Current Project designs would have individual HSAT PV modules, each approximately two feet wide by four feet long (depending on the specific PV technology selected), mounted on a frame which is attached to an HSAT system. These HSAT arrays would be separated from each other and the perimeter security fence by up to 30-foot wide roads, consistent with County emergency access requirements.

VEGA SES 2

Two new substations would be constructed on the Vega SES 2 Project Site. The first substation would be constructed in the northwestern corner of APN 025-260-011 on approximately two acres. The substation would take the delivery of up to 60 kV electricity and increase the voltage of the electricity to 230 kV, where it would feed into the interconnection switching station for metering and delivery to the IID KN/KS Line. The substation would include two transformers, circuit breakers, disconnect switches, microwave or other communication facilities, and an electrical control building.

The second substation would be located in the northwestern corner of APN 025-270-023 on approximately two acres. This substation would be comprised of an underground combiner box used to connect all of the low voltage AC outputs of the inverters, a medium voltage transformer to increase the voltage up to 60 kV, a protective relay system and associated circuit breakers and disconnect switches. This substation would take delivery of the energy generated on APN 025-270-023 and transmit it through the proposed 34.5 kV or 60 kV lines to the primary Project substation on APN 025-260-011. The substation would include a transformer, circuit breaker, meters, disconnect switches, and microwave or other communication facilities.

One new interconnection switching station would be constructed on APN 025-260-011, immediately adjacent to the substation. The interconnection switching station and substation would be connected via a single overhead 230 kV line. The switching station would include circuit breakers, switches, overhead bus work, protective relay equipment and an electrical control building. The switching station would operate at 230 kV and be configured in a Breaker-And-A-Half arrangement. This would allow for looping in of one or two of the IID 230 kV lines as well as connection of the total Project output at 230 kV. The switching station would be enclosed within its own fence.

To connect the Project's interconnection facilities, the medium voltage power produced by the Project would be conveyed underground, or above ground where necessary, to cross over any sensitive site features. The design of the Project's interconnection facilities would meet all necessary utility standards and requirements. As required, surge arrestors would be used to protect facilities and auxiliary equipment from lightning strikes or other disturbances. Distribution from the site would be via an overhead connection.

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The Vega SES 2 Project's distribution and interconnection consists of the medium voltage power being conveyed underground or aboveground via 34.5 kV or 60 kV distribution circuits from the substation located in the northwest corner of APN 025-270-023 to the substation located in the northwest corner of APN 025-260-011. The height of the proposed gen-tie transmission structures would be 40 feet. The electrical energy produced by the Vega SES 2 Project would be delivered to the IID through the Project's interconnection switching station to the IID's 230 kV KN/KS Line.

VEGA SES 3

A new substation would be constructed on the northwestern corner of the Vega SES 3 Project Site. The substation site will comprise approximately two acres. Medium voltage power electricity generated from the site would be conveyed underground, or above ground where necessary, to cross over any sensitive site features, to connect to the substation.

A new interconnection switching station would be constructed immediately adjacent to the substation. The interconnection switching station and substation would be connected via a single overhead 161 kV line. The switching station would include circuit breakers, switches, overhead bus work, protective relay equipment and an electrical control building. The switching station would operate at 161 kV and be configured in a Breaker-And-A-Half or three breaker ring bus arrangement. This would allow for looping in of the IID 161 kV "F" transmission line as well as connection of the Project gen-tie line. The switching station would be enclosed within its own fence. As shown in Figure 2-3, the electrical energy produced by the Vega SES 3 Project would be connected to the existing utility approved point of interconnection at the northeast corner of the site to the IID's 161 kV "F" Line.

Construction activities would primarily involve demolition and grubbing; grading of each Project site to establish access roads and pads for electrical equipment (inverters and step–up transformers); trenching for underground electrical collection lines; and the installation of solar equipment and security fencing. Stormwater management facilities would be constructed internally within the site and would consist of basins and infiltration areas. Dust generated during construction would be controlled by watering and, as necessary, the use of other dust suppression methods and materials accepted by the Imperial County Air Pollution Control District (ICAPCD) or the California Air Resources Board (CARB). A temporary, portable construction supply container would be located at the Project Sites at the beginning of construction and removed at the end of construction. Onsite parking would be provided for all construction workers.

Once construction is completed the Project would be remotely controlled. No employees would be based at the Project Sites. Primary security–related monitoring would be done remotely. Security personnel may conduct unscheduled security rounds and would be dispatched to the site in response to a fence breach or other alarm. Site maintenance workers may access the Project Site periodically to clean the panels and maintain the equipment and Project Area. The public would not have access to the facility. Access to the Project sites would be infrequent and limited to authorized personnel.

Conceptual plans for the Vega SES 2 and Vega SES 3 Projects are provided in Attachment B.

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2.0 VISUAL IMPACT ASSESSMENT METHODOLOGY

The following steps were taken in analyzing the visual impacts of the proposed Vega SES 2 and Vega SES 3 Solar and Battery Storage Projects.

1. Describe the existing visual setting, including any sensitive viewer groups (i.e., baseline conditions);
2. Identify key viewpoints for visual assessment;
3. Describe or depict the visual appearance of the Projects at the key viewpoints. Key viewpoints are selected to represent the typical views from the public right-of-way;
4. Assess the visual changes that would be introduced by the Project and the viewer response based on defined attributes which are neither good nor bad. Change in visual character cannot be described as having good or bad attributes until compared with viewer responses to the change;
5. Determine the degree of visual impact;
6. Proposed methods to minimize adverse impacts

Evaluation of potential visual impacts resulting from implementation of the Proposed Project is based on the following criteria:

Change in Visual Quality. The difference in visual quality between the existing environmental setting and post-Project condition is considered visual quality change. Those changes are identified by studying site plans, which provide information on the various elements that will be removed from and incorporated into the current viewshed and the degree of change in the existing setting. The plans help to understand the potential changes in visual quality of the site after implementation of the Project. Physical changes are analyzed in relation to vividness, intactness, and unity of the Proposed Project conditions. Sensitivity of various viewer groups is evaluated to measure response to the visual quality changes.

Impacts to Visual Resources. Visual resources from both the natural and built environments can enhance the visual character and aesthetic quality of an area. The Project limits and vicinity were studies for visual resources. Visual resources can be associated with local events and history that represent and enhance the visual character of the local area. A project that substantially alters important visual resources can result in significant visual impacts. Mitigation is typically implemented to remove or minimize significant visual impacts.

Light, Glare, Shade, and Shadow. The existing light environment serves as a baseline to conduct light analysis and compare potential impacts caused by the introduction of the Proposed Project. Impacts relating to light, glare, shade, and shadow were examined during field observations and by the photographs to help establish light conditions during various times of the day and night and estimate the potential changes in the environment from Project implementation. New light sources and reduction or elimination of light could be considered impacts that could change the natural environmental setting of a Project Site. Impacts are evaluated based on how much existing conditions change, the degree of those changes, and the sensitivity of the affected environment.

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Compatibility with Visual Policies. General Plans, Specific Plans, and other regulations or policies relating to visual resources and setting at the Project Site have been identified, reviewed, and used in the preparation of this analysis. Proposed visual changes that conflict with the adopted County guidelines could be considered a significant impact.

For the portion of the proposed alignment within BLM-managed lands, the Project Area was evaluated through the Visual Resource Inventory (VRI) process.

3.0 LOCAL VISUAL RESOURCE POLICIES

County of Imperial General Plan

Circulation and Scenic Highways Element

The Imperial County General Plan Circulation and Scenic Highways Element provides information about the transportation needs of the County and the various modes to meet these needs and provides for the movement of goods and people, including pedestrian, bicycles, transit, train, air and automobile. This Element is also intended to provide a plan to accommodate a pattern of concentrated and coordinated growth and to provide a means of protecting and enhancing scenic resources within both rural and urban scenic highway corridors.

The potential designation of Scenic Highway has been placed on specific roadways in the County and may be added to others in the future. This designation is intended to protect and enhance the County's scenic aesthetic resources which are visible from major County and State routes. As identified in the Circulation and Scenic Highways Element, four State routes within the County have the potential for designation as Scenic Highways:

- **Interstate 8 (I-8):** The initial segment for future Scenic Highway Designation status lies between the San Diego County line and its junction with State Route 98 (SR-98). This segment known as Mountain Springs Grade has a long, rapid elevation change, remarkable rock and boulder scenery, and plant life variations.
- **State Route 78 (SR-78):** The portion of SR-78 from the junction with State Route 86 (SR-86) to the San Diego County line is eligible for future Scenic Highway Designation. The area is considered scenic because of its desert characteristics and view of Salton Sea.
- **State Route 111 (SR-111):** SR-111 travels along the northeast shore of the Salton Sea and is eligible for future Scenic Highway Designation from Bombay Beach to the County line. The drive along this body of water is a study in primitive beauty and an interesting and startling anomaly. The contract between the flat, wide Salton Sea with its sandy beach and the rugged rise of the Chocolate Mountains has many variations. The panoramic view of the opposite (southwest) shore and its backdrop of mountains is also a sight of pre-historic beauty.
- **Borrego-Salton Seaway:** County Highway S-22 is also known as the Borrego-Salton Seaway. It begins in Salton City and ends at the community of Borrego Springs in San Diego County. Along its route, is Clay Point, located a mile and half west of SR-86, which is a formation ring above a flat

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desert shore which shows the bed of pre-Columbian Lake Cahuilla. Three and a half miles farther west, the Anza Verde Wash parallels the Borrego-Salton Seaway with uniquely scenic desert landforms and vegetation.

The Circulation and Scenic Highways Elements contains the following objectives for the preservation of environmental and scenic amenities of the area along potential Scenic Highways.

Objective 4.1 Establish various systems of scenic recreational travel utilizing multiple transportation modes.
Objective 4.2 Preserve, enhance, and protect Imperial County's scenic resources by the removal of illicit billboards from scenic areas and restrictions on new off-site sign construction visible from designated scenic highways.
Objective 4.3 Protect areas of outstanding scenic beauty along any scenic highways and protect the aesthetics of those areas.
Objective 4.4 Acquire scenic easements from private owners when required.
Objective 4.5 Develop standards for aesthetically valuable sites. Design review may be required so that structures, facilities, and activities are properly merged with the surrounding environment.

Conservation and Open Space Element

The Imperial County General Plan Conservation and Open Space Element is a conservation guide for the protection of regional aesthetics. This Element identifies goals and policies to ensure the managed use of environmental resources to prevent limiting the range of resources available to future generations. The Conservation and Open Space Element identifies scenic visual resources within the County which include the deserts, sand dunes, mountains, and the Salton Sea.

Desert areas include the Yuha Desert, West Mesa, lower Borrego Valley, East Mesa, and Pilot Knob Mesa. Within the desert areas, there are unique geologic features which add scenic value to the natural landscape and desert vegetation which results in springtime blooms of desert flowers in the springtime. The Algodones Dunes are the largest sand dunes in California covering approximately 160 square miles and are a well-known landmark to County residents and highway travelers. These dunes are a significant visual resource due to their unique scenic qualities, historic features, and prominent visibility to a large number of viewers.

As described in this Element, scenic mountains within the County include the eastern foothills of the Peninsular Range along the County's southwest side consisting of the In-Ko-Pah or Jacumba Mountains, Coyote Mountains, and Fish Creek Mountains. East of this area is Mount Signal located along the international border on the eastern edge of the Yuha Desert, west of Calexico. The southeast foothills of the San Rosa-San Jacinto Mountain are a prominent feature from SR-86. The Superstition Mountains and Superstition Hills, located in West Mesa southeast of the lower Borrego Valley and west of Westmorland and Brawley, are visible from I-8 west of El Centro and from SR-86 between El Centro and the Salton Sea. In the northeastern part of the County, the Chocolate Mountains stretch northwest by southeast between Riverside County and the Colorado River. Portions of these mountain areas are designated by the Bureau

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of Land Management (BLM) as Wilderness Areas, part of the National Wilderness Preservation System. The intention of this designation is to secure natural areas for the public purposes of recreation, scenic, scientific, educational, conservation, and historical use.

The Salton Sea is located in the northwestern portion of the County and encompasses approximately 376 square miles. This body of water has been sustained by agricultural drainage from the Imperial, Coachella, and Mexicali valleys, rainfall, storm runoff from surrounding mountains, and groundwater inflow. The Salton Sea provides migrating and winter habitat for waterfowl and other birds and is a unique visual resource because of its size, location in a desert environmental, and its value for wildlife.

Anza-Borrego Desert State Park, located on the eastern side of San Diego County with portions extending into Imperial Count, features washes, wildflowers, palm groves, cacti, sweeping vistas, and hiking trails.

The Conservation and Open Space Element also identifies scenic vista points which include the Osborne Overlook and Juan Bautista de Anza Overlook. The Osborne Overlook offers scenic views of the Imperial Sand Dunes Recreational Area, North Algodones Dunes Wilderness, and surrounding area while the Juan Bautista de Anza Overlook provides a view of the Yuha Basin and surrounding landscape.

The Conservation and Open Space Element contains the following objectives for the preservation of environmental and scenic amenities of the area along potential Scenic Highways (County of Imperial 2016).

Objective 5.1 Encourage the conservation and enhancement of the natural beauty of the desert and mountain landscape.

Objective 5.2 Utilize the Code Enforcement process to eliminate visually dilapidated buildings that impact the visual character of rural communities.

4.0 BASELINE VISUAL CONDITIONS

A view is defined by the topography, development, activity, and vegetation. The Project Areas were observed and mapped to identify existing visual resources in the area, key views, and viewer groups. Key locations along the Project perimeters were photodocumented during a visual field survey in January 2021 to record existing visual conditions in the Project Vicinity and surrounding area. Land uses and topography were assessed to characterize the physical environment and establish the existing visual setting as described below.

Topography

Topography consists of gentle slopes with a gradual increase in elevation from west to east and elevations range between -2 meters (-7 feet) and 55 meters (182 feet) above mean sea level. Adjacent land uses include active agriculture and the Coachella Canal. Bureau of Land Management (BLM) open space areas exist to the north, east, and south.

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Land Use

Surrounding lands are designated as "Recreation/Open Space" by the Imperial County General Plan and are zoned S-2-RE (Open Space/Preservation with a Renewable Energy overlay). Pursuant to Section 91703.02 (CONDITIONAL USE PERMITS), Renewable Energy Projects must be located within the Renewable Energy Overlay Zone and may be permitted only through the issuance of a Conditional Use Permit (CUP) as approved by the Approving Authority unless otherwise allowed by applicable law.

Vegetation

The majority of the Project Sites consists of creosote bush scrub and palo verde/ironwood woodland. Other vegetation types present include bush seepweed scrub, disturbed creosote bush scrub, four-wing saltbush scrub, and tamarisk thickets. A small portion of the area adjacent to the proposed gen-tie alignment along Flowing Wells Road is active agriculture. The remainder of the Project Area consists of the canal and existing unpaved roadways (ECORP 2020).

Historic Resources

A records search for historic resources was conducted in November 2020 at the South Coastal Information Center (SCIC) at San Diego State University. The records search included a review of all recorded historic and prehistoric archaeological sites within a one-mile radius of the Project Area, as well as a review of known cultural resource surveys and excavation report. One previously recorded resource and 156 newly identified resources are located within the Project Area; however, none of the resources within the Project Area have been evaluated for significance pursuant to CEQA (ECORP 2021).

5.0 KEY VIEWS

Because it is not feasible to study every available view of the Project Sites, four key views that represent typical views with distinct visual characteristics in the Project study area were selected. The key views reflect views of the Project Site and were taken from locations within the public right-of-way. A description of the four key views is provided below and key view locations are depicted in Figure 3 (Attachment A).

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Key View 1: Coachella Canal Road, North of Flowing Wells Road – Vega SES 2 and 3

Key View 1 is a view from Coachella Canal Road, north of Flowing Wells Road facing east. The dominant feature within this key view is the vegetation visible throughout the view. Also visible within this view is the Coachella Canal berm in the middleground and the distant Chocolate Mountains in the background. This view does not exhibit any striking or distinctive visual patterns; however, the presence of the scenic mountains in the background provide and aesthetic resource, although somewhat obstructed, to the view.

While the Coachella Canal is present and the berm along the edge of the canal is visible within this key view, it is free from encroaching man-made elements.

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Key View 2: Niland-Pegleg Well Road, East of Coachella Canal – Vega SES 2 and 3

Key View 2 is a view from Niland-Pegleg Well Road, east of Coachella Canal facing east. Similar to Key View 1, the dominant features within this key view are the vegetation visible throughout the view and the Chocolate Mountains in the background. Also visible within this view is the Coachella Canal berm in the foreground. This does not exhibit any striking or distinctive visual patterns; however, the presence of the scenic mountains in the background provide aesthetic resources that are prominent and mostly unobstructed in the view.

While a service road and the Coachella Canal berm along the edge of the canal is visible within this key view, it is mostly free from encroaching man-made elements.

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Key View 3: Coachella Canal Road, North of Niland-Pegleg Well Road – Vega SES 2 3

Key View 3 is a view from Coachella Canal Road, north of Niland-Pegleg Road facing north. The dominant features within this key view is Coachella Canal Road, the vegetation visible on either side of the road, and the Chocolate Mountains in the distant background. Also visible within this view are apiary boxes on the east side of Coachella Canal Road. This view does not exhibit any striking or distinctive visual patterns. The presence of the scenic mountains in the distant background are visible but are affected by atmospheric conditions (e.g., haze). However, the mountains do provide aesthetic resources that are somewhat obstructed in the view.

Due to the presence of the roadway and apiary boxes within this key view, the view contains highly visible encroaching man-made elements.

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Key View 4: Noffsinger Road– Vega SES 2

Key View 4 is a view from Noffsinger Road facing north. The dominant features within this key view are the existing Union Pacific Yuma subdivision railroad track, sparse vegetation in the foreground with denser vegetation beyond the railroad track, and the Chocolate Mountains in the background. Also visible within this view are marker posts associated with an underground utility line. This view does not exhibit any striking or distinctive visual patterns; however, the presence of the scenic mountains in the background, although affected by atmospheric conditions (e.g., haze), provide aesthetic resources that are mostly unobstructed in the view.

Due to the presence of the railroad track and marker posts visible within this key view, the view contains highly visible encroaching man-made elements.

6.0 VISUAL CHANGE AND VISUAL IMPACT EVALUATION

Evaluation of potential visual impacts resulting from implementation of the proposed Vega SES 2 and Vega SES 3 Project is based on the following criteria:

- **Change in Visual Quality.** The difference in visual quality between the existing environmental setting and post-Project condition is considered visual quality change. Those changes are identified by

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studying engineering plans, which provide information on the various elements that will be replaced and/or reconstruction into the current viewshed and the degree of change in the existing setting.

- **Impacts to Visual Resources.** Visual resources from both the natural and built environments can enhance the visual character and aesthetic quality of an area. The Project limits and vicinity were studied for visual resources. Visual resources can be associated with local events and history that represent and enhance the visual character of the local area. A project that substantially alters important visual resources can result in adverse visual impacts. Mitigation is typically implemented to remove or minimize adverse visual impacts.
- **Light, Glare, Shade, and Shadow.** The existing light environment serves as a baseline to conduct light analysis and compare potential impacts caused by introduction of one of the alternatives. Impacts relating to light, glare, shade, and shadow were examined during field observations and by the photographs to help establish light conditions during various times of the day and night and estimate the potential changes in the environment from Project implementation. New light sources and reduction or elimination of light could be considered impacts that could change the natural environmental setting of a Project Site. Impacts are evaluated based on how much the existing conditions change, the degree of those changes, and the sensitivity of the affected environment.
- **Compatibility with Visual Policies.** General Plans, Specific Plans, and other regulations or policies relating to visual resources and setting at the Project Site have been identified, reviewed, and used in preparation of this assessment. Proposed visual changes that conflict with the adopted agency guidelines could be considered an adverse impact.

Impacts at Key View 1

From Key View 1, the overall character and experience for the viewer would change substantially with implementation of the Project. The main physical change that would occur within this view is the complete removal of vegetation and grading of the Project Site to accommodate the construction of solar apparatus and security fencing. Other facilities proposed such as roads, pads, underground utilities, and stormwater facilities would not be visible from the public right-of-way. The County has identified the Chocolate Mountains as a scenic resource; however, no scenic vista points are identified in the County General Plan and none of the roadways in the Project vicinity are designated scenic highways or roadways. Additional visual changes within this key view would be the installation of poles and electrical lines associated with the gen-tie line if the alignment option along Flowing Wells Road is constructed.

The proposed PV module frames when installed on pads would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. Currently, the existing vegetation on the Project Site ranges from short shrubs to large bushes and views of the Chocolate Mountains in the background are already partially obstructed by the existing Coachella Canal berm and large bushes. The installation of the new PV module frames would also result in the obstruction of the Chocolate Mountains as they are similar in height to existing large bushes on the site. PV module frames would be arranged in arrays spaced approximately 15 to 25 feet apart to maximize performance and allow access for maintenance and cleaning. As a result of the spacing of the arrays, view corridors of the Chocolate

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Mountains would be maintained throughout the site as a viewer travels along Coachella Canal Road. The construction of gen-tie poles and electrical lines would introduce manmade elements into the view; however, the profile of these structures and lines are slim and would not substantially obstruct existing views of the mountains.

Implementation of the Proposed Project would change the natural conditions of the site to a solar energy generation and battery storage facility. Onsite vegetation would be completely removed, and the site would be graded to accommodate the installation of the PV module frames in arrays. The Imperial County General Plan has designated the Project Sites as "Recreation/Open Space" and are zoned S-2-RE (Open Space/Preservation with a Renewable Energy Overlay). Renewable energy projects must be located within the Renewable Energy Overlay Zone and may be permitted only through the issuance of a Conditional Use Permit (CUP). With a CUP, the Project would be consistent with the intended use of the land. Although Project implementation would result in the conversion of a naturally vegetated area with energy-related facilities, open space vegetated areas are not considered to be scenic resources by the County of Imperial.

Impacts at Key View 2

Similar to Key View 1, the overall character and experience for the viewer would change substantially at Key View 2 with implementation of the Project. The main physical change that would occur within this view is the complete removal of vegetation and grading of the Project Site to accommodate the construction of solar equipment and security fencing. Additional visual changes within this key view would be the installation of poles and electrical lines associated with the gen-tie line if the alignment option along Niland-Pegleg Well is constructed.

As previously identified, proposed onsite apparatus would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. The installation of the new PV module frames would also result in the obstruction of the Chocolate Mountains as they are similar in height to existing large bushes on the site; however, from this key view vantage point, the Chocolate Mountains in the background are relatively unobstructed. PV module frames would be arranged in arrays spaced approximately 15 to 25 feet apart and as a result of the spacing of the arrays, view corridors of the Chocolate Mountains would be maintained throughout the site as a viewer travels along Coachella Canal Road. The construction of gen-tie poles and electrical lines would introduce manmade elements into the view; however, the profile of these structures and lines are slim and would not substantially obstruct existing views of the mountains.

Onsite vegetation would be completely removed, and the site would be graded to accommodate the installation of the PV module frames in arrays. Although Project implementation would result in the conversion of a naturally vegetated area with energy-related facilities, open space vegetated areas are not considered to be scenic resources by the County of Imperial.

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Impacts at Key View 3

From Key View 3, the overall character and experience for the viewer would change moderately with implementation of the Project. The main physical change that would occur within this view is the complete removal of vegetation and grading of the Project Site on the east side (right side) of Coachella Canal Road to accommodate the construction of solar apparatus and security fencing. There would be no change on the west side of the roadway (left side). Additional visual changes within this key view would be the installation of poles and electrical lines associated with the gen-tie line if the alignment option along the Coachella Canal is constructed.

As previously identified, proposed onsite apparatus would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. The installation of the new PV module frames would also result in the obstruction of the Chocolate Mountains as they are similar in height to existing large bushes on the site. However, views of the Chocolate Mountains from Coachella Canal Road and the viewshed to the west of the road would be maintained as no Project-related facilities would be constructed that would obstruct views in those areas. The construction of gen-tie poles and electrical lines would introduce manmade elements into the view; however, the profile of these structures and lines are slim and would not substantially obstruct existing views of the mountains.

Onsite vegetation would be completely removed, and the site would be graded to accommodate the installation of the PV module frames in arrays. Although Project implementation would result in the conversion of a naturally vegetated area with energy-related facilities, open space vegetated areas are not considered to be scenic resources by the County of Imperial.

Impacts at Key View 4

From Key View 4, the overall character and experience for the viewer would change slightly with implementation of the Project. The main physical change that would occur within this view is the complete removal of vegetation and grading of the Project Site which is beyond the railroad tracks to accommodate the construction of solar apparatus and security fencing.

The installation of the new PV module frames would not result in the obstruction of the Chocolate Mountains and would align with the existing horizon due to the distance away from the Key View 4 vantage point. Therefore, the views of the Chocolate Mountains would be maintained throughout the site as a viewer travels along Noffsinger Road.

Implementation of the Proposed Project would change the natural conditions of the site to a solar energy generation and battery storage facility. Onsite vegetation would be completely removed, and the site would be graded to accommodate the installation of the PV module frames in arrays. The area in the foreground in front of the railroad tracks would not change from the existing condition. Although Project implementation would result in the conversion of a naturally vegetated area with energy-related facilities, open space vegetated areas are not considered to be scenic resources by the County of Imperial.

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Construction Impacts

Construction of the proposed Project would result in temporary visual changes due to construction activities. Potential short-term construction impacts would result from the Proposed Project through the presence of construction equipment and materials. Upon completion of construction, equipment and construction materials would no longer be present.

Light, Glare, Shade, and Shadow

Minimal lighting would be required for operations and would be limited to safety and security functions. All lighting will be directed downward and shielded to focus illumination on the desired areas only and to minimize light trespass in accordance with applicable County requirements. If additional lighting should be required for nighttime maintenance, portable lighting equipment would be used. The Project is not anticipated to create a new source of substantial light which would adversely affect nighttime views in the Project Area.

The Projects would involve the installation of PV solar arrays which have low reflectivity. Solar PV modules are specifically designed to reduce reflection as any reflected light cannot be converted into energy. Research has shown that reflectivity from PV panels are similar to reflections from water (National Renewable Energy Laboratory 2020). Therefore, the PV panels would not create a significant source of glare during sunlight hours. The Project would not use other reflective materials such as fiberglass, aluminum or vinyl/plastic siding, galvanized products, and brightly painted steel roofs that have the potential to create on- and off-site glare.

Shade and shadow effects would be introduced within the Project Sites due to the placement of PV modules in arrays. However, due to the height of the proposed apparatus at 7.5 feet and the perimeter fencing at 6 feet, the effects of shade and shadow would not encroach into areas offsite for extended periods of time that would result in significant shade and/or shadow impacts.

Scenic Highways

There are no designated Caltrans scenic highways in the vicinity of the Proposed Project. None of the scenic highways identified in the County's General Plan Circulation and Scenic Highways Element are located in the Project vicinity. There would be no impact to scenic resources within a State or locally designated scenic highway.

Historic Resources

As previously identified, the one previously recorded resource and 156 newly identified resources located within the Project Area have not been evaluated for significance. If these resources are determined to be eligible per the eligibility criteria for inclusion in the California Register of Historical Resources and avoidance is not feasible, mitigation would be required that could consist of either avoidance by preserving them in dedicated open space, by requiring archaeological monitoring, or by carrying out data recovery efforts prior to Project approval, implementation, or construction. As none of the cultural

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resources identified within the Project Site are visible from public vantage points, there would be no visual impact to historic resources.

Visual Resource Policies

Scenic features, vistas, or landforms identified by the County of Imperial would not be significantly affected by construction and implementation of the Project. While portions of the Chocolate Mountains in the background would be partially obstructed by the PV arrays, current views of the mountains are already partially obstructed by existing tall vegetation in the existing condition. Further, the arrangement of the PV modules in arrays spaced between 15 and 25 feet apart would result in the establishment of view corridors of the mountains from the public right-of-way. The proposed Project would not conflict with specific policies identified in the Circulation and Scenic Highways Element or Open Space and Conservation Element of the County's General Plan. No impacts associated with incompatibility with visual resource policies would occur under the proposed Project.

Summary of Impacts

During the construction phase, the presence of construction equipment and materials would not have a permanent, long-term impact on the visual environment. Upon completion of the Project, areas that were cleared for construction staging would be converted to a new energy generating and storage facilities or returned to their existing condition.

No substantial obstruction of existing scenic resources would occur with Project implementation. Existing views of the Chocolate Mountains are already partially obstructed by large bushes. Solar PV arrays would be spaced approximately 15 to 25 feet apart allowing for views of the Chocolate Mountains within those spaces. The construction of gen-tie poles and electrical lines would introduce manmade elements into views at KV 1, 2, and 3; however, the profile of these structures and lines are slim and would not substantially obstruct existing views of the mountains.

Minimal lighting would be required for operations and would be limited to safety and security functions and would adhere to County lighting requirements. The Project is not anticipated to create a new source of substantial light which would adversely affect nighttime views in the Project Area. Shade and shadow effects would not be a significant impact to adjacent properties due to the height of the proposed apparatus and security fencing.

Potential impacts to California Register of Historical Resources-eligible historic resources would need to be avoided by preserving them in dedicated open space, by requiring archaeological monitoring, or by carrying out data recovery efforts prior to Project approval, implementation, or construction.

The Project would be consistent with the County General Plan. No impacts associated with incompatibility with visual resource policies would occur under the Proposed Projects.

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Sincerely,

Senior Environmental Planner
ECORP Consulting, Inc.

Attachments

Attachment A: Figures
Attachment B: Conceptual Plans

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LIST OF ATTACHMENTS

Attachment A – Figures

Attachment B – Conceptual Plans

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Figures

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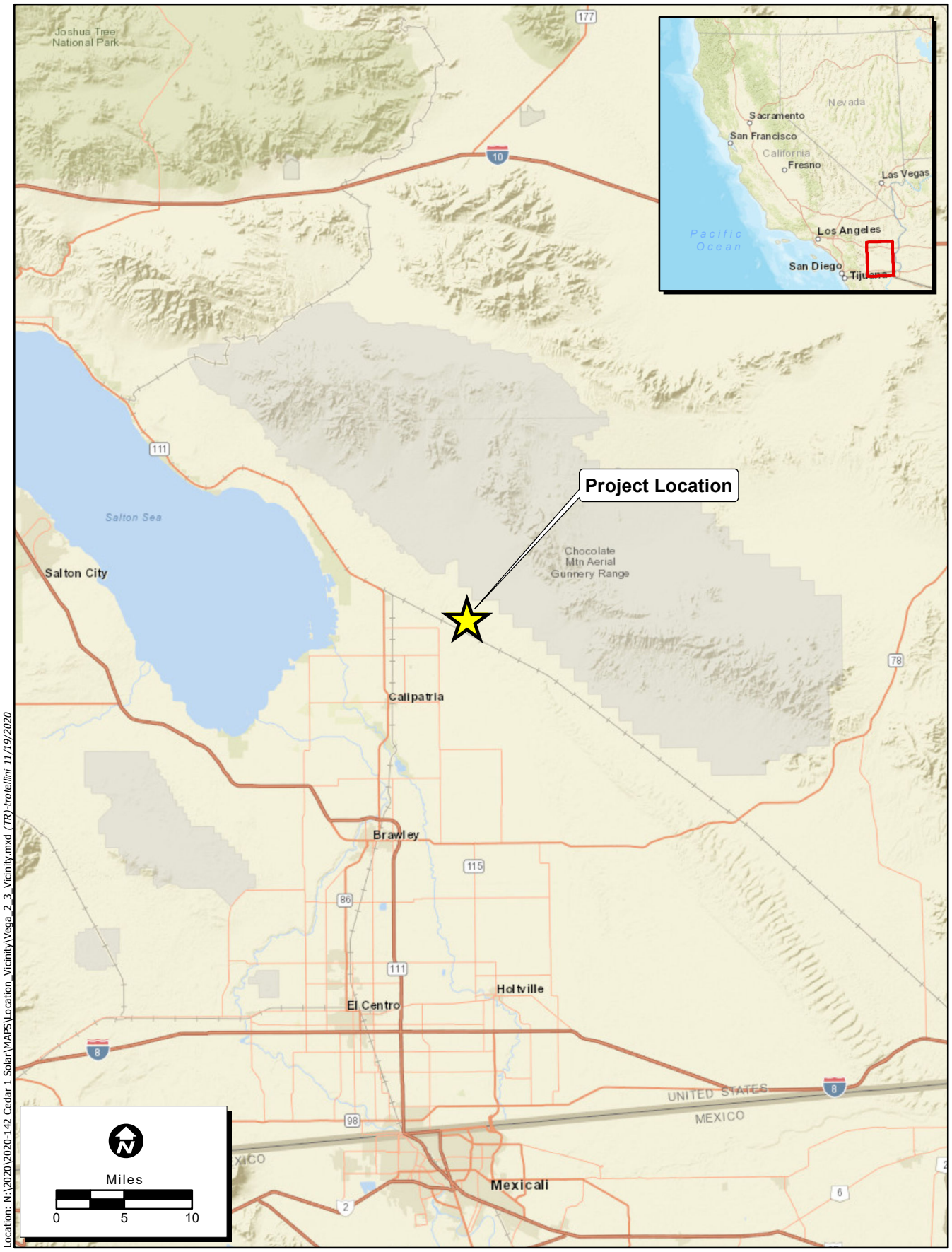

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Map Date: 11/18/2020

Sources:

Figure 1. Project Vicinity

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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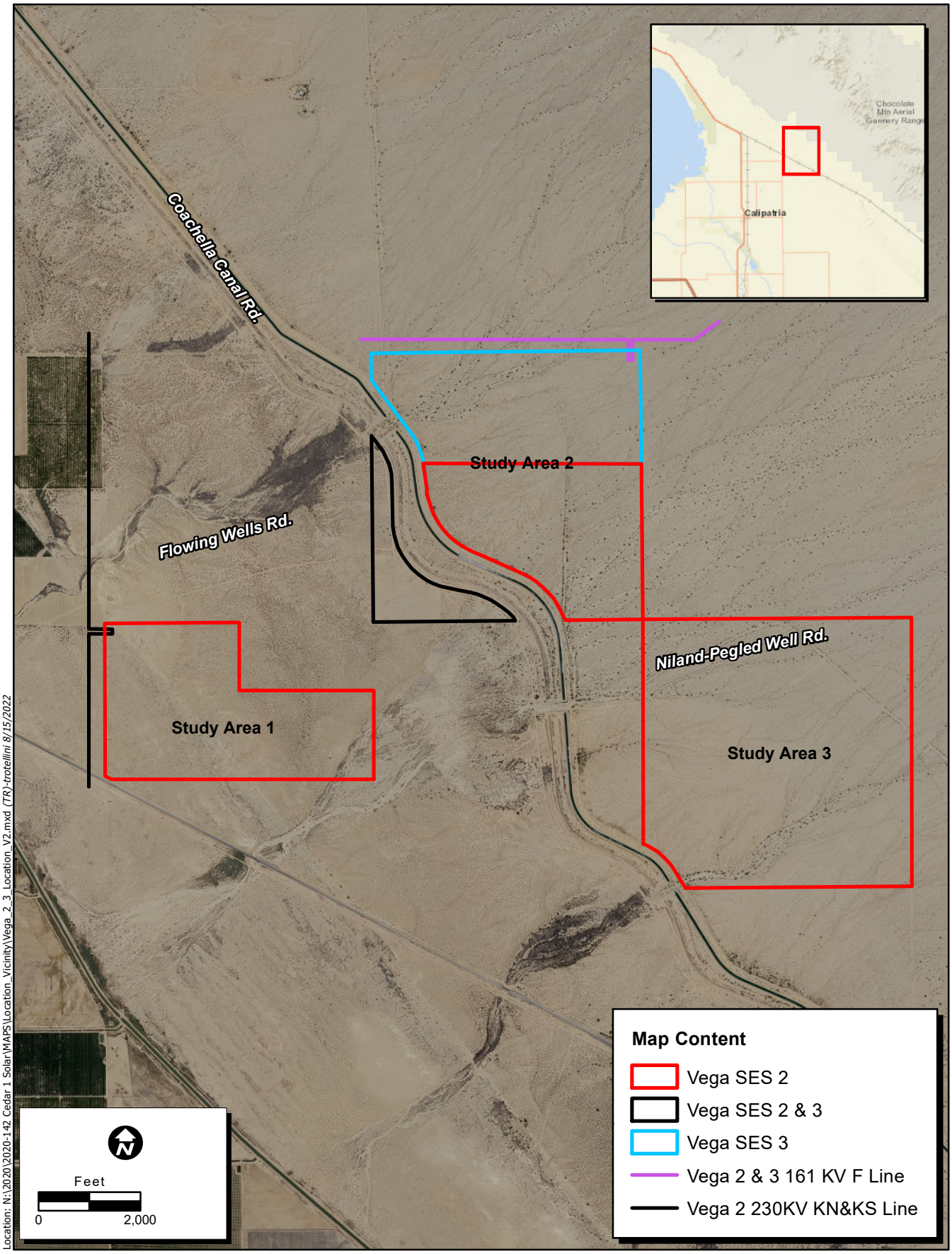

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Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Figure 2. Project Location

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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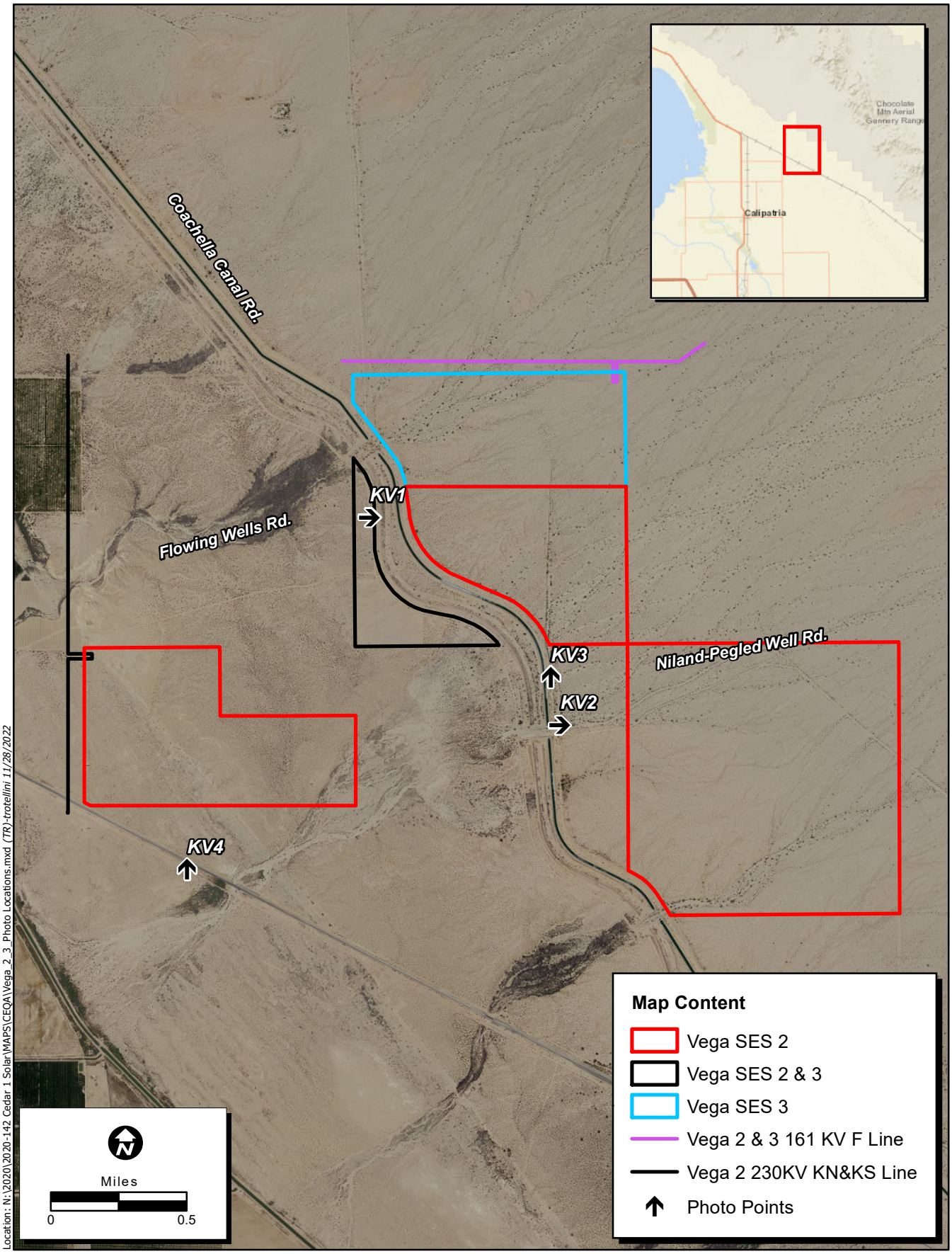

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Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Figure 3. Photo Locations

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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OVERALL PROJECT AREA DESCRIPTION

Canal

Canal Crossing

Access road

Siphon Six

Surrounding APN

230 kV KN&KS Line
POI for VEGA 2

~0.59 acres required for
30ft wide Access road

~3.28 acres (24 x
5941 FT) Right Of
way Req, Typ

30FT Right
Of way Req

VEGA SES 2
APN :025-260-011
288 ACRES

VEGA 5
APN :025-260-011
160 ACRES

Wash

Easement Can be removed

140FT Right
Of way Req

~0.65 Acres easement required
for H-FRAME Structure
Per Sheets Z-TH-1 & Profile-1

161 kV F Line POI for
VEGA 3

PROPOSED
WATER WELL

VEGA SES 3
APN:025-010-006
230 ACRES

Easement Can be removed

PROPOSED
WATER WELL

Surrounding APN

VEGA SES 2
APN :025-010-006
410 ACRES

Easement Can be removed

~(0.156 ACRES) AERIAL EASEMENT FOR 34.5 LINE CROSSING TO BE OBTAINED FROM BLM

~(0.156 ACRES) AERIAL
EASEMENT FOR 34.5 LINE
CROSSING TO BE OBTAINED
FROM BLM

Redirected road

Existing Road
(redirected)

Battery container area for
Vega 2 and 3

Vega SES 2
Powerline

~1.83 Acres easement required
for Single Pole Structure per
Sheets Z-T-1 and Profile-2

VEGA SES 2
APN :025-270-023
624 ACRES

Canal Crossing

Road

Wash

24 ft RIGHT of Way Required (Typ)

30 ft RIGHT of Way Required (Typ)

60 ft RIGHT of Way Required (Typ)

140 ft RIGHT of Way Required (Typ)

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VEGA SES 2-3

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0	RO	PRE-SUBMITTAL	09/02/21	HP
1	RO	PRE-SUBMITTAL	09/13/21	HP
2	RO	PRE-SUBMITTAL	02/08/22	HP
3	HP	PRE-SUBMITTAL	10/25/22	HP

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SHEET TITLE:

SITE PLAN 2

DRAWN BY:	RO	DRAWING No.	C-000
CHECKED:	HP		
SCALE:	N.T.S		
JOB NO:			
DATE:	1	REV No.	1

November 28, 2022

Ramon Gonzalez
ZGlobal, Inc.
750 W. Main Street
El Centro, CA 92243

RE: Visual Impact Assessment Letter Report– Vega SES 5 Project

Dear Mr. Gonzalez:

The purpose of this Visual Impact Assessment (VIA) letter report is to evaluate the potential visual impacts associated with the construction and implementation of the Vega SES 5 Solar Energy Storage Project located in Imperial County, California. This VIA includes an analysis and description of the existing visual setting and potential visual impacts. If the Project results in any adverse visual impacts, the purpose of the VIA is also to propose measures to minimize those impacts.

1.0 PROJECT DESCRIPTION, LOCATION, AND SETTING

The Project is located in Imperial County between the unincorporated communities of Iris and Slab City, and south of the Union Pacific Yuma subdivision railroad track. Figures 1 and 2 depict the Project location and vicinity (Attachment A).

Vega SES 5 is located on Imperial County Assessor's Parcel Numbers (APNs) 025-260-011 (approximately 160 acres), 025-260-019 (approximately 90 acres) and 025-260-022 (approximately 160.0 acres). The Project parcels are designated as "Recreation/Open Space" in the Imperial County General Plan and APNs 025-260-011 and 025-260-019 are zoned S-2-RE (Open Space/Preservation with a Renewable Energy overlay) and APN 025-260-022 is zoned A-2-RE, (areas that are suitable and intended primarily for agricultural uses [limited] and agricultural related compatible uses with a Renewable Energy Overlay), A-3-RE (areas that are suitable for agricultural land uses; to prevent the encroachment of incompatible uses onto and within agricultural lands; and to prohibit the premature conversion of such lands to non-agricultural uses with a Renewable Energy Overlay) and S-2-RE.

Project Characteristics

Solar panels would use either thin film or crystalline solar photovoltaic (PV) technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The fixed-frame racks would be secured at a fixed tilt of 20 degrees to 30 degrees from horizontal facing a southerly direction. Current Project designs would have individual PV modules, mounted two high on a fixed frame, providing a two-foot ground clearance and resulting in the tops of the panels at approximately 7.5 feet above the ground. The fixed PV modules would be arranged in arrays spaced approximately 15 to 25 feet apart (pile-to-pile) to maximize performance and to allow access for panel cleaning (if necessary). These arrays would be

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separated from each other and the perimeter security fence by up to 30-foot wide interior roads. If HSAT technology is used, the PV modules would rotate around the north-south HSAT axis so that the PV modules would continue to face the sun as the sun moves across the sky throughout the day. The PV modules would reach their maximum height (up to nine (9) feet above the ground, depending on the final design) at both sunrise and sunset, when the HSAT is rotated to point the modules at the rising or setting sun. At noon, or when stowed during high winds, when the HSAT system is rotated so that the PV modules are horizontal, the nominal height would be about six feet above the ground, depending on the final design. The individual PV systems would be arranged in large arrays by placing them in columns spaced approximately ten feet apart to maximize operational performance and to allow access for panel cleaning and maintenance. Current Project designs would have individual HSAT PV modules, each approximately two feet wide by four feet long (depending on the specific PV technology selected), mounted on a frame which is attached to an HSAT system. These HSAT arrays would be separated from each other and the perimeter security fence by up to 30-foot wide roads, consistent with County emergency access requirements.

A new substation would be constructed on the southwestern boundary of APN 025-260-022. The substation would include a transformer, circuit breakers, meters, disconnect switches, and microwave or other communication facilities. Underground or overhead 12.5 kilovolt (kV) to 34.5-kV collection lines would transmit the electricity to the new Project substation. Distribution from the site would be via either an underground or an overhead connection to the proposed 92kV generator intertie ("gen-tie") line and delivered to the existing Imperial Irrigation District (IID) approved point of interconnection (POI) at the IID 92kV "Midway" Substation.

A battery energy storage system (BESS) is proposed on the VEGA SES 5 Project Site located in the southeastern corner of APN 025-260-022. The proposed BESS would consist of either lithium ion or flow batteries. The batteries will either be housed in storage containers or buildings fitted with heating, ventilation and air conditioning (HVAC) and fire suppression systems as necessary, depending on the final selection of battery technology. Inside the housing the batteries will be placed on racks, the orientation of which depends on the type of housing. Underground trenches with conduits will be used to connect the batteries to the control and monitoring systems, and inverters to convert the PV produced direct current (DC) power to alternative current (AC) power.

Construction activities would primarily involve demolition and grubbing; grading of the Project Site to establish access roads and pads for electrical equipment (inverters and step–up transformers); trenching for underground electrical collection lines; and the installation of solar equipment and security fencing. Stormwater management facilities would be constructed internally within the site and would consist of basins and infiltration areas. Dust generated during construction would be controlled by watering and, as necessary, the use of other dust suppression methods and materials accepted by the Imperial County Air Pollution Control District (ICAPCD) or the California Air Resources Board (CARB). A temporary, portable construction supply container would be located at the Project Site at the beginning of construction and removed at the end of construction. Onsite parking would be provided for all construction workers.

The VEGA SES 5 site would include two primary driveways and a secondary driveway (if required). The primary driveway on APN 025-260-019 would be located in the northwestern corner of the parcel off of

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Noffsinger Road, while the driveway on APN 025-260-022 would be located along Weist Road which runs parallel to the western boundary of the parcel.

Once construction is completed the Project would be remotely controlled. No employees would be based at the Project sites. Primary security–related monitoring would be done remotely. Security personnel may conduct unscheduled security rounds and would be dispatched to the site in response to a fence breach or other alarm. Site maintenance workers may access the Project Site periodically to clean the panels and maintain the equipment and Project Area. The public would not have access to the facility. Access to the Project Site would be infrequent and limited to authorized personnel.

Conceptual plans for the Vega SES 5 Project is provided in Attachment B.

2.0 VISUAL IMPACT ASSESSMENT METHODOLOGY

The following steps were taken in analyzing the visual impacts of the proposed Vega SES 5 Solar and Battery Storage Project.

1. Describe the existing visual setting, including any sensitive viewer groups (i.e., baseline conditions);
2. Identify key viewpoints for visual assessment;
3. Describe or depict the visual appearance of the Project at the key viewpoints. Key viewpoints are selected to represent the typical views from the public right-of-way;
4. Assess the visual changes that would be introduced by the Project and the viewer response based on defined attributes which are neither good nor bad. Change in visual character cannot be described as having good or bad attributes until compared with viewer responses to the change;
5. Determine the degree of visual impact;
6. Proposed methods to minimize adverse impacts

Evaluation of potential visual impacts resulting from implementation of the Proposed Project is based on the following criteria:

Change in Visual Quality. The difference in visual quality between the existing environmental setting and post-Project condition is considered visual quality change. Those changes are identified by studying site plans, which provide information on the various elements that will be removed from and incorporated into the current viewshed and the degree of change in the existing setting. The plans help to understand the potential changes in visual quality of the site after implementation of the Project. Physical changes are analyzed in relation to vividness, intactness, and unity of the Proposed Project conditions. Sensitivity of various viewer groups is evaluated to measure response to the visual quality changes.

Impacts to Visual Resources. Visual resources from both the natural and built environments can enhance the visual character and aesthetic quality of an area. The Project limits and vicinity were studies for visual resources. Visual resources can be associated with local events and history that represent and enhance the visual character of the local area. A project that substantially alters important visual resources can result in significant visual impacts. Mitigation is typically implemented to remove or minimize significant visual impacts.

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Light, Glare, Shade, and Shadow. The existing light environment serves as a baseline to conduct light analysis and compare potential impacts caused by the introduction of the Proposed Project. Impacts relating to light, glare, shade, and shadow were examined during field observations and by the photographs to help establish light conditions during various times of the day and night and estimate the potential changes in the environment from Project implementation. New light sources and reduction or elimination of light could be considered impacts that could change the natural environmental setting of a project site. Impacts are evaluated based on how much existing conditions change, the degree of those changes, and the sensitivity of the affected environment.

Compatibility with Visual Policies. General Plans, Specific Plans, and other regulations or policies relating to visual resources and setting at the Project Site have been identified, reviewed, and used in the preparation of this analysis. Proposed visual changes that conflict with the adopted County guidelines could be considered a significant impact.

3.0 LOCAL VISUAL RESOURCE POLICIES

County of Imperial General Plan

Circulation and Scenic Highways Element

The Imperial County General Plan Circulation and Scenic Highways Element provides information about the transportation needs of the County and the various modes to meet these needs and provides for the movement of goods and people, including pedestrian, bicycles, transit, train, air and automobile. This Element is also intended to provide a plan to accommodate a pattern of concentrated and coordinated growth and to provide a means of protecting and enhancing scenic resources within both rural and urban scenic highway corridors.

The potential designation of Scenic Highway has been placed on specific roadways in the County and may be added to others in the future. This designation is intended to protect and enhance the County's scenic aesthetic resources which are visible from major County and State routes. As identified in the Circulation and Scenic Highways Element, four State routes within the County have the potential for designation as Scenic Highways:

- **Interstate 8 (I-8):** The initial segment for future Scenic Highway Designation status lies between the San Diego County line and its junction with State Route 98 (SR-98). This segment known as Mountain Springs Grade has a long, rapid elevation change, remarkable rock and boulder scenery, and plant life variations.
- **State Route 78 (SR-78):** The portion of SR-78 from the junction with State Route 86 (SR-86) to the San Diego County line is eligible for future Scenic Highway Designation. The area is considered scenic because of its desert characteristics and view of Salton Sea.
- **State Route 111 (SR-111):** SR-111 travels along the northeast shore of the Salton Sea and is eligible for future Scenic Highway Designation from Bombay Beach to the County line. The drive

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along this body of water is a study in primitive beauty and an interesting and startling anomaly. The contrast between the flat, wide Salton Sea with its sandy beach and the rugged rise of the Chocolate Mountains has many variations. The panoramic view of the opposite (southwest) shore and its backdrop of mountains is also a sight of pre-historic beauty.

- **Borrego-Salton Seaway:** County Highway S-22 is also known as the Borrego-Salton Seaway. It begins in Salton City and ends at the community of Borrego Springs in San Diego County. Along its route, is Clay Point, located a mile and half west of SR-86, which is a formation ring above a flat desert shore which shows the bed of pre-Columbian Lake Cahuilla. Three and a half miles farther west, the Anza Verde Wash parallels the Borrego-Salton Seaway with uniquely scenic desert landforms and vegetation.

The Circulation and Scenic Highways Elements contains the following objectives for the preservation of environmental and scenic amenities of the area along potential Scenic Highways.

Objective 4.1 Establish various systems of scenic recreational travel utilizing multiple transportation modes.

Objective 4.2 Preserve, enhance, and protect Imperial County's scenic resources by the removal of illicit billboards from scenic areas and restrictions on new off-site sign construction visible from designated scenic highways.

Objective 4.3 Protect areas of outstanding scenic beauty along any scenic highways and protect the aesthetics of those areas.

Objective 4.4 Acquire scenic easements from private owners when required.

Objective 4.5 Develop standards for aesthetically valuable sites. Design review may be required so that structures, facilities, and activities are properly merged with the surrounding environment.

Conservation and Open Space Element

The Imperial County General Plan Conservation and Open Space Element is a conservation guide for the protection of regional aesthetics. This Element identifies goals and policies to ensure the managed use of environmental resources to prevent limiting the range of resources available to future generations. The Conservation and Open Space Element identifies scenic visual resources within the County which include the deserts, sand dunes, mountains, and the Salton Sea.

Desert areas include the Yuha Desert, West Mesa, lower Borrego Valley, East Mesa, and Pilot Knob Mesa. Within the desert areas, there are unique geologic features which add scenic value to the natural landscape and desert vegetation which results in springtime blooms of desert flowers in the springtime. The Algodones Dunes are the largest sand dunes in California covering approximately 160 square miles and are a well-known landmark to County residents and highway travelers. These dunes are a significant visual resource due to their unique scenic qualities, historic features, and prominent visibility to a large number of viewers.

As described in this Element, scenic mountains within the County include the eastern foothills of the Peninsular Range along the County's southwest side consisting of the In-Ko-Pah or Jacumba Mountains,

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Coyote Mountains, and Fish Creek Mountains. East of this area is Mount Signal located along the international border on the eastern edge of the Yuha Desert, west of Calexico. The southeast foothills of the San Rosa-San Jacinto Mountain are a prominent feature from SR-86. The Superstition Mountains and Superstition Hills, located in West Mesa southeast of the lower Borrego Valley and west of Westmorland and Brawley, are visible from I-8 west of El Centro and from SR-86 between El Centro and the Salton Sea. In the northeastern part of the County, the Chocolate Mountains stretch northwest by southeast between Riverside County and the Colorado River. Portions of these mountain areas are designated by the Bureau of Land Management (BLM) as Wilderness Areas, part of the National Wilderness Preservation System. The intention of this designation is to secure natural areas for the public purposes of recreation, scenic, scientific, educational, conservation, and historical use.

The Salton Sea is located in the northwestern portion of the County and encompasses approximately 376 square miles. This body of water has been sustained by agricultural drainage from the Imperial, Coachella, and Mexicali valleys, rainfall, storm runoff from surrounding mountains, and groundwater inflow. The Salton Sea provides migrating and winter habitat for waterfowl and other birds and is a unique visual resource because of its size, location in a desert environmental, and its value for wildlife.

Anza-Borrego Desert State Park, located on the eastern side of San Diego County with portions extending into Imperial Count, features washes, wildflowers, palm groves, cacti, sweeping vistas, and hiking trails.

The Conservation and Open Space Element also identifies scenic vista points which include the Osborne Overlook and Juan Bautista de Anza Overlook. The Osborne Overlook offers scenic views of the Imperial Sand Dunes Recreational Area, North Algodones Dunes Wilderness, and surrounding area while the Juan Bautista de Anza Overlook provides a view of the Yuha Basin and surrounding landscape.

The Conservation and Open Space Element contains the following objectives for the preservation of environmental and scenic amenities of the area along potential Scenic Highways (County of Imperial 2016).

Objective 5.1 Encourage the conservation and enhancement of the natural beauty of the desert and mountain landscape.

Objective 5.2 Utilize the Code Enforcement process to eliminate visually dilapidated buildings that impact the visual character of rural communities.

4.0 BASELINE VISUAL CONDITIONS

A view is defined by the topography, development, activity, and vegetation. The Project area was observed and mapped to identify existing visual resources in the area, key views, and viewer groups. Key locations along the Project perimeters were photodocumented during a visual field survey in January 2021 to record existing visual conditions in the Project Vicinity and surrounding area. Land uses and topography were assessed to characterize the physical environment and establish the existing visual setting as described below.

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Topography

Topography is relatively flat with elevations range between -20 meters (-65 feet) and 7 meters (22feet) above mean sea level. Adjacent land uses include active agriculture land to the west, the East Highline Canal which bisects the site from north to southeast, and a portion of Siphon Five which travels through the northeast portion of the site. Bureau of Land Management (BLM) open space areas exist to the north, east, and south.

Land Use

Surrounding lands are designated as "Recreation/Open Space" and "Agriculture" by the Imperial County General Plan and are zoned S-2-RE (Open Space/Preservation with a Renewable Energy overlay), A-2-RE (Limited Agriculture with a Renewable Energy overlay) and A-3-RE (Buffer Agriculture with a Renewable Energy overlay). Pursuant to Section 91703.02 (CONDITIONAL USE PERMITS), Renewable Energy Projects must be located within the Renewable Energy Overlay Zone and may be permitted only through the issuance of a Conditional Use Permit (CUP) as approved by the Approving Authority unless otherwise allowed by applicable law.

Vegetation

The majority of the Project Site consists of fallow agricultural land, creosote bush scrub, bush seepweed scrub, and tamarisk thickets. Other vegetation types present include iodine bush scrub. Small portions of the area adjacent to the proposed gen-tie alignment along the canal are urban/developed land. The remainder of the Project Area consists of the canal and existing unpaved roadways (ECORP 2020).

Historic Resources

A records search for historic resources was conducted in November 2020 at the South Coastal Information Center (SCIC) at San Diego State University. The records search included a review of all recorded historic and prehistoric archaeological sites within a one-mile radius of the Project Area, as well as a review of known cultural resource surveys and excavation report. Eight previously recorded resources and fifteen newly identified resources are located within the Project Area; however, none of the resources within the Project Area have been evaluated for significance pursuant to CEQA (ECORP 2021).

5.0 KEY VIEWS

Because it is not feasible to study every available view of the Project site, two key views that represent typical views with distinct visual characteristics in the Project study area were selected. The key views reflect views of the Project site and were taken from locations within the public right-of-way. A description of the two key views is provided below and key view locations are depicted in Figure 3 (Attachment A).

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Key View 1: Noffsinger Road, North of Wash Area – Vega SES 5

Key View 1 is a view from Noffsinger Road, north of the wash area facing south. The dominant feature within this key view is the vegetation visible throughout the view and Noffsinger Road in the immediate foreground. There are no distant topographic features in the background. This view does not exhibit any striking or distinctive visual patterns. The view is free from encroaching man-made elements.

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Key View 2: Wiest Road, South of McDonald Road – Vega SES 5

Key View 2 is a view from Wiest Road, south of McDonald road facing east. The dominant features within this key view are the vegetation visible only in the foreground and a fallow agricultural field in the middleground. The Chocolate Mountains are barely visible in the background because they are masked by atmospheric conditions (e.g., haze). This view does not exhibit any striking or distinctive visual patterns; however, the presence of the scenic mountains in the background, although masked by haze, provide an aesthetic resource somewhat visible within the view. While overhead power lines are visible within this key view, it is mostly free from encroaching man-made elements.

6.0 VISUAL CHANGE AND VISUAL IMPACT EVALUATION

Evaluation of potential visual impacts resulting from implementation of the proposed Vega SES 5 Solar and Battery Storage Project is based on the following criteria:

- **Change in Visual Quality.** The difference in visual quality between the existing environmental setting and post-Project condition is considered visual quality change. Those changes are identified by studying engineering plans, which provide information on the various elements that will be replaced and/or reconstruction into the current viewshed and the degree of change in the existing setting.

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- **Impacts to Visual Resources.** Visual resources from both the natural and built environments can enhance the visual character and aesthetic quality of an area. The Project limits and vicinity were studied for visual resources. Visual resources can be associated with local events and history that represent and enhance the visual character of the local area. A project that substantially alters important visual resources can result in adverse visual impacts. Mitigation is typically implemented to remove or minimize adverse visual impacts.
- **Light, Glare, Shade, and Shadow.** The existing light environment serves as a baseline to conduct light analysis and compare potential impacts caused by introduction of one of the alternatives. Impacts relating to light, glare, shade, and shadow were examined during field observations and by the photographs to help establish light conditions during various times of the day and night and estimate the potential changes in the environment from Project implementation. New light sources and reduction or elimination of light could be considered impacts that could change the natural environmental setting of a project site. Impacts are evaluated based on how much the existing conditions change, the degree of those changes, and the sensitivity of the affected environment.
- **Compatibility with Visual Policies.** General Plans, Specific Plans, and other regulations or policies relating to visual resources and setting at the Project Site have been identified, reviewed, and used in preparation of this assessment. Proposed visual changes that conflict with the adopted agency guidelines could be considered an adverse impact.

Impacts at Key View 1

From Key View 1, the overall character and experience for the viewer would change substantially with implementation of the Project. The main physical change that would occur within this view is the complete removal of vegetation and grading of the Project Site to accommodate the construction of solar apparatus and security fencing. Other facilities proposed such as roads, pads, underground utilities, and stormwater facilities would not be visible from the public right-of-way. No scenic resources are visible within this view and no scenic vista points are identified in the County General Plan. None of the roadways in the Project vicinity are designated scenic highways or roadways.

The proposed PV module frames when installed on pads would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. Currently, the existing vegetation on the Project Site ranges from short to medium shrubs and views. Implementation of the Proposed Project would change the natural conditions of the site to a solar energy generation and battery storage facility. Onsite vegetation would be completely removed, and the site would be graded to accommodate the installation of the PV module frames in arrays. The construction of gen-tie poles and electrical lines would not be visible from this key view.

The Imperial County General Plan has designated the Project site within this key view as "Recreation/Open Space" and are zoned S-2-RE (Open Space/Preservation with a Renewable Energy Overlay). Renewable energy projects must be located within the Renewable Energy Overlay Zone and may be permitted only through the issuance of a Conditional Use Permit (CUP). With a CUP, the Project would be consistent with the intended use of the land. Although Project implementation would result in

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the conversion of a naturally vegetated area with energy-related facilities, open space vegetated areas are not considered to be scenic resources by the County of Imperial.

Impacts at Key View 2

Similar to Key View 1, the overall character and experience for the viewer would change substantially at Key View 2 with implementation of the Project. The main physical change that would occur within this view is the complete removal of vegetation and the fallow agricultural field and grading of the Project site to accommodate the construction of solar equipment and security fencing.

As previously identified, proposed onsite apparatus would be approximately 7.5 feet in height and the proposed security fencing would be approximately 6 feet in height. The installation of the new PV module frames would result in the obstruction of the Chocolate Mountains due to the distance away from this vantage point. However, PV module frames would be arranged in arrays spaced approximately 15 to 25 feet apart and as a result of the spacing of the arrays, view corridors of the Chocolate Mountains would be maintained throughout the site as a viewer travels along Wiest Road. The construction of gen-tie poles and electrical lines would not be visible from this key view.

Onsite vegetation would be completely removed, and the site would be graded to accommodate the installation of the PV module frames in arrays. Although Project implementation would result in the conversion of a former agricultural area with energy-related facilities, agricultural areas are not considered to be scenic resources by the County of Imperial.

Construction Impacts

Construction of the Proposed Project would result in temporary visual changes due to construction activities. Potential short-term construction impacts would result from the Proposed Project through the presence of construction equipment and materials. Upon completion of construction, equipment and construction materials would no longer be present.

Light, Glare, Shade, and Shadow

Minimal lighting would be required for operations and would be limited to safety and security functions. All lighting will be directed downward and shielded to focus illumination on the desired areas only and to minimize light trespass in accordance with applicable County requirements. If additional lighting should be required for nighttime maintenance, portable lighting equipment would be used. The Project is not anticipated to create a new source of substantial light which would adversely affect nighttime views in the Project Area.

The Project would involve the installation of PV solar arrays which have low reflectivity. Solar PV modules are specifically designed to reduce reflection as any reflected light cannot be converted into energy. Research has shown that reflectivity from PV panels are similar to reflections from water (National Renewable Energy Laboratory 2020). Therefore, the PV panels would not create a significant source of glare during sunlight hours. The Project would not use other reflective materials such a fiberglass,

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aluminum or vinyl/plastic siding, galvanized products, and brightly painted steel roofs that have the potential to create on- and off-site glare.

Shade and shadow effects would be introduced within the Project Site due to the placement of PV modules in arrays. However, due to the height of the proposed apparatus at 7.5 feet and the perimeter fencing at 6 feet, the effects of shade and shadow would not encroach into areas offsite for extended periods of time that would result in significant shade and/or shadow impacts.

Scenic Highways

There are no designated Caltrans scenic highways in the vicinity of the Proposed Project. None of the scenic highways identified in the County's General Plan Circulation and Scenic Highways Element are located in the Project vicinity. There would be no impact to scenic resources within a State or locally designated scenic highway.

Historic Resources

As previously identified, the eight previously recorded resources and fifteen newly identified resources located within the Project Area have not been evaluated for significance. If these resources are determined to be eligible per the eligibility criteria for inclusion in the California Register of Historical Resources and avoidance is not feasible, mitigation would be required that could consist of either avoidance by preserving them in dedicated open space, by requiring archaeological monitoring, or by carrying out data recovery efforts prior to Project approval, implementation, or construction. As none of the cultural resources identified within the Project Site are visible from public vantage points, there would be no visual impact to historic resources.

Visual Resource Policies

Scenic features, vistas, or landforms identified by the County of Imperial would not be significantly affected by construction and implementation of the Project. While portions of the Chocolate Mountains in the background would be obstructed by the PV arrays at Key View 2, current views of the mountains are already masked by atmospheric conditions (e.g., haze) in the existing condition. Further, the arrangement of the PV modules in arrays spaced between 15 and 25 feet apart would result in the establishment of view corridors of the mountains from the public right-of-way. The Proposed Project would not conflict with specific policies identified in the Circulation and Scenic Highways Element or Open Space and Conservation Element of the County's General Plan. No impacts associated with incompatibility with visual resource policies would occur under the Proposed Project.

Summary of Impacts

During the construction phase, the presence of construction equipment and materials would not have a permanent, long-term impact on the visual environment. Upon completion of the Project, areas that were cleared for construction staging would be converted to a new energy generating and storage facilities or returned to their existing condition.

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No substantial obstruction of existing scenic resources would occur with Project implementation. Existing views of the Chocolate Mountains are already affected by haze and distance. Solar PV arrays would be spaced approximately 15 to 25 feet apart allowing for views of the Chocolate Mountains within those spaces.

Minimal lighting would be required for operations and would be limited to safety and security functions and would adhere to County lighting requirements. The Project is not anticipated to create a new source of substantial light which would adversely affect nighttime views in the Project Area. Shade and shadow effects would not be a significant impact to adjacent properties due to the height of the proposed apparatus and security fencing.

Potential impacts to California Register of Historical Resources-eligible historic resources would need to be avoided by preserving them in dedicated open space, by requiring archaeological monitoring, or by carrying out data recovery efforts prior to Project approval, implementation, or construction.

The Project would be consistent with the County General Plan. No impacts associated with incompatibility with visual resource policies would occur under the Proposed Project.

Sincerely,

Senior Environmental Planner
ECORP Consulting, Inc.

Attachments

Attachment A: Figures
Attachment B: Conceptual Plans

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REFERENCES

County of Imperial. 2008. *County of Imperial General Plan Circulation and Scenic Highways Element*. January

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LIST OF ATTACHMENTS

Attachment A – Figures

Attachment B – Conceptual Plans

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Figures

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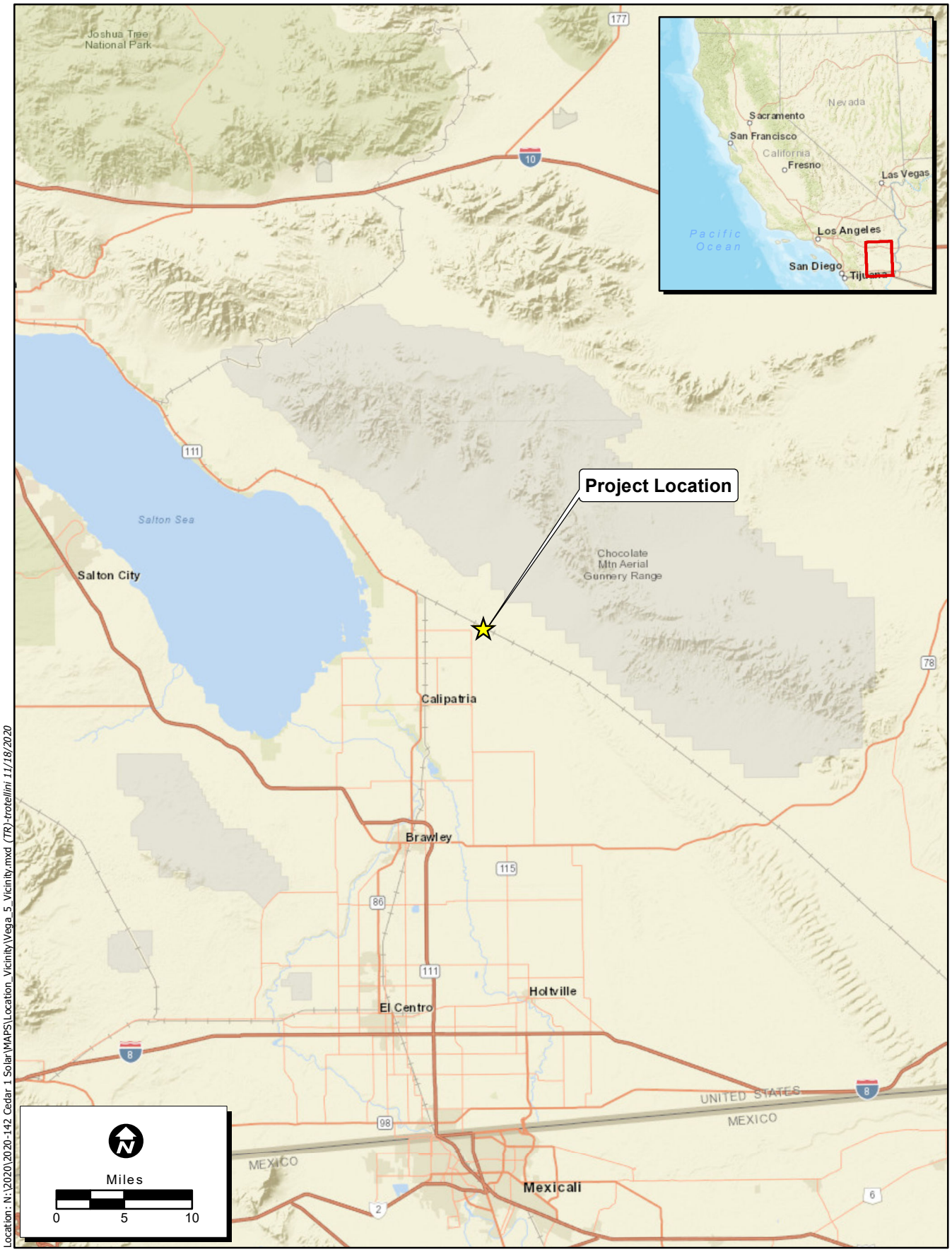

Location: N:\2020\2020-142 Cedar 1 Solar\MAPS\Location_Vicinity\Vega_5_Vicinity.mxd (TR) trotellini 11/18/2020

Map Date: 11/18/2020

Sources:

Figure 1. Project Vicinity

2020-144 Vega SES 5

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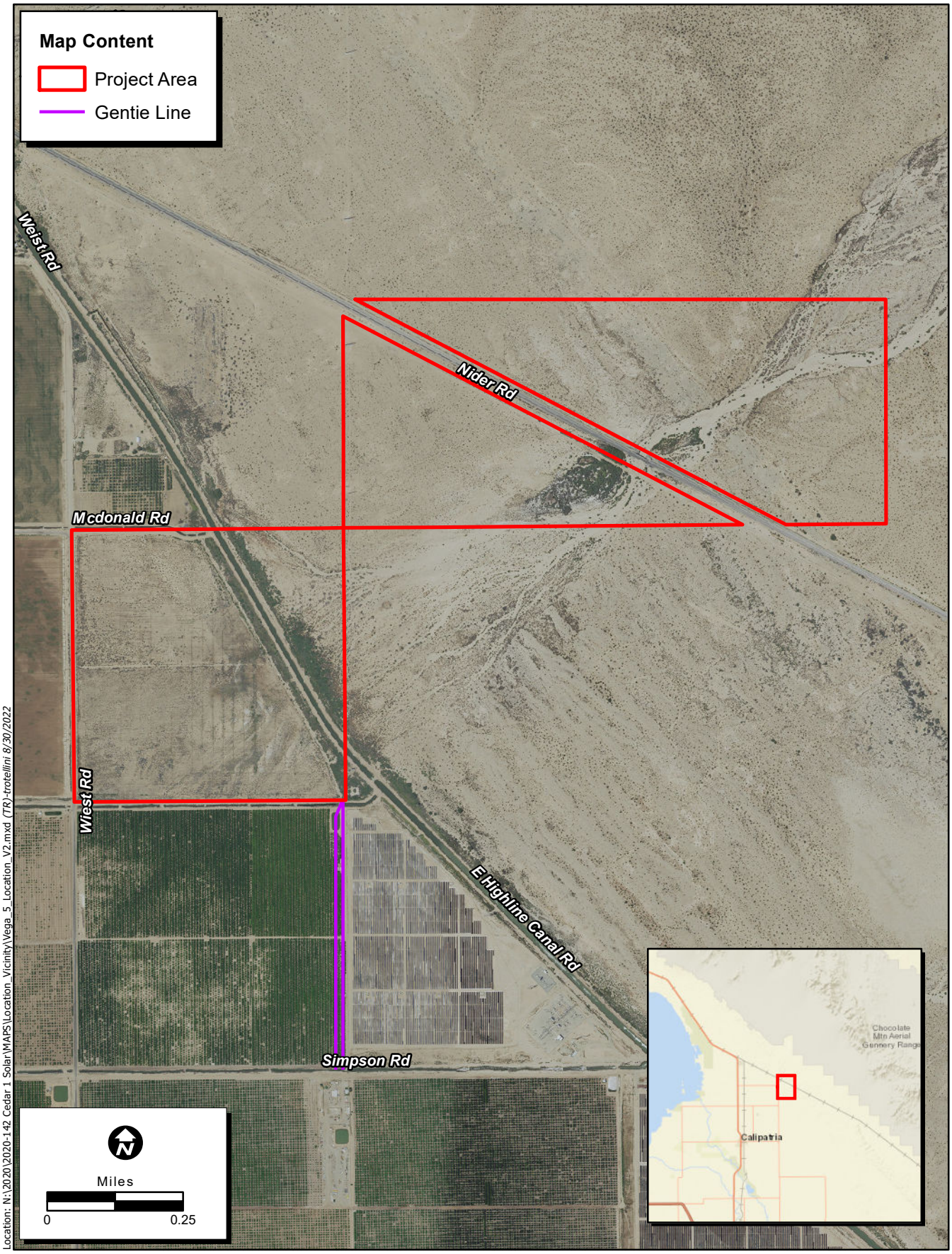

Location: N:\2020\2020-142 Cedar 1 Solar\MAPS\Location_Vicinity\Vega_5_Location_V2.mxd (TR)-trotellini 8/30/2022

Map Date: 8/30/2022

*Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community*Photo Source: NAIP

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Figure 2. Project Location

2020-144 Cedar 2 SES, LLC

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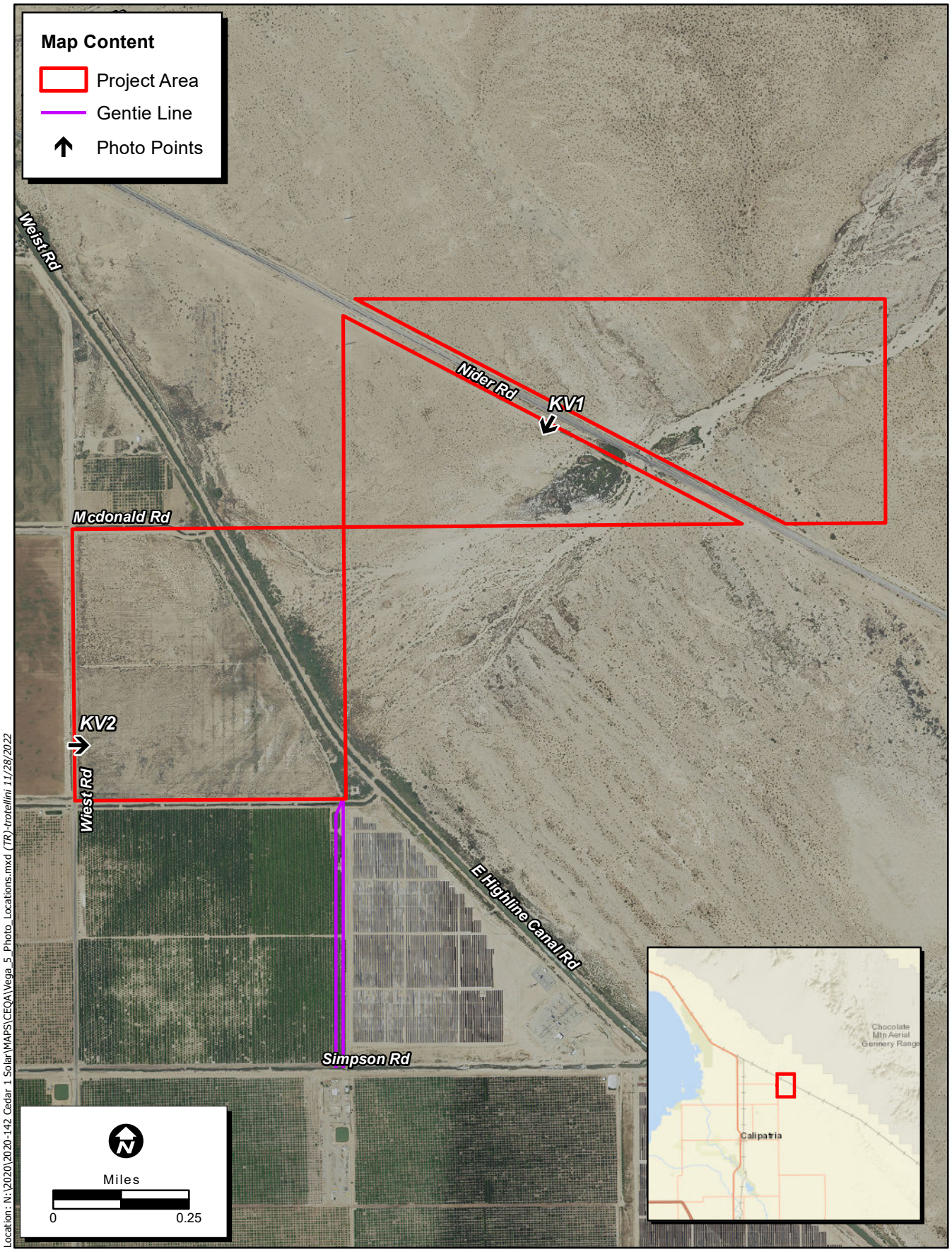

Map Date: 11/28/2022

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Figure 3. Photo Locations

2020-144 Vega SES 5

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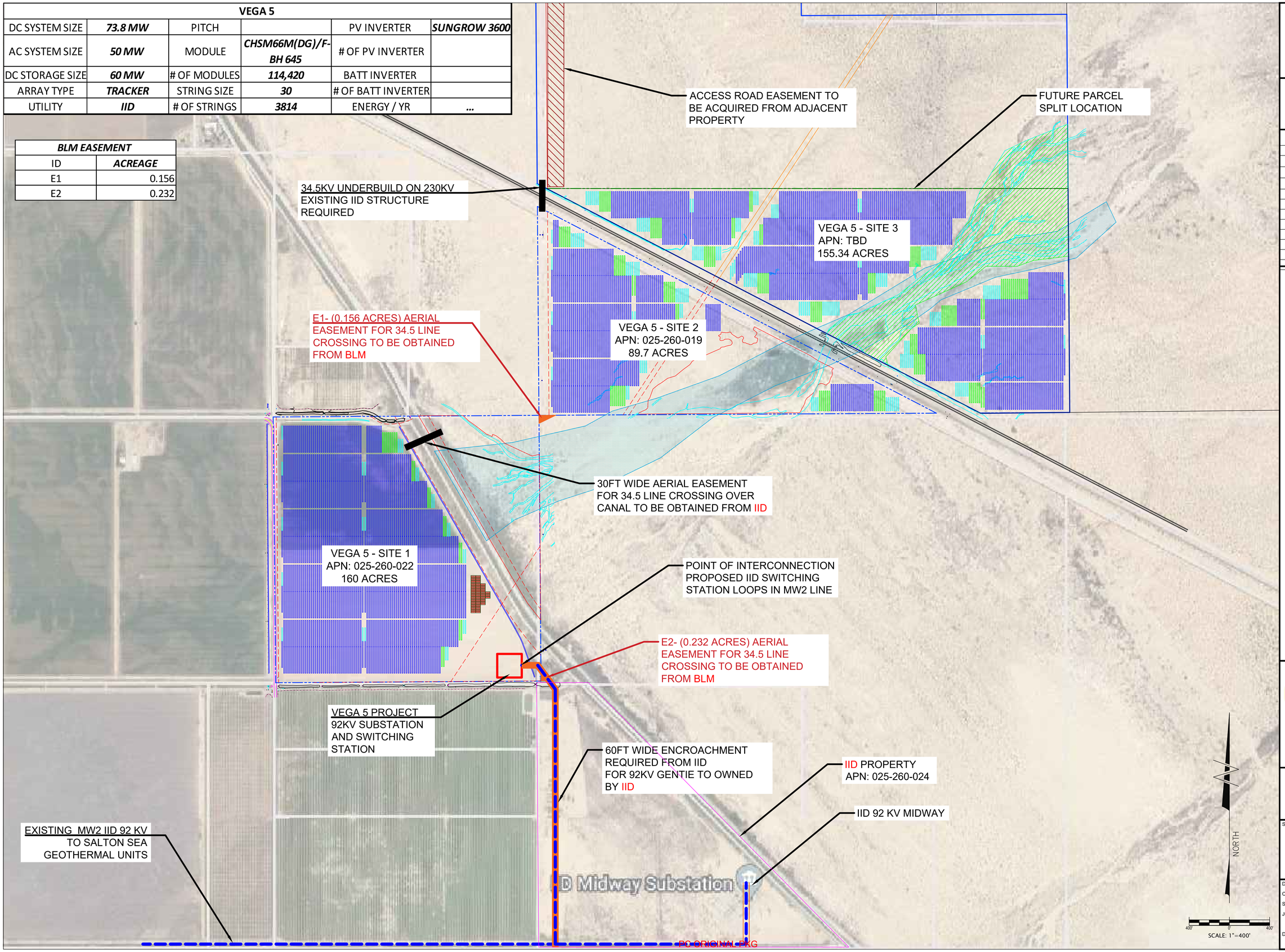
VEGA 5					
DC SYSTEM SIZE	***73.8 MW***	PITCH		PV INVERTER	***SUNGROW 3600***
AC SYSTEM SIZE	***50 MW***	MODULE	***CHSM66M(DG)/F-BH 645***	# OF PV INVERTER	
DC STORAGE SIZE	***60 MW***	# OF MODULES	***114,420***	BATT INVERTER	
ARRAY TYPE	***TRACKER***	STRING SIZE	***30***	# OF BATT INVERTER	
UTILITY	***IID***	# OF STRINGS	***3814***	ENERGY / YR	...

BLM EASEMENT	
ID	***ACREAGE***
E1	0.156
E2	0.232



VEGA SES 5

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REV.	BY	DESCRIPTION	DATE	APPR'D BY
0	RO	PRELIMINARY	2/12/21	HP
1	HP	ADJUSTED FOR CEDAR 2	09/1/21	HP
2	HP	REVISED CONSTRAINTS	02/08/22	HP
3	HP	EASEMENT PLAN	10/12/22	HP

1 inch

Scale to Confirm 24"x36" Plot

PLOT: 10/26/2022 9:37 AM

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SHEET TITLE:

SITE PLAN

DRAWN BY:	RO	DRAWING No.
CHECKED:	HP	C-000
SCALE:	AS NOTED	
JOB NO:		
DATE:	1	REV No. 1

Air Quality and Greenhouse Gas Assessment

Vega SES Complex Solar Energy Storage Project

County of Imperial, California

Prepared For:

Apex Energy Solutions, LLC
604 Sutter Street,
Folsom, CA 95630

December 2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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LIST OF ATTACHMENTS

Attachment A – CalEEMod Output Files Criteria Air Pollutants & Greenhouse Gas Emissions

Attachment B – Renewable Energy Emission Displacement

LIST OF ACRONYMS AND ABBREVIATIONS

°F	Degrees Fahrenheit
µg/m3	Micrograms per cubic meter; ppm = parts per million
1992 CO Plan	1992 Federal Attainment Plan for Carbon Monoxide
AB	Assembly Bill
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CH_4	Methane
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
County	Imperial County
CUP	Conditional Use Permit
DPM	Diesel particulate matter
EO	Executive Order

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LIST OF ACRONYMS AND ABBREVIATIONS

GHG	Greenhouse gas
GWP	Global warming potential
HSAT	Horizontal Single-Axis Tracker
ICAPCD	Imperial County Air Pollution Control District
IPCC	Intergovernmental Panel on Climate Change
MDAQMD	Mojave Desert Air Quality Management District
MWs	Megawatts
MWAC	Megawatt Alternating Current
N_2O	Nitrous oxide
NAAQS	National Ambient Air Quality Standards
NO_2	Nitrogen dioxide
NO_x	Nitric oxides
O_3	Ozone
PM	Particulate matter
PM_{10}	Coarse particulate matter
$PM_{2.5}$	Fine particulate matter
ppb	Parts per billion
Project	Vega SES Complex Solar Energy Storage Project
PV	Photovoltaic
ROGs	Reactive organic gases
SB	Senate Bill
SCAQMD	South Coast Air Quality Management
SIP	State Implementation Plan
SO_2	Sulfur dioxide
SO_x	Sulfur oxides
SR	State Route
SRA	Source receptor area
SSAB	Salton Sea Air Basin
TACs	Toxic air contaminants
USEPA	U.S. Environmental Protection Agency

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1.0 INTRODUCTION

This report documents the results of an assessment of both air quality and greenhouse gas (GHG) emissions completed for the Vega SES Complex Solar Energy Storage Project (Project), which includes the construction and operation of an expansive photovoltaic (PV) solar energy facility and associated infrastructure on approximately 1,963 acres of privately-owned land in the County of Imperial, California. This assessment was prepared using methodologies and assumptions recommended in the rules and regulations promulgated by the Imperial County Air Pollution Control District (ICAPCD). Regional and local existing conditions are presented, along with pertinent emissions standards and regulations.

1.1 Project Overview

The Project proposes to construct a cluster of alternating current solar PV energy generation systems totaling 350 Megawatts (MWs) with accompanying battery storage. The Project consists of three individual site locations which make up the Vega SES Complex. Vega 2 is located on three non-contiguous parcels totaling 1,323 acres, Vega 3 is located on a 640-acre parcel but only compromising 230 acres, and Vague 5 is located on three parcels totaling 410 acres. It is proposed that Vega 2 and 3 will be constructed together beginning in early 2023 with Vega 5 being constructed in 2024.

All systems would be utilizing either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The individual PV systems would be arranged in large arrays by placing them in columns spaced approximately ten feet apart to maximize operational performance and to allow access for panel cleaning and maintenance.

1.2 Project Location

The total combined Project site area spans approximately 1,963 acres and is located 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The Site is transected by the Coachella and East Highline Canals and the Union Pacific Railway in northcentral Imperial County, California.

1.3 Project Site Access

The Project Area would be accessible from McDonald Road, a paved road off State Route 111. The Vega 5 Project Site is located at the eastern end of McDonald Road. As such, all vehicle travel to the Vega 5 Project Site would occur on paved roads. Access to the Vega 2 and 3 Project Site would require an additional 1.65 miles of travel on Wiest Road and Flowing Wells Road. Both of which are unpaved.

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1.4 Project Construction

Construction activities would involve demolition and grubbing, grading of the Project Site to establish access roads and pads for electrical equipment (inverters and step–up transformers), trenching for underground electrical collection lines, and the installation of solar equipment and security fencing. The construction of each Project component (Vega 2 & 3 and Vega 5) is estimated to take 12-18 months each and would begin in early 2023. A temporary, portable construction supply container would be located at the Project Site at the beginning of construction and removed at the end of construction. The number of on–site construction workers for Vega 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the Vega 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on–site construction workers for the Vega 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the Vega 5 battery storage facility and substation is not expected to exceed 50 workers at any one time. Onsite parking would be provided for all construction workers.

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2.0 AIR QUALITY

2.1 Air Quality Setting

Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below, along with the current regulatory structure that applies to the Salton Sea Air Basin (SSAB), which encompasses the Project Site, pursuant to the regulatory authority of the ICAPCD.

Ambient air quality is commonly characterized by climate conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The air basin is subject to a combination of topographical and climatic factors that reduce the potential for high levels of regional and local air pollutants. The following section describes the pertinent characteristics of the air basin and provides an overview of the physical conditions affecting pollutant dispersion in the Project area.

2.1.1 Salton Sea Air Basin

The California Air Resources Board (CARB) divides the State into air basins that share similar meteorological and topographical features. Imperial County, which extends over 4,482 square miles in the southeastern corner of California, lies in the SSAB, which includes the Imperial Valley and the central part of Riverside County, including the Coachella Valley. The province is characterized by the large-scale sinking and warming of air within the semi-permanent subtropical high-pressure center over the Pacific Ocean. The elevation in Imperial County ranges from about 230 feet below sea level in the Salton Sea to more than 2,800 feet on the mountain summits to the east.

Temperature and Precipitation

The flat terrain near the Salton Sea, intense heat from the sun during the day, and strong radiational cooling at night create deep convective thermals during the daytime and equally strong surface-based temperature inversions at night. The temperature inversions and light nighttime winds trap any local air pollution emissions near the ground. The area is subject to frequent hazy conditions at sunrise, followed by rapid daytime dissipation as winds pick up and the temperature warms. The lack of clouds and atmospheric moisture creates strong diurnal and seasonal temperature variations ranging from an average summer maximum of 108 degrees Fahrenheit (° F) down to a winter morning minimum of 38° F. The most pleasant weather occurs from about mid-October to early May when daily highs are in the 70s and 80s with very infrequent cloudiness or rainfall. Imperial County experiences rainfall on an average of only four times per year (>0.10 inches in 24 hours). The local area usually has three days of rain in winter and one thunderstorm day in August. The annual rainfall in this region is less than three inches per year (ICAPCD 2010).

Wind

Winds in the area are driven by a complex pattern of local, regional and global forces, but primarily reflect the temperature difference between the cool ocean to the west and the heated interior of the entire desert southwest. For much of the year, winds flow predominantly from the west to the east. In summer,

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intense solar heating in the Imperial Valley creates a more localized wind pattern, as air comes up from the southeast via the Gulf of California. During periods of strong solar heating and intense convection, turbulent motion creates good mixing and low levels of air pollution. However, even strong turbulent mixing is insufficient to overcome the limited air pollution controls on sources in the Mexicali, Mexico area. Imperial County is predominately agricultural land. This is a factor in the cumulative air quality of the SSAB. The agricultural production generates dust and small particulate matter through the use of agricultural equipment on unpaved roads, land preparation, and harvest practices. The Imperial County experiences unhealthful air quality from photochemical smog and from dust due to extensive surface disturbance and the very arid climate (ICAPCD 2010).

Inversion

The entire county is affected by inversion layers, where warm air overlays cooler air. Inversion layers trap pollutants close to the ground. In the winter, these pollutant-trapping, ground-based inversions are formed during windless, clear-sky conditions, as cold air collects in low-lying areas such as valleys and canyons. Imperial County experiences surface inversions almost every day of the year. Due to strong surface heating, these inversions are usually broken allowing pollutants to be more easily dispersed (ICAPCD 2010).

2.1.2 Criteria Air Pollutants

Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health with a determined margin of safety. Ozone (O_3), coarse particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2) are considered to be local pollutants because they tend to accumulate in the air locally. PM is also considered a local pollutant. Health effects commonly associated with criteria pollutants are summarized in Table 2-1.

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Table 2-1. Criteria Air Pollutants- Summary of Common Sources and Effects

Pollutant	Major Manmade Sources	Human Health & Welfare Effects
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO_2	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O_3	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (N_2O) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
PM_{10} & $PM_{2.5}$	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
SO_2	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, and locomotives.	Respiratory irritant. Aggravates lung and heart problems. Can damage crops and natural vegetation. Impairs visibility.

Source: California Air Pollution Control Officers Association (CAPCOA 2013)

Carbon Monoxide

CO in the urban environment is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High CO concentrations can cause headaches, aggravate cardiovascular disease and impair central nervous system functions. CO concentrations can vary greatly over comparatively short distances. Relatively high concentrations of CO are typically found near crowded intersections and along heavy roadways with slow moving traffic. Even under the most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within relatively short distances of the source. Overall CO emissions are decreasing as a result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973. CO levels in the SSAB are in compliance with the state and federal one- and eight-hour standards.

Nitrogen Oxides

Nitrogen gas comprises about 80 percent of the air and is naturally occurring. At high temperatures and under certain conditions, nitrogen can combine with oxygen to form several different gaseous compounds collectively called nitric oxides (NO_x). Motor vehicle emissions are the main source of NO_x in urban areas. NO_x is very toxic to animals and humans because of its ability to form nitric acid with water in the eyes, lungs, mucus membrane, and skin. In animals, long-term exposure to NO_x increases susceptibility to respiratory infections, and lowering resistance to such diseases as pneumonia and

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influenza. Laboratory studies show that susceptible humans, such as asthmatics, who are exposed to high concentrations can suffer from lung irritation or possible lung damage. Precursors of NO_x, such as NO and NO_2, attribute to the formation of O_3 and $PM_{2.5}$. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

Ozone

O_3 is a secondary pollutant, meaning it is not directly emitted. It is formed when volatile organic compounds (VOCs) or ROGs and NO_x undergo photochemical reactions that occur only in the presence of sunlight. The primary source of ROG emissions is unburned hydrocarbons in motor vehicle and other internal combustion engine exhaust. NO_x forms as a result of the combustion process, most notably due to the operation of motor vehicles. Sunlight and hot weather cause ground-level O_3 to form. Ground-level O_3 is the primary constituent of smog. Because O_3 formation occurs over extended periods of time, both O_3 and its precursors are transported by wind and high O_3 concentrations can occur in areas well away from sources of its constituent pollutants.

People with lung disease, children, older adults, and people who are active can be affected when O_3 levels exceed ambient air quality standards. Numerous scientific studies have linked ground-level O_3 exposure to a variety of problems including lung irritation, difficult breathing, permanent lung damage to those with repeated exposure, and respiratory illnesses.

Particulate Matter

PM includes both aerosols and solid particulates of a wide range of sizes and composition. Of concern are those particles smaller than or equal to 10 microns in diameter size (PM_{10}) and small than or equal to 2.5 microns in diameter ($PM_{2.5}$). Smaller particulates are of greater concern because they can penetrate deeper into the lungs than larger particles. PM_{10} is generally emitted directly as a result of mechanical processes that crush or grind larger particles or form the resuspension of dust, typically through construction activities and vehicular travel. PM_{10} generally settles out of the atmosphere rapidly and is not readily transported over large distances. $PM_{2.5}$ is directly emitted in combustion exhaust and is formed in atmospheric reactions between various gaseous pollutants, including NO_x, sulfur oxides (SO_x) and VOCs. $PM_{2.5}$ can remain suspended in the atmosphere for days and/or weeks and can be transported long distances.

The principal health effects of airborne PM are on the respiratory system. Short-term exposure of high $PM_{2.5}$ and PM_{10} levels are associated with premature mortality and increased hospital admissions and emergency room visits. Long-term exposure is associated with premature mortality and chronic respiratory disease. According to the U.S. Environmental Protection Agency (USEPA), some people are much more sensitive than others to breathing PM_{10} and $PM_{2.5}$. People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worse illnesses; people with bronchitis can expect aggravated symptoms; and children may experience decline in lung function due to breathing in PM_{10} and $PM_{2.5}$. Other groups considered sensitive include smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths.

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2.1.3 Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Additionally, diesel engines emit a complex mixture of air pollutants composed of gaseous and solid material. The solid emissions in diesel exhaust are known as diesel particulate matter (DPM). In 1998, California identified DPM as a TAC based on its potential to cause cancer, premature death, and other health problems (e.g., asthma attacks and other respiratory symptoms). Those most vulnerable are children (whose lungs are still developing) and the elderly (who may have other serious health problems). Overall, diesel engine emissions are responsible for the majority of California's known cancer risk from outdoor air pollutants. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

Diesel Exhaust

Most recently, CARB identified DPM as a TAC. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine (USEPA 2002). Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs; due to their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

Total Organic Gases

Total organic gases (TOG) emissions are compounds of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. Specifically, TOG emissions include all organic gas compounds emitted to the atmosphere, including the low reactivity compounds (methane, ethane, various chlorinated fluorocarbons, acetone, perchloroethylene, volatile methyl siloxanes, etc.). TOG emissions also include low volatility or "low vapor pressure" organic compounds (e.g., some

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petroleum distillate mixtures). TOG includes all organic compounds that can become airborne (through evaporation, sublimation, as aerosols, etc.), excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.

Various subsets of TOG cause headaches, dizziness, upper respiratory tract irritation, nausea, and cancer. Vehicular traffic traveling on area roadways, such as SR 98, are sources of TOG.

2.1.4 Asbestos

The term "asbestos" describes naturally occurring fibrous minerals found in certain types of rock formations. It is a mineral compound of silicon, oxygen, hydrogen, and various metal cations. When mined and processed, asbestos is typically separated into very thin fibers. When these fibers are present in the air, they are normally invisible to the naked eye. Once airborne, asbestos fibers can cause serious health problems. If inhaled, asbestos fibers can impair normal lung functions, and increase the risk of developing lung cancer, mesothelioma, or asbestosis.

Naturally-occurring asbestos, which was identified as a TAC in 1986 by CARB, is located in many parts of California and is commonly associated with ultramafic rock. The Project Site is not located in an area of known or suspected naturally-occurring asbestos (DOC 2000).

2.1.5 Ambient Air Quality

Ambient air quality at the Project Site can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. CARB maintains more than 60 monitoring stations throughout California. O_3, PM_{10} and $PM_{2.5}$ are the pollutant species most potently affecting the Project region. As described in detail below, the Project region is designated as a nonattainment area for the federal O_3, $PM_{2.5}$ and PM_{10} standards and is also a nonattainment area for the state standards for O_3 and PM_{10} (CARB 2019). The Niland-English Road air quality monitoring station (7711 English Road, Niland), located approximately 7.27 miles west of the Project Site, monitors ambient concentrations of O_3 and PM_{10}. The Brawley-Main Street #2 air quality monitoring station (220 Main Street, Brawley), located 17.8 miles southwest of the Project Site, monitors ambient concentrations of $PM_{2.5}$. Ambient emission concentrations will vary due to localized variations in emission sources and climate and should be considered "generally" representative of ambient concentrations in the Project area.

Table 2-2 summarizes the published data concerning O_3, $PM_{2.5}$ and PM_{10} from the Niland-English Road and Brawley-Main Street #2 monitoring stations for each year that the monitoring data is provided. O_3, PM_{10} and $PM_{2.5}$ are the pollutant species most potently affecting the Project region.

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Table 2-2. Summary of Ambient Air Quality Data

Pollutant Standards	2019	2020	2021
O_3- Niland-English Road			
Max 1-hour concentration (ppm)	0.060	0.054	0.065
Max 8-hour concentration (ppm) (state/federal)	0.055 / 0.054	0.046 / 0.045	0.055 / 0.055
Number of days above 1-hour standard (state/federal)	0 / 0	0 / 0	0 / 0
Number of days above 8-hour standard (state/federal)	0 / 0	0 / 0	0 / 0
PM_{10}- Niland-English Road			
Max 24-hour concentration (µg/m^3) (state/federal)	156.3 / 155.7	241.3 / 239.8	218.2 / 211.2
Number of days above 24-hour standard (state/federal)	49.3 / 1.0	68.9 / 1.0	86.0 / 4.0
$PM_{2.5}$- Brawley-Main Street			
Max 24-hour concentration (µg/m^3) (state/federal)	28.9 / 28.9	23.7 / 23.7	24.4 / 24.4
Number of days above federal 24-hour standard	0	0	*

Source: CARB 2022
µg/m^3 = micrograms per cubic meter; ppm = parts per million
* = Insufficient data available

The USEPA and CARB designate air basins or portions of air basins and counties as being in "attainment" or "nonattainment" for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. The National Ambient Air Quality Standards (NAAQS) (other than O_3, PM_{10} and $PM_{2.5}$ and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The NAAQS for O_3, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards (CAAQS) are not to be exceeded during a three-year period. The attainment status for the portion of the SSAB encompassing the Project Site is included in Table 2-3.

Table 2-3. Attainment Status of Criteria Pollutants in the Imperial County Portion of the SSAB

Pollutant	State Designation	Federal Designation
O_3	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Nonattainment
$PM_{2.5}$	Attainment	Nonattainment
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	Unclassified/Attainment

Source: CARB 2019

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The determination of whether an area meets the state and federal standards is based on air quality monitoring data. Some areas are unclassified, which means there is insufficient monitoring data for determining attainment or nonattainment. Unclassified areas are typically treated as being in attainment. Because the attainment/nonattainment designation is pollutant-specific, an area may be classified as nonattainment for one pollutant and attainment for another. Similarly, because the state and federal standards differ, an area could be classified as attainment for the federal standards of a pollutant and as nonattainment for the state standards of the same pollutant. The region is designated as a nonattainment area for the federal O_3, $PM_{2.5}$ and PM_{10} standards and is also a nonattainment area for the state standards for O_3 and PM_{10} (CARB 2019).

2.1.6 Sensitive Receptors

Sensitive receptors are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest existing noise-sensitive land use to the Project Site is a single-family residence located 523 feet from the southwestern corner of the Vega 5 Project boundary.

2.2 Regulatory Framework

2.2.1 Federal

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the USEPA to establish the NAAQS, with states retaining the option to adopt more stringent standards or to include other specific pollutants. On April 2, 2007, the Supreme Court found that carbon dioxide (CO_2) is an air pollutant covered by the CAA; however, no NAAQS have been established for CO_2.

These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those "sensitive receptors" most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. Table 2-3 lists the federal attainment status of the SSAB for the criteria pollutants.

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2.2.2 State

California Clean Air Act

The California Clean Air Act (CCAA) allows the state to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

California State Implementation Plan

The CCAA (and its subsequent amendments) requires the state to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register.

Local air districts, such as the ICAPCD, prepare air quality attainment plans or air quality management plans and submit them to CARB for review, approval, and incorporation into the applicable SIP. The air districts develop the strategies stated in the SIPs for achieving air quality standards on a regional basis.

For 8-Hour O_3, the ICAPCD adopted the 2017 8-hour Ozone State Implementation Plan in October 2018. The plan includes control measures which are an integral part of how the ICAPCD currently controls the ROG and NO_X emissions within the O_3 nonattainment areas. The overall strategy includes programs and control measures which represent the implementation of Reasonable Available Control Technology (40 CFR 51.912) and the assurance that stationary sources maintain a net decrease in emissions.

For PM_{10}, the ICAPCD adopted the PM_{10} State Implementation Plan in 2018, which maintained previously adopted fugitive dust control measures (Regulation VIII). The USEPA had previously approved Regulation VIII fugitive dust rules into the Imperial County portion of the California SIP in 2013.

For $PM_{2.5}$, the ICAPCD adopted the $PM_{2.5}$ SIP in April 2018. This SIP concluded that the majority of the $PM_{2.5}$ emissions resulted from transport in nearby Mexico. Specifically, the SIP demonstrates attainment of the 2006 $PM_{2.5}$ NAAQS "but for" transport of international emissions from Mexicali, Mexico. In accordance

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with the CCAA, the $PM_{2.5}$ SIP satisfies the attainment demonstration requirement satisfying the provisions of the CCAA.

The ICAPCD is working cooperatively with counterparts from Mexico to implement emissions reductions strategies and projects for air quality improvements at the border. The two countries strive to achieve these goals through local input from states, County governments, and citizens. Within the Mexicali and Imperial Valley area, the Air Quality Task Force (AQTF) has been organized to address those issues unique to the border region known as the Mexicali/Imperial air shed. The AQTF membership includes representatives from Federal, State, and local governments from both sides of the border, as well as representatives from academia, environmental organizations, and the general public. This group was created to promote regional efforts to improve the air quality monitoring network, emissions inventories, and air pollution transport modeling development, as well as the creation of programs and strategies to improve air quality.

Tanner Air Toxics Act & Air Toxics "Hot Spots" Information and Assessment Act

CARB's Statewide comprehensive air toxics program was established in 1983 with Assembly Bill (AB) 1807, the Toxic Air Contaminant Identification and Control Act (Tanner Air Toxics Act of 1983). AB 1807 created California's program to reduce exposure to air toxics and sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an airborne toxics control measure (ATCM) for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions.

CARB also administers the state's mobile source emissions control program and oversees air quality programs established by state statute, such as AB 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment (HRA) and, if specific thresholds are exceeded, required to communicate the results to the public in the form of notices and public meetings. In September 1992, the "Hot Spots" Act was amended by Senate Bill (SB) 1731, which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

2.2.3 Local

Imperial County Air Pollution Control District

The ICAPCD is the local air quality agency and shares responsibility with CARB for ensuring that state and federal ambient air quality standards are achieved and maintained in the SSAB. Furthermore, ICAPCD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs and regulates agricultural burning. Other ICAPCD responsibilities include monitoring ambient air quality, preparing clean air plans, planning activities such as modeling and maintenance of the emission inventory, and responding to citizen air quality complaints.

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To achieve and maintain ambient air quality standards, the ICAPCD has adopted various rules and regulations for the control of airborne pollutants. The ICAPCD Rules and Regulations that are applicable to the proposed project include, but are not limited to, ICAPCD Rule 801 requirements for construction activities. The purpose of this rule is to reduce the amount of PM_{10} entrained in the ambient air as a result of emissions generated from construction and other earthmoving activities by requiring actions to prevent, reduce, or mitigate PM_{10} emissions. In addition, the project is required to adopt best available control measures to minimize emissions from surface-disturbing activities to comply with ICAPCD Regulation VIII (Fugitive Dust Rules). These measures include the following (ICAPCD 2017):

- All disturbed areas, including bulk material storage which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material such as vegetative ground cover.
- All on-site and off-site unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- All unpaved traffic areas of 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at the delivery site after removal of bulk material.
- All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.
- Bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.
- The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

In addition, there are other ICAPCD rules and regulations, not detailed here, which may apply to the proposed Project but are administrative or descriptive in nature. These include rules associated with fees, enforcement and penalty actions, and variance procedures.

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2.3 Air Quality Emissions Impact Assessment

2.3.1 Thresholds of Significance

The impact analysis provided below is based on the following California Environmental Quality Act (CEQA) Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to air quality if it would do any of the following:

1) Conflict with or obstruct implementation of any applicable air quality plan.

2) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

3) Expose sensitive receptors to substantial pollutant concentrations.

4) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people).

ICAPCD Thresholds

The significance criteria established by the applicable air quality management or air pollution control district (ICAPCD) may be relied upon to make the above determinations. The ICAPCD has identified significance thresholds for use in evaluating project impacts under CEQA. Accordingly, the ICAPCD-recommended thresholds of significance are used to determine whether implementation of the proposed Project would result in a significant air quality impact. Significance thresholds for evaluation construction and operational air quality impacts are listed in Table 2-4.

Table 2-4. ICAPCD Significance Thresholds – Pounds per Day

Criteria Pollutant and Precursors	Construction Activities	Operations	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	
		Tier I Threshold	Tier II Threshold
ROG	75	<137	>137
NO_x	100	<137	>137
PM_{10}	150	<150	>150
$PM_{2.5}$	N/A	<550	>550
CO	550	<550	>550
SO_2	N/A	<150	>150

Source: ICAPCD 2017

Projects that are predicted to exceed Tier I thresholds require implementation of applicable ICAPCD standard mitigation measures to be considered less than significant. Projects exceeding Tier II thresholds are required to implement applicable ICAPCD standard mitigation measures, as well as applicable

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discretionary mitigation measures. Projects that exceed the Tier II thresholds after implementation of standard and discretionary mitigation measures would be considered to have a potentially significant impact to human health and welfare.

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

2.3.2 Methodology

Air quality impacts were assessed in accordance with methodologies recommended by the ICAPCD. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were calculated using CalEEMod model defaults for Imperial County coupled with information provided by the Project applicant. For instance, construction is estimated to take 12-18 months. According to the Traffic Impact Study prepared for the Project (KOA 2021a & 2021b), the number of on–site construction workers for Vega 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the Vega 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on–site construction workers for the Vega 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the Vega 5 battery storage facility and substation is not expected to exceed 50 workers at any one time.

Construction workers would access the Project Area from McDonald Road, a paved road off State Route 111. The Vega 5 Project Site is located at the eastern end of McDonald Road. As such, vehicle travel to the Vega 5 Project Site would not occur on any unpaved roads. Access to the Vega 2 and 3 Project Site would require an additional 1.65 miles of travel on Wiest Road and Flowing Wells Road. Both of which are unpaved.

Operational air pollutant emissions account for a conservative estimate of two worker trips per day. Such visits include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules if needed to maintain power generation efficiency.

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2.3.3 Impact Analysis

Project Construction-Generated Criteria Air Quality Emissions

Emissions associated with Project construction would be temporary and short-term but have the potential to represent a significant air quality impact. Two basic sources of short-term emissions will be generated through Project construction: operation of the heavy-duty equipment (i.e., excavators, loaders, haul trucks) and the creation of fugitive dust during clearing and grading. Construction activities such as excavation and grading operations, construction vehicle traffic, and wind blowing over exposed soils would generate exhaust emissions and fugitive PM emissions that affect local air quality at various times during construction. Effects would be variable depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust control efforts. The dry climate of the area during the summer months creates a high potential for dust generation. Construction activities would be subject to ICAPCD Regulation VIII which, as previously described, requires taking reasonable precautions to reduce the amount of PM_{10} entrained in the ambient air as a result of emissions generated from construction and other earthmoving activities by requiring actions to prevent, reduce, or mitigate PM_{10} emissions. In addition, the Project is required to adopt best available control measures to minimize emissions from surface-disturbing activities to comply with ICAPCD Regulation VIII (Fugitive Dust Rules).

Emissions associated with Project off-road equipment, worker commute trips, and ground disturbance were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. See Attachment A for more information regarding the construction assumptions, including types of construction equipment used and Project duration used in this analysis.

Predicted maximum daily emissions attributable to Project construction are summarized in Table 2-5. Such emissions are short-term and of temporary duration, lasting only as long as Project construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the ICAPCD thresholds of significance.

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Table 2-5. Unmitigated Project Construction-Generated Emissions

Construction Year	Pollutant (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction of Vega 2 and 3 (2023)	5.46	35.12	50.94	0.08	1,210.25	122.54
Construction of Vega 5 (2024)	3.96	32.64	41.48	0.07	11.51	5.14
ICAPCD Significance Threshold	*75*	*100*	*550*	*N/A*	*150*	*N/A*
Exceed ICAPCD Threshold?	**No**	**Yes**	**No**	**No**	**Yes**	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.
Notes: Pounds per day taken from the season (summer or winter) with the highest output.

As shown in Table 2-5, emissions of PM_{10} would exceed the ICAPCD significance threshold on the peak day(s) of construction for Vega 2 and 3. The predominant source of Project PM_{10} emissions is workers commuting to and from the Project Site on unpaved roads. Commute vehicles traveling over the exposed soils of unpaved roads generates substantial amounts of fugitive PM_{10} emissions. The access route on McDonald Road leading to the Vega 2 and 3 Project Site are paved; however, there are approximately 1.65 miles of unpaved roadway that would be used by commuting workers and vendors, specifically Wiest Road and Flowing Wells Road. It is noted that the access route leading to Vega 5 has no unpaved roads. Therefore, mitigation measure AQ-1 is required in order to reduce PM_{10} emissions to levels below the significance threshold. Mitigation measure AQ-1 would require the use of soil stabilizers on the 1.65 miles of unpaved roadway used for construction worker access to the Project Site. Construction activities associated with Vega 5 would not exceed ICAPCD significance threshold for PM_{10} emissions; however, mitigation measure AQ-1 is still imposed on Vega 5 construction to reduce the nuisance caused by fugitive dust.

The following mitigation is recommended:

AQ-1: Project Construction Dust Suppression

During construction activities the construction contractor shall employ the following PM_{10} reducing measures:

1. All unpaved roads associated with construction shall be effectively stabilized of dust emissions using Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant before the commencement of construction, and every 30 days thereafter until the end of all construction activities. Unpaved roads associated with construction include:

    - The 1.65 miles of unpaved road on Weist Road and Flowing Wells Road to the Vega 2 and 3 Project Site. Monthly application of Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant shall be applied at a rate of 0.1 gallon/ square yard of chemical dust suppressant.

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2. Prior to any earthmoving activity, the applicant shall submit a construction dust control plan and obtain Imperial County Air Pollution Control District and Imperial County Planning and Development Services Department (ICPDS) approval.

3. Pursuant to the Imperial County Air Pollution Control District, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII – Fugitive Dust Control Measures. Whereas these Regulation VIII measures are mandatory and are not considered project environmental mitigation measures, the Imperial County Air Pollution Control District CEQA Handbook's required additional standard and enhanced mitigation measures listed below shall be implemented prior to and during construction. Imperial County Air Pollution Control District will verify implementation and compliance with these measures as part of the grading permit review/approval process.

   Imperial County Air Pollution Control District Standard Measures for Fugitive Dust (PM_{10}) Control

   - All disturbed areas, including bulk material storage, which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material, such as vegetative ground cover.
   - All on-site and offsite unpaved roads will be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
   - All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
   - The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material.
   - All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.
   - Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.
   - The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized, and visible emissions shall be

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limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants, and/or watering.

Imperial County Air Pollution Control District "Discretionary" Measures for Fugitive Dust (PM_{10}) Control

- Water exposed soil only in those areas where active grading and vehicle movement occurs with adequate frequency to control dust.
- Replace ground cover in disturbed areas as quickly as possible.
- Automatic sprinkler system installed on all soil piles.
- Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site.
- Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees.
- Implement a shuttle service to and from retail services and food establishments during lunch hours.

Standard Mitigation Measures for Construction Combustion Equipment

- Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum.
- Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

Enhanced Mitigation Measures for Construction Equipment

To help provide a greater degree of reduction of PM emissions from construction combustion equipment, Imperial County Air Pollution Control District recommends the following enhanced measures.

- Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways.
- Implement activity management (e.g., rescheduling activities to reduce short-term impacts).

Table 2-6 shows the results of construction emissions with implementation of mitigation measures AQ-1.

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Table 2-6. Mitigated Project Construction-Generated Emissions

Construction Year	Pollutant (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction of Vega 2 and 3 (2023)	5.46	35.12	50.94	0.08	115.51	13.52
Construction of Vega 5 (2024)	3.96	32.64	41.48	0.07	5.89	2.91
ICAPCD Significance Threshold	*75*	*100*	*550*	*N/A*	*150*	*N/A*
Exceed ICAPCD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.
Notes: Pounds per day taken from the season (summer or winter) with the highest output. PM reduction values associated with the implementation of soil stabilizers on unpaved roads monthly over the course of construction per email communication with Monica Soucier of the ICAPCD (2021).

As shown in Table 2-6, emissions generated during Project construction would not exceed the ICAPCD's thresholds of significance with implementation of mitigation measures AQ-1.

Operational Criteria Air Quality Emissions

Although limited, implementation of the Project would result in long-term operational emissions of criteria air pollutants such as PM_{10}, $PM_{2.5}$, CO, and SO_2 as well as O_3 precursors such as ROG and NO_X. Project-generated increases in emissions would be predominately associated with motor vehicle use for routine maintenance work and site security as well as panel upkeep and cleaning. Long-term operational emissions attributable to the Project are identified in Table 2-7 and compared to the operational significance thresholds promulgated by the ICAPCD.

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Table 2-7. Operational-Related Emissions (Regional Significance Analysis)- Solar and Battery Storage Facilities

Emission Source	Pollutant (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer						
Area	50.85	0.00	0.24	0.00	0.00	0.00
Energy	0.66	6.05	5.08	0.03	0.46	0.46
Mobile	0.01	0.01	0.10	0.00	3.54	0.35
Total:	**51.52**	**6.06**	**5.42**	**0.03**	**4.00**	**0.81**
ICAPCD Significance Threshold	*137*	*137*	*150*	*550*	*550*	*150*
Exceed ICAPCD Significance Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Winter						
Area	50.85	0.00	0.24	0.00	0.00	0.00
Energy	0.66	6.05	5.08	0.03	0.46	0.46
Mobile	0.00	0.01	0.08	0.00	3.54	0.35
Total:	**51.51**	**6.06**	**5.40**	**0.03**	**4.00**	**0.81**
ICAPCD Significance Threshold	*137*	*137*	*150*	*550*	*550*	*150*
Exceed ICAPCD Significance Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.
Notes: Operational emissions account for two vehicle trips per day. It is noted that this is a conservative estimate as many days will have no operational related vehicle trips. Additionally, it accounts for the energy usage used for the battery energy storage system and the pumping of 32-acre feet of water per year.

As shown in Table 2-7, the Project's emissions would not exceed any ICAPCD's thresholds for any criteria air pollutants during operation. Additionally, the purpose of the Project is the construction of a renewable energy and storage facility. Once in operation, it will decrease the need for energy from fossil fuel–based power plants in the state (see Table 2-8). Thus, once operational the Project would represent a beneficial impact to air quality.

Conflict with an Applicable Air Quality Management Plan

As previously described, the Project region is classified as nonattainment for federal ozone, O_3, $PM_{2.5}$ and PM_{10} standards (CARB 2019). The USEPA, under the provisions of the CAA, requires each state with regions that have not attained the federal air quality standards to prepare a SIP, detailing how these standards are to be met in each local area. The SIP is a legal agreement between each state and the federal government to commit resources to improving air quality. It serves as the template for conducting regional and project-level air quality analysis. CARB is the lead agency for developing the SIP in California. Local air districts, such as the ICAPCD, prepare air quality attainment plans or air quality management

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plans and submit them to CARB for review, approval, and incorporation into the applicable SIP. The air districts develop the strategies stated in the SIPs for achieving air quality standards on a regional basis.

The region's SIP is constituted of the ICAPCD air quality plans: 2018 PM_{10} SIP, the 2018 Annual $PM_{2.5}$ SIP, the 2017 8-Hour Ozone SIP, 2013 24-Hour $PM_{2.5}$ SIP, the 2009 1997 8-hour Ozone RACT SIP, the 2009 PM10 SIP and the 2008 Ozone Early Progress Plans. Project compliance with all of the ICAPCD rules and regulations results in conformance with the ICAPCD air quality plans. These air quality attainment plans are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls describing how the state will attain ambient air quality standards. These SIP plans and associated control measures are based on information derived from projected growth in Imperial County in order to project future emissions and then determine strategies and regulatory controls for the reduction of emissions. Growth projections are based on the general plans developed by Imperial County and the incorporated cities in the county.

As previously described, the Project proposes to construct a cluster of alternating current solar PV energy generation systems totaling 350 MWs with accompanying battery storage on approximately 1,963 acres of land. The Project would not result in population growth and would not cause an increase in currently established population projections. The Project does not include residential development or large local or regional employment centers, and thus would not result in significant population or employment growth.

Furthermore, the operation of the Project would create renewable energy over its planned lifetime and decrease the need for energy from fossil fuel–based power plants in the state, which is considered a beneficial impact to statewide air quality. The energy produced by the Project would displace the criteria pollutant emissions which would otherwise be produced by existing business-as-usual power generation resources (including natural gas and coal).

Table 2-8 shows the emissions that would potentially be displaced by the Proposed Project. Note that this estimate only includes that associated with the combustion of fossil fuels; it does not include the vehicle trips associated with the Project's operations, and it similarly does not include operational employee trips associated with natural gas or coal combustion nor the emissions associated with extracting and transporting those power sources. In addition, this estimate only includes the displacement of that portion of the California market that comes from fossil fuels and does not include the approximate 50 percent of the California electricity generated by non-combustion sources (wind, solar, nuclear, hydro-electric) (California Energy Commission [CEC] 2019a). Displacement of fossil fuel emissions has a direct beneficial effect on human health for those receptors downwind of the location of the fossil fuel power plants.

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Table 2-8. Proposed Project Displaced Criteria Pollutant Emissions (Tons)

Construction Year	Emissions (Tons)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Emissions Displaced Annually (tons)						
Displaced Natural Gas-Source Emissions	0	0.61	0.19	0.42	0.58	0.23
Displaced Coal-Source Emissions	0	4.31	0.18	0.20	0.03	0.02
Total	0	4.92	0.37	0.63	0.61	0.26
Emissions Displaced over 30 Years (tons)						
Displaced Natural Gas-Source Emissions	0	18.36	5.56	12.61	17.43	7.05
Displaced Coal-Source Emissions	0	129.38	5.39	6.15	0.91	0.65
Total	0	147.74	10.95	18.76	18.34	7.69

Source: Displaced emissions calculated by ECORP using USEPA's AP-42 Fifth Edition Compilation of Air Emissions Factors 1995; 2015.
Notes: In order to provide a conservative analysis, the proposed Project is assumed to generate electricity 50 percent of the time available (4,380 hours annually). Heat Rate indicates the energy generator efficiency of existing fossil-fuel based energy generators. The heat rate of a power plant measures the amount of fuel used to generate one unit of electricity. Power plants with lower heat rates are more efficient than plants with higher heat rates. The CEC's "Updated Thermal Power Plant Efficiency Measures and Operational Characteristics for Production Cost Modeling" (2019b) estimates heat rates and operating ranges for thermal power plants supplying energy to California. The average heat rate of power plants types are as follows:
**Steam Boiler fueled by coal: 10,800 heat rate **Steam Boiler fueled by natural gas: 10,200 heat rate **Gas Turbine: 10,100 heat rate **Combined natural gas Boiler and Turbine: 7,640 heat rate
By omitting steam boilers fueled by coal since so little of California's energy is derived from coal, the average heat rate = 9,313 [(10,100 + 10,200 + 7,640) ÷ 3 = 9,313]. 14.6 MW (63,875,000 annual kWH) x 9,313 heat rate = 594,867,875,000 Btu displaced from fossil fuel production. Fossil fuel-based energy consumption in California is predominately derived from natural gas (34.23 percent). Coal constitutes 2.96 percent of all fossil fuel-based energy. Therefore, 247,286,575,638 of the displaced Btu is displaced natural gas consumption and 17,251,168,375 is displaced Btu is displaced coal. The heat content of coal is assumed at 24 million Btu per ton of coal burned. At a rate of 24 million Btu per ton of coal burned, the Project would displace 719 tons of burned coal annually.

As shown, the Project would potentially displace just under 147.74 tons of NO_x, 10.95 tons of CO, 18.76 tons of SO_2, 18.34 tons of PM_{10}, and 7.69 tons of $PM_{2.5}$ over the course of 30 years. Furthermore, as demonstrated in Table 2-6 and Table 2-7, the Project would not exceed the applicable significance thresholds for construction or operational-source emissions.

Exposure of Sensitive Receptors to Toxic Air Contaminants

As previously described, sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over age 65, children under age 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest existing noise-sensitive land use to the Project Site is a single-family residence located 523 feet from the southwestern corner of the Vega 5 Project boundary.

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Construction-Generated Air Contaminants

Construction of the Project would result in temporary, short-term Project-generated emissions of diesel particulate matter (DPM), ROG, NOx, CO, and PM_{10} from the exhaust of off-road, heavy-duty diesel equipment for Project construction; soil hauling truck traffic; paving; and other miscellaneous activities. The portion of the SSAB which encompasses the Project area is designated as a nonattainment area for federal O_3, $PM_{2.5}$ and PM_{10} standards and is also a nonattainment area for the state standards for O_3 and PM_{10} (CARB 2019). Thus, existing O_3 and PM_{10} levels in the SSAB are at unhealthy levels during certain periods. However, as shown in Table 2-6, the Project would not exceed the ICAPCD significance thresholds for construction emissions.

The health effects associated with O_3 are generally associated with reduced lung function. Because the Project would not involve construction activities that would result in O_3 precursor emissions (ROG or NO_x) in excess of the ICAPCD thresholds, the Project is not anticipated to substantially contribute to regional O_3 concentrations and the associated health impacts.

CO tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. The Project would not involve activities that would result in CO emissions in excess of the ICAPCD thresholds. Thus, the Project's CO emissions would not contribute to the health effects associated with this pollutant.

Particulate matter (PM_{10} and $PM_{2.5}$) contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. For construction activity, DPM is the primary TAC of concern. PM_{10} exhaust is considered a surrogate for DPM as all diesel exhaust is considered to be DPM. As with O_3 and NOx, the Project would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed the ICAPCD's thresholds. Accordingly, the Project's PM_{10} and $PM_{2.5}$ emissions are not expected to cause any increase in related regional health effects for these pollutants.

In summary, Project construction would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants.

Operational Air Contaminants

Operation of the Proposed Project would not result in the development of any substantial sources of air toxins. There would be no stationary sources associated Project operations; nor would the Project attract additional mobile sources that spend long periods queuing and idling at the site. Onsite Project emissions would not result in significant concentrations of pollutants at nearby sensitive receptors as the predominant operational emissions associated with the Proposed Project would be routine maintenance

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work and site security as well as panel upkeep and cleaning. Therefore, the Project would not be a substantial source of TACs. The Project will not result in a high carcinogenic or non-carcinogenic risk during operation.

Naturally Occurring Asbestos

Another potential air quality issue associated with construction-related activities is the airborne entrainment of asbestos due to the disturbance of naturally-occurring asbestos-containing soils. The Proposed Project is not located within an area designated by the State of California as likely to contain naturally-occurring asbestos (Department of Conservation [DOC] 2000). As a result, construction-related activities would not be anticipated to result in increased exposure of sensitive land uses to asbestos.

Carbon Monoxide Hot Spots

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours. It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. However, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards have become increasingly more stringent in the last 20 years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SSAB is designated as in attainment. Detailed modeling of Project-specific CO "hot spots" is not necessary and thus this potential impact is addressed qualitatively.

A CO "hot spot" would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur. The analysis prepared for CO attainment in the South Coast Air Quality Management District's (SCAQMD's) *1992 Federal Attainment Plan for Carbon Monoxide* in Los Angeles County and a Modeling and Attainment Demonstration prepared by the SCAQMD as part of the 2003 Air Quality Management Plan can be used to demonstrate the potential for CO exceedances of these standards. The SCAQMD is the air pollution control officer for much of southern California. The SCAQMD conducted a CO hot spot analysis as part of the 1992 CO Federal Attainment Plan at four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The intersections evaluated included Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. Despite this level of traffic, the CO analysis concluded that there was no violation of CO standards

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(SCAQMD 1992). In order to establish a more accurate record of baseline CO concentrations affecting the Los Angeles, a CO "hot spot" analysis was conducted in 2003 at the same four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards. The highest one-hour concentration was measured at 4.6 ppm at Wilshire Boulevard and Veteran Avenue and the highest eight-hour concentration was measured at 8.4 ppm at Long Beach Boulevard and Imperial Highway. Thus, there was no violation of CO standards.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD), the air pollution control officer for the San Francisco Bay Area, concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact.

The Proposed Project is anticipated to result in no more than two daily traffic trips. It is noted that this is a conservative estimate and many days will have no operational related vehicle trips. Thus, the Proposed Project would not generate traffic volumes at any intersection of more than 100,000 vehicles per day (or 44,000 vehicles per day) and there is no likelihood of the Project traffic exceeding CO values.

Odors

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

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Project Construction

During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the Project area. Therefore, odors generated during Project construction would not adversely affect a substantial number of people to odor emissions.

Project Operations

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Proposed Project does not include any uses identified as being associated with odors.

3.0 GREENHOUSE GAS EMISSIONS

3.1 Greenhouse Gas Setting

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead trapped, resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth. Without the greenhouse effect, the earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are CO_2, methane (CH_4), and N_2O. Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride; however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic factors together (Intergovernmental Panel on Climate Change [IPCC] 2014).

Table 3-1 describes the primary GHGs attributed to global climate change, including their physical properties, primary sources, and contributions to the greenhouse effect.

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Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2 (IPCC 2014). Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weight each gas by its global warming potential. Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Of the total annual human-caused CO_2 emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere (IPCC 2013).

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Table 3-1. Greenhouse Gases

Greenhouse Gas	Description
CO_2	Carbon dioxide is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere.[1]
CH_4	Methane is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH_4 to the atmosphere. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH_4 is about12 years.[2]
N_2O	Nitrous oxide is a clear, colorless gas with a slightly sweet odor. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N_2O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years.[3]

Sources: [1]USEPA 2016a, [2] USEPA 2016b, [3] USEPA 2016c

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; it is sufficient to say the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or microclimates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

3.1.1 Sources of Greenhouse Gas Emissions

In 2020, CARB released the 2020 edition of the California GHG inventory covering calendar year 2018 emissions. In 2018, California emitted 425.3 million gross metric tons of CO_2e including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2018, accounting for approximately 30 percent of total GHG emissions in the state. This sector was followed by the industrial sector (21 percent) and the electric power sector including both in-state and out-of-state sources (15 percent) (CARB 2020b). Emissions of CO_2 are byproducts of fossil fuel combustion. CH_4, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. N_2O is also largely attributable to agricultural practices and soil management. Carbon dioxide sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution (CO_2 dissolving into the water), respectively, two of the most common processes for removing CO_2 from the atmosphere.

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3.2 Regulatory Framework

3.2.1 State

Executive Order S-3-05

Executive Order (EO) S-3-05, signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the state. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

Assembly Bill 32 Climate Change Scoping Plan and Updates

In 2006, the California legislature passed Assembly Bill (AB) 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which outlines measures to meet the 2020 GHG reduction goals. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by the end of 2020.

The Scoping Plan is required by AB 32 to be updated at least every five years. The latest update, the 2017 Scoping Plan Update, addresses the 2030 target established by Senate Bill (SB) 32 as discussed below and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include increasing the use of renewable energy in the state, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by Executive Order (EO) B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

Senate Bill 100 of 2018

In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

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3.3 Greenhouse Gas Emissions Impact Assessment

3.3.1 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to greenhouse gas emissions if it would:

1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

2) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

The Appendix G thresholds for GHG's do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA. With respect to GHG emissions, the CEQA Guidelines § 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's GHG emissions or rely on a "qualitative analysis or other performance-based standards." (14 California Code of Regulations [CCR] 15064.4(b)). A lead agency may use a "model or methodology" to estimate GHG emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change." (14 CCR 15064.4(c)). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines § 15130(f)). As a note, the CEQA

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Guidelines were amended in response to SB 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Per CEQA Guidelines § 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions." Put another way, CEQA Guidelines § 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

The significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines § 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The ICAPCD has not adopted a GHG significance threshold yet recommends the 100,000-metric ton of CO_2e threshold established by the Mojave Desert Air Quality Management District (MDAQMD). As previously described, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). This ICAPCD-recommended threshold is appropriate as the MDAQMD GHG thresholds were formulated based on similar geography and climate patterns as found in Imperial County. Therefore, the 100,000-metric ton of CO_2e threshold is appropriate for this analysis.

In *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal. 4th 2014, 213, 221, 227, following its review of various potential GHG thresholds proposed in an academic study [Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203], the California Supreme Court identified the use of numeric bright-line thresholds as a potential pathway for compliance with CEQA GHG requirements. The study found numeric bright line thresholds designed to determine when small projects were so small as to not cause a cumulatively considerable impact on global climate change was consistent with CEQA. Specifically, Public Resources Code section 21003(f) provides it is a policy of the state that "[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." The Supreme Court-reviewed study noted, "[s]ubjecting the smallest projects to the full panoply of CEQA requirements, even though the public benefit would be minimal, would not be consistent with implementing the statute in the most efficient, expeditious manner. Nor would it be consistent with applying lead agencies' scarce resources toward mitigating actual significant

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climate change impacts." (Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203, 221, 227.)

3.3.2 Methodology

GHG-related impacts were assessed in accordance with methodologies recommended by the ICAPCD. Where GHG emission quantification was required, emissions were modeled using CalEEMod, version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential GHG emissions associated with both construction and operations from a variety of land use projects. Project construction generated GHG emissions were calculated using CalEEMod model defaults for Imperial County coupled with information provided by the Project applicant. For instance, construction is estimated to take 12-18 months. According to the Traffic Study prepared for the Project (KOA 2021a & 2021b), the number of on–site construction workers for Vega 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the Vega 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on–site construction workers for the Vega 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the Vega 5 battery storage facility and substation is not expected to exceed 50 workers at any one time.

Operational air pollutant emissions account for a conservative estimate of two worker trip per day. Such visits include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules if needed to maintain power generation efficiency.

3.3.3 Impact Analysis

Generation of GHG Emissions

Project Construction

Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project Site, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 3-2 illustrates the specific construction generated GHG emissions that would result from construction of the Project. Once construction is complete, the generation of these GHG emissions would cease.

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Table 3-2. Construction-Related Greenhouse Gas Emissions

Emissions Source	CO_2e (Metric Tons/ Year)
Construction of Vega 2 and 3 (2023)	961
Construction of Vega 5 (2024)	787
Significance Threshold	*10,000*
Exceed Significance Threshold?	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.

As shown in Table 3-2, implementation of the Project would result in the generation of approximately 961 metric tons of CO_2e for the construction of Vega 2 and 3, and 787 metric tons of CO_2e for the construction of Vega 5. Therefore, Project GHG emissions would not exceed the significance threshold.

Additionally, the Project proposes a solar energy generation facility intended to generate renewable energy. Solar plants generate far less GHG life-cycle emissions (approximately 83 to 94 percent less) than fossil-fueled energy plants. As identified in Table 3-5, the Project could potentially displace approximately 12,620 metric tons of CO_2e per year, and approximately 378,597 metric tons of CO_2e over the course of 30 years, which is considerably more than would be generated during construction.

Project Operations

Operation of the Project would result in an increase in GHG emissions solely associated with motor vehicle trips. Long-term GHG emissions attributed to operations of the Project are identified in Table 3-3.

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Table 3-3. Operational-Related Greenhouse Gas Emissions

Emission Source	CO_2e (Metric Tons/ Year)
Area Source	0
Energy	2,720
Mobile	4
Waste	0
Water	10
Total	**2,734**
Significance Threshold	*100,000*
Exceed Significance Threshold?	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.
Notes: Emission projections predominately based on CalEEMod model defaults for Imperial County. Operational emissions account for two vehicle trips per day. It is noted that this is a conservative estimate as many days will have no operational related vehicle trips. Additionally, it accounts for the energy usage used for the battery energy storage system and the pumping of 32-acre feet of water per year.

As shown in Table 3-3, operational-generated emissions would not exceed the potentially significant impact threshold of 100,000 metric tons of CO_2e annually.

Conflict with any Applicable Plan, Policy, or Regulation of an Agency Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases

The Project would not conflict with any adopted plans, policies, or regulations adopted for the purpose of reducing GHG emissions. The Proposed Project is subject to compliance with SB 32. As discussed previously, the Proposed Project-generated GHG emissions would not surpass either the SCAQMD or CAPCOA GHG significance thresholds, which were prepared with the purpose of complying with statewide GHG-reduction efforts. Additionally, once construction is complete, the Project would be a producer of renewable energy, which generates substantially less GHG emissions compared with the more common types of fossil-fueled energy generation facilities.

GHG emissions generated by energy sources account for all stages of the life cycle (including mining, construction, etc.), which are referred to as the cumulative GHG emissions and are usually expressed in grams of CO_2e per unit of busbar electricity (i.e., gCO_2/kWh_e). When comparing various fossil-fueled energy generators, the GHG emissions generated are dependent on the type of fuel (i.e., gas, oil, coal). GHG emissions generated by some of the more common types of fossil-fueled plants and solar-power plants are summarized in Table 3-4.

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Table 3-4. Life-Cycle Greenhouse Gas Emissions for Various Types of Energy Generators

Fossil Fueled	
Coal	950 to 1,250
Oil	500 to 1,200
Gas	440 to 780
Solar	43 to 73[3]

Source: Weisser 2007
Notes:
1 $gCO_2e/kWhe$ = grams of CO_2e per unit of busbar electricity.
2 Emissions are based on lifecycle of energy source including mining, construction, operation, etc.
3 Solar PV life-cycle emissions result from using fossil-fuel-based energy to produce the materials for solar cells, modules, and systems, as well as directly from smelting, production, and manufacturing facilities.

As shown in Table 3-4, solar plants generate far less GHG life-cycle emissions (approximately 83 to 94 percent less) than fossil-fueled energy plants. Therefore, the Proposed Project would contribute to the continued reduction of GHG emissions in the interconnected California and western U.S. electricity systems, as the energy produced by the Project would displace GHG emissions that would otherwise be produced by existing business-as-usual power generation resources (including natural gas, coal, arid renewable combustion resources). The Project would generate a maximum of 14.6 MW of electricity at any one time. Table 3-5 shows the emissions that would potentially be displaced by the Proposed Project. Note that this estimate only includes that associated with the combustion of fossil fuels; it does not include the vehicle trips associated with the Project's operations, and it similarly does not include operational employee trips associated with natural gas or coal combustion nor the emissions associated with extracting and transporting those power sources. In addition, this estimate only includes the displacement of that portion of the California market that comes from fossil fuels and does not include the approximate 50 percent of the California electricity generated by non-combustion sources (wind, solar, nuclear, hydro-electric) (CEC 2019a).

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Table 3-5. Proposed Project Displaced GHG Emissions (Metric Tons)

	Emissions (Metric Tons)			
	CO_2	CH_4	N_2O	CO_2e
Emissions Displaced Annually (metric tons)				
Displaced Natural Gas-Source Emissions	10,880	0.00	0.00	10,880
Displaced Coal-Source Emissions	1,737	0.01	0.01	1,740
Total	**12,617**	**0.01**	**0.01**	**12,620**
Emissions Displaced over 30 Years (metric tons)				
Displaced Natural Gas-Source Emissions	326,411	0.00	0.00	326,411
Displaced Coal-Source Emissions	52,097	0.35	0.26	52,186
Total	**378,508**	**0.35**	**0.26**	**378,597**

Source: Displaced emissions calculated by ECORP using USEPA's AP-42 Fifth Edition Compilation of Air Emissions Factors 1995; 2015.
Notes: In order to provide a conservative analysis, the Proposed Project is assumed to generate electricity 50 percent of the time available (4,380 hours annually). Heat Rate indicates the energy generator efficiency of existing fossil-fuel based energy generators. The heat rate of a power plant measures the amount of fuel used to generate one unit of electricity. Power plants with lower heat rates are more efficient than plants with higher heat rates. The CEC's "Updated Thermal Power Plant Efficiency Measures and Operational Characteristics for Production Cost Modeling" (2019b) estimates heat rates and operating ranges for thermal power plants supplying energy to California. The average heat rate of power plants types are as follows:
**Steam Boiler fueled by coal: 10,800 heat rate **Steam Boiler fueled by natural gas: 10,200 heat rate **Gas Turbine: 10,100 heat rate **Combined natural gas Boiler and Turbine: 7,640 heat rate
By omitting steam boilers fueled by coal since so little of California's energy is derived from coal, the average heat rate = 9,313 [(10,100 + 10,200 + 7,640) ÷ 3 = 9,313]. 14.6 MW (63,875,000 annual kWH) x 9,313 heat rate = 594,867,875,000 Btu displaced from fossil fuel production. Fossil fuel-based energy consumption in California is predominately derived from natural gas (34.23 percent). Coal constitutes 2.96 percent of all fossil fuel-based energy. Therefore, 247,286,575,638 of the displaced Btu is displaced natural gas consumption and 17,251,168,375 is displaced Btu is displaced coal. The heat content of coal is assumed at 24 million Btu per ton of coal burned. At a rate of 24 million Btu per ton of coal burned, the Project would displace 719 tons of burned coal annually.

As shown, the Project would potentially displace approximately 12,620 metric tons of CO_2e per year, and approximately 378,597 metric tons of CO_2e over the course of 30 years.

While the Project would emit some GHG emissions during construction and a very small amount during operations, the contribution of renewable resource energy production to meet the goals of the Renewable Portfolio Standard (Scoping Plan Measure E-3) would result in a net cumulative reduction of GHG emissions, a key environmental benefit. (Scoping Plan Measure E-3, Renewable Portfolio Standard, of the Climate Change Scoping Plan requires that all investor-owned utility companies generate 60 percent of their energy demand from renewable sources by year 2030.) Therefore, the short-term minor generation of GHG emissions during construction which is necessary to create this new, low-GHG-emitting power-generating facility, as well as the negligible amount generated during ongoing maintenance operations, would be more than offset by GHG emission reductions associated with solar-generated energy during operation.

Increasing sources of solar energy is one of the measures identified under the Scoping Plan to reduce statewide GHG emissions. The Proposed Project would reduce GHG emissions in a manner consistent with SB 32 and other California GHG-reducing legislation by creating a new source of solar power to replace the current use of fossil-fuel power and reduce GHG emissions power generation and use.

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The Project would not conflict with any applicable plan, policy, or regulation intended to reduce GHG emissions.

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LIST OF ATTACHMENTS

Attachment A – CalEEMod Output Files Criteria Air Pollutants & Greenhouse Gas Emissions

Attachment B – Renewable Energy Emissions Displacement

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ATTACHMENT A

CalEEMod Output Files Criteria Air Pollutants & Greenhouse Gas Emissions

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Vega 2 & 3 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vega 2 & 3

Imperial County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	1.00	0
Other Non-Asphalt Surfaces	1,553.00	Acre	1,553.00	67,648,680.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2024
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Industrial land use added to account for trip generation for operations.

Construction Phase - Building construction and paving assumed to occur simultaneously. Construction phasing updated to match PD.

Off-road Equipment - Equipment updated per information provided by the PD.

Trips and VMT - Updated per information provided by the PD.

On-road Fugitive Dust - % Paved calculated from Access Route Figure in PD. Default worker commute=10.2 miles. 2.61 miles of unpaved road to access project site. 1.65/10.2=16% unpaved roads. Vendor commute=11.9 miles and same roads will be used.

Grading -

Vehicle Trips - Conservative estimate of 1 trip per day for operations.

Road Dust - Used same % paved roads as construction workers.

Energy Use - General light industrial used for trip generation only

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Vega 2 & 3 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Construction Off-road Equipment Mitigation - Mitigation measure AQ-1 accounted. PM Reduction value for applying soil stabilizers to unpaved roadways per communication with ICAPCD (Monica Soucier via email correspondence).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	155,000.00	195.00
tblConstructionPhase	NumDays	10,000.00	22.00
tblConstructionPhase	NumDays	15,500.00	43.00
tblConstructionPhase	NumDays	11,000.00	195.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	84
tblTripsAndVMT	VendorTripNumber	11,088.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	250.00
tblTripsAndVMT	WorkerTripNumber	20.00	250.00
tblTripsAndVMT	WorkerTripNumber	28,413.00	250.00
tblTripsAndVMT	WorkerTripNumber	15.00	250.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	ST_TR	1.99	1,000.00
tblVehicleTrips	SU_TR	5.00	1,000.00
tblVehicleTrips	WD_TR	4.96	1,000.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	5.4609	35.0950	50.9464	0.0898	1,208.8031	1.4545	1,210.2575	121.1904	1.3528	122.5432	0.0000	8,795.8120	8,795.8120	2.0019	0.1159	8,868.9187
Maximum	**5.4609**	**35.0950**	**50.9464**	**0.0898**	**1,208.8031**	**1.4545**	**1,210.2575**	**121.1904**	**1.3528**	**122.5432**	**0.0000**	**8,795.8120**	**8,795.8120**	**2.0019**	**0.1159**	**8,868.9187**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	5.4609	35.0950	50.9464	0.0898	114.0647	1.4545	115.5192	11.9345	1.3528	13.2873	0.0000	8,795.8120	8,795.8120	2.0019	0.1159	8,868.9187
Maximum	**5.4609**	**35.0950**	**50.9464**	**0.0898**	**114.0647**	**1.4545**	**115.5192**	**11.9345**	**1.3528**	**13.2873**	**0.0000**	**8,795.8120**	**8,795.8120**	**2.0019**	**0.1159**	**8,868.9187**

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Vega 2 & 3 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	90.56	0.00	90.45	90.15	0.00	89.16	0.00	0.00	0.00	0.00	0.00	0.00

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Vega 2 & 3 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**31.7072**	**1.4400e-003**	**0.1583**	**1.0000e-005**	**0.0000**	**5.6000e-004**	**5.6000e-004**	**0.0000**	**5.6000e-004**	**5.6000e-004**		**0.3399**	**0.3399**	**8.9000e-004**	**0.0000**	**0.3621**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**31.7072**	**1.4400e-003**	**0.1583**	**1.0000e-005**	**0.0000**	**5.6000e-004**	**5.6000e-004**	**0.0000**	**5.6000e-004**	**5.6000e-004**		**0.3399**	**0.3399**	**8.9000e-004**	**0.0000**	**0.3621**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition & Grubbing	Demolition	1/2/2023	1/31/2023	5	22	
2	Grading	Grading	2/1/2023	3/31/2023	5	43	
3	Building Construction	Building Construction	4/3/2023	12/29/2023	5	195	
4	Paving	Paving	4/3/2023	12/29/2023	5	195	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 129

Acres of Paving: 1553

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition & Grubbing	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition & Grubbing	Excavators	3	8.00	158	0.38
Demolition & Grubbing	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition & Grubbing	6	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	250.00	2.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

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Vega 2 & 3 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**		**0.9975**	**0.9975**		**0.9280**	**0.9280**		**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2518	0.5794	8.7421	0.0180	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
Total	**1.2518**	**0.5794**	**8.7421**	**0.0180**	**602.1148**	**9.6200e-003**	**602.1244**	**60.3651**	**8.8600e-003**	**60.3740**		**1,821.5065**	**1,821.5065**	**0.0576**	**0.0536**	**1,838.9237**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**		**0.9975**	**0.9975**		**0.9280**	**0.9280**	**0.0000**	**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2518	0.5794	8.7421	0.0180	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
Total	**1.2518**	**0.5794**	**8.7421**	**0.0180**	**56.8133**	**9.6200e-003**	**56.8229**	**5.9435**	**8.8600e-003**	**5.9524**		**1,821.5065**	**1,821.5065**	**0.0576**	**0.0536**	**1,838.9237**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.2036**	**1.4245**	**10.6281**	**3.6538**	**1.3105**	**4.9643**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2518	0.5794	8.7421	0.0180	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
Total	**1.2518**	**0.5794**	**8.7421**	**0.0180**	**602.1148**	**9.6200e-003**	**602.1244**	**60.3651**	**8.8600e-003**	**60.3740**		**1,821.5065**	**1,821.5065**	**0.0576**	**0.0536**	**1,838.9237**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.5894	0.0000	3.5894	1.4250	0.0000	1.4250			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**3.5894**	**1.4245**	**5.0139**	**1.4250**	**1.3105**	**2.7355**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2518	0.5794	8.7421	0.0180	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
Total	**1.2518**	**0.5794**	**8.7421**	**0.0180**	**56.8133**	**9.6200e-003**	**56.8229**	**5.9435**	**8.8600e-003**	**5.9524**		**1,821.5065**	**1,821.5065**	**0.0576**	**0.0536**	**1,838.9237**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9194	17.6181	18.8361	0.0303		0.9240	0.9240		0.8648	0.8648		2,882.4098	2,882.4098	0.7137		2,900.2515
Total	**1.9194**	**17.6181**	**18.8361**	**0.0303**		**0.9240**	**0.9240**		**0.8648**	**0.8648**		**2,882.4098**	**2,882.4098**	**0.7137**		**2,900.2515**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0300e-003	0.0924	0.0420	6.0000e-004	4.5734	9.8000e-004	4.5744	0.4602	9.4000e-004	0.4612		62.8049	62.8049	2.5000e-004	8.6400e-003	65.3862
Worker	1.2518	0.5794	8.7421	0.0180	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
Total	**1.2569**	**0.6718**	**8.7841**	**0.0186**	**606.6882**	**0.0106**	**606.6988**	**60.8253**	**9.8000e-003**	**60.8351**		**1,884.3115**	**1,884.3115**	**0.0579**	**0.0623**	**1,904.3099**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9194	17.6181	18.8361	0.0303		0.9240	0.9240		0.8648	0.8648	0.0000	2,882.4098	2,882.4098	0.7137		2,900.2515
Total	**1.9194**	**17.6181**	**18.8361**	**0.0303**		**0.9240**	**0.9240**		**0.8648**	**0.8648**	**0.0000**	**2,882.4098**	**2,882.4098**	**0.7137**		**2,900.2515**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0300e-003	0.0924	0.0420	6.0000e-004	0.4382	9.8000e-004	0.4392	0.0475	9.4000e-004	0.0485		62.8049	62.8049	2.5000e-004	8.6400e-003	65.3862
Worker	1.2518	0.5794	8.7421	0.0180	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
Total	**1.2569**	**0.6718**	**8.7841**	**0.0186**	**57.2515**	**0.0106**	**57.2621**	**5.9910**	**9.8000e-003**	**6.0008**		**1,884.3115**	**1,884.3115**	**0.0579**	**0.0623**	**1,904.3099**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2518	0.5794	8.7421	0.0180	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
Total	**1.2518**	**0.5794**	**8.7421**	**0.0180**	**602.1148**	**9.6200e-003**	**602.1244**	**60.3651**	**8.8600e-003**	**60.3740**		**1,821.5065**	**1,821.5065**	**0.0576**	**0.0536**	**1,838.9237**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2518	0.5794	8.7421	0.0180	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,821.5065	1,821.5065	0.0576	0.0536	1,838.9237
Total	**1.2518**	**0.5794**	**8.7421**	**0.0180**	**56.8133**	**9.6200e-003**	**56.8229**	**5.9435**	**8.8600e-003**	**5.9524**		**1,821.5065**	**1,821.5065**	**0.0576**	**0.0536**	**1,838.9237**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Other Non-Asphalt Surfaces	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Unmitigated	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.7314					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.9612					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0146	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Total	**31.7072**	**1.4400e-003**	**0.1583**	**1.0000e-005**		**5.6000e-004**	**5.6000e-004**		**5.6000e-004**	**5.6000e-004**		**0.3399**	**0.3399**	**8.9000e-004**		**0.3621**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.7314					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.9612					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0146	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Total	**31.7072**	**1.4400e-003**	**0.1583**	**1.0000e-005**		**5.6000e-004**	**5.6000e-004**		**5.6000e-004**	**5.6000e-004**		**0.3399**	**0.3399**	**8.9000e-004**		**0.3621**

7.0 Water Detail

7.1 Mitigation Measures Water

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vega 2 & 3

Imperial County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	1.00	0
Other Non-Asphalt Surfaces	1,553.00	Acre	1,553.00	67,648,680.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2024
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Industrial land use added to account for trip generation for operations.

Construction Phase - Building construction and paving assumed to occur simultaneously. Construction phasing updated to match PD.

Off-road Equipment - Equipment updated per information provided by the PD.

Trips and VMT - Updated per information provided by the PD.

On-road Fugitive Dust - % Paved calculated from Access Route Figure in PD. Default worker commute=10.2 miles. 2.61 miles of unpaved road to access project site. 1.65/10.2=16% unpaved roads. Vendor commute=11.9 miles and same roads will be used.

Grading -

Vehicle Trips - Conservative estimate of 1 trip per day for operations.

Road Dust - Used same % paved roads as construction workers.

Energy Use - General light industrial used for trip generation only

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Construction Off-road Equipment Mitigation - Mitigation measure AQ-1 accounted. PM Reduction value for applying soil stabilizers to unpaved roadways per communication with ICAPCD (Monica Soucier via email correspondence).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	155,000.00	195.00
tblConstructionPhase	NumDays	10,000.00	22.00
tblConstructionPhase	NumDays	15,500.00	43.00
tblConstructionPhase	NumDays	11,000.00	195.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	84
tblTripsAndVMT	VendorTripNumber	11,088.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	250.00
tblTripsAndVMT	WorkerTripNumber	20.00	250.00
tblTripsAndVMT	WorkerTripNumber	28,413.00	250.00
tblTripsAndVMT	WorkerTripNumber	15.00	250.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	ST_TR	1.99	1,000.00
tblVehicleTrips	SU_TR	5.00	1,000.00
tblVehicleTrips	WD_TR	4.96	1,000.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.6150	3.8347	5.6763	0.0107	133.1167	0.1837	133.3004	13.4062	0.1706	13.5768	0.0000	953.0591	953.0591	0.1862	0.0119	961.2724
Maximum	**0.6150**	**3.8347**	**5.6763**	**0.0107**	**133.1167**	**0.1837**	**133.3004**	**13.4062**	**0.1706**	**13.5768**	**0.0000**	**953.0591**	**953.0591**	**0.1862**	**0.0119**	**961.2724**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.6150	3.8347	5.6762	0.0107	12.6285	0.1837	12.8122	1.3455	0.1706	1.5161	0.0000	953.0584	953.0584	0.1862	0.0119	961.2717
Maximum	**0.6150**	**3.8347**	**5.6762**	**0.0107**	**12.6285**	**0.1837**	**12.8122**	**1.3455**	**0.1706**	**1.5161**	**0.0000**	**953.0584**	**953.0584**	**0.1862**	**0.0119**	**961.2717**

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**90.51**	**0.00**	**90.39**	**89.96**	**0.00**	**88.83**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**11-30-2022**	**2-27-2023**	0.6508	0.6508
2	**2-28-2023**	**5-29-2023**	1.1529	1.1529
3	**5-30-2023**	**8-29-2023**	1.1343	1.1343
4	**8-30-2023**	**9-30-2023**	0.3945	0.3945
		Highest	1.1529	1.1529

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.7852	1.3000e-004	0.0143	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.7852**	**1.3000e-004**	**0.0143**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0278**	**0.0278**	**7.0000e-005**	**0.0000**	**0.0296**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.7852	1.3000e-004	0.0143	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.7852**	**1.3000e-004**	**0.0143**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0278**	**0.0278**	**7.0000e-005**	**0.0000**	**0.0296**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition & Grubbing	Demolition	1/2/2023	1/31/2023	5	22	
2	Grading	Grading	2/1/2023	3/31/2023	5	43	
3	Building Construction	Building Construction	4/3/2023	12/29/2023	5	195	

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Paving	Paving	4/3/2023	12/29/2023	5	195	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 129

Acres of Paving: 1553

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition & Grubbing	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition & Grubbing	Excavators	3	8.00	158	0.38
Demolition & Grubbing	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition & Grubbing	6	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	250.00	2.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition & Grubbing - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0250	0.2363	0.2161	4.3000e-004		0.0110	0.0110		0.0102	0.0102	0.0000	37.3913	37.3913	0.0105	0.0000	37.6531
Total	**0.0250**	**0.2363**	**0.2161**	**4.3000e-004**		**0.0110**	**0.0110**		**0.0102**	**0.0102**	**0.0000**	**37.3913**	**37.3913**	**0.0105**	**0.0000**	**37.6531**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0111	6.5300e-003	0.0771	1.8000e-004	6.4060	1.1000e-004	6.4061	0.6423	1.0000e-004	0.6424	0.0000	16.5675	16.5675	5.6000e-004	5.4000e-004	16.7424
Total	**0.0111**	**6.5300e-003**	**0.0771**	**1.8000e-004**	**6.4060**	**1.1000e-004**	**6.4061**	**0.6423**	**1.0000e-004**	**0.6424**	**0.0000**	**16.5675**	**16.5675**	**5.6000e-004**	**5.4000e-004**	**16.7424**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0250	0.2363	0.2161	4.3000e-004		0.0110	0.0110		0.0102	0.0102	0.0000	37.3912	37.3912	0.0105	0.0000	37.6530
Total	**0.0250**	**0.2363**	**0.2161**	**4.3000e-004**		**0.0110**	**0.0110**		**0.0102**	**0.0102**	**0.0000**	**37.3912**	**37.3912**	**0.0105**	**0.0000**	**37.6530**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0111	6.5300e-003	0.0771	1.8000e-004	0.6049	1.1000e-004	0.6050	0.0634	1.0000e-004	0.0635	0.0000	16.5675	16.5675	5.6000e-004	5.4000e-004	16.7424
Total	**0.0111**	**6.5300e-003**	**0.0771**	**1.8000e-004**	**0.6049**	**1.1000e-004**	**0.6050**	**0.0634**	**1.0000e-004**	**0.0635**	**0.0000**	**16.5675**	**16.5675**	**5.6000e-004**	**5.4000e-004**	**16.7424**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1979	0.0000	0.1979	0.0786	0.0000	0.0786	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0714	0.7421	0.6031	1.3300e-003		0.0306	0.0306		0.0282	0.0282	0.0000	117.2507	117.2507	0.0379	0.0000	118.1987
Total	**0.0714**	**0.7421**	**0.6031**	**1.3300e-003**	**0.1979**	**0.0306**	**0.2285**	**0.0786**	**0.0282**	**0.1067**	**0.0000**	**117.2507**	**117.2507**	**0.0379**	**0.0000**	**118.1987**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0218	0.0128	0.1507	3.5000e-004	12.5208	2.1000e-004	12.5210	1.2554	1.9000e-004	1.2556	0.0000	32.3819	32.3819	1.0900e-003	1.0600e-003	32.7238
Total	**0.0218**	**0.0128**	**0.1507**	**3.5000e-004**	**12.5208**	**2.1000e-004**	**12.5210**	**1.2554**	**1.9000e-004**	**1.2556**	**0.0000**	**32.3819**	**32.3819**	**1.0900e-003**	**1.0600e-003**	**32.7238**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0772	0.0000	0.0772	0.0306	0.0000	0.0306	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0714	0.7421	0.6031	1.3300e-003		0.0306	0.0306		0.0282	0.0282	0.0000	117.2506	117.2506	0.0379	0.0000	118.1986
Total	**0.0714**	**0.7421**	**0.6031**	**1.3300e-003**	**0.0772**	**0.0306**	**0.1078**	**0.0306**	**0.0282**	**0.0588**	**0.0000**	**117.2506**	**117.2506**	**0.0379**	**0.0000**	**118.1986**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0218	0.0128	0.1507	3.5000e-004	1.1823	2.1000e-004	1.1825	0.1238	1.9000e-004	0.1240	0.0000	32.3819	32.3819	1.0900e-003	1.0600e-003	32.7238
Total	**0.0218**	**0.0128**	**0.1507**	**3.5000e-004**	**1.1823**	**2.1000e-004**	**1.1825**	**0.1238**	**1.9000e-004**	**0.1240**	**0.0000**	**32.3819**	**32.3819**	**1.0900e-003**	**1.0600e-003**	**32.7238**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1872	1.7178	1.8365	2.9600e-003		0.0901	0.0901		0.0843	0.0843	0.0000	254.9506	254.9506	0.0631	0.0000	256.5287
Total	**0.1872**	**1.7178**	**1.8365**	**2.9600e-003**		**0.0901**	**0.0901**		**0.0843**	**0.0843**	**0.0000**	**254.9506**	**254.9506**	**0.0631**	**0.0000**	**256.5287**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7000e-004	9.7500e-003	4.1400e-003	6.0000e-005	0.4313	1.0000e-004	0.4314	0.0434	9.0000e-005	0.0435	0.0000	5.5592	5.5592	2.0000e-005	7.7000e-004	5.7881
Worker	0.0987	0.0579	0.6833	1.6000e-003	56.7804	9.4000e-004	56.7813	5.6933	8.6000e-004	5.6941	0.0000	146.8480	146.8480	4.9400e-003	4.7900e-003	148.3985
Total	**0.0992**	**0.0676**	**0.6875**	**1.6600e-003**	**57.2117**	**1.0400e-003**	**57.2127**	**5.7367**	**9.5000e-004**	**5.7376**	**0.0000**	**152.4072**	**152.4072**	**4.9600e-003**	**5.5600e-003**	**154.1866**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1872	1.7178	1.8365	2.9600e-003		0.0901	0.0901		0.0843	0.0843	0.0000	254.9503	254.9503	0.0631	0.0000	256.5284
Total	**0.1872**	**1.7178**	**1.8365**	**2.9600e-003**		**0.0901**	**0.0901**		**0.0843**	**0.0843**	**0.0000**	**254.9503**	**254.9503**	**0.0631**	**0.0000**	**256.5284**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7000e-004	9.7500e-003	4.1400e-003	6.0000e-005	0.0414	1.0000e-004	0.0415	4.5000e-003	9.0000e-005	4.5900e-003	0.0000	5.5592	5.5592	2.0000e-005	7.7000e-004	5.7881
Worker	0.0987	0.0579	0.6833	1.6000e-003	5.3614	9.4000e-004	5.3623	0.5616	8.6000e-004	0.5625	0.0000	146.8480	146.8480	4.9400e-003	4.7900e-003	148.3985
Total	**0.0992**	**0.0676**	**0.6875**	**1.6600e-003**	**5.4028**	**1.0400e-003**	**5.4038**	**0.5661**	**9.5000e-004**	**0.5671**	**0.0000**	**152.4072**	**152.4072**	**4.9600e-003**	**5.5600e-003**	**154.1866**

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1007	0.9937	1.4220	2.2200e-003		0.0497	0.0497		0.0458	0.0458	0.0000	195.2620	195.2620	0.0632	0.0000	196.8407
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1007**	**0.9937**	**1.4220**	**2.2200e-003**		**0.0497**	**0.0497**		**0.0458**	**0.0458**	**0.0000**	**195.2620**	**195.2620**	**0.0632**	**0.0000**	**196.8407**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0987	0.0579	0.6833	1.6000e-003	56.7804	9.4000e-004	56.7813	5.6933	8.6000e-004	5.6941	0.0000	146.8480	146.8480	4.9400e-003	4.7900e-003	148.3985
Total	**0.0987**	**0.0579**	**0.6833**	**1.6000e-003**	**56.7804**	**9.4000e-004**	**56.7813**	**5.6933**	**8.6000e-004**	**5.6941**	**0.0000**	**146.8480**	**146.8480**	**4.9400e-003**	**4.7900e-003**	**148.3985**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1007	0.9937	1.4220	2.2200e-003		0.0497	0.0497		0.0458	0.0458	0.0000	195.2617	195.2617	0.0632	0.0000	196.8405
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1007**	**0.9937**	**1.4220**	**2.2200e-003**		**0.0497**	**0.0497**		**0.0458**	**0.0458**	**0.0000**	**195.2617**	**195.2617**	**0.0632**	**0.0000**	**196.8405**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0987	0.0579	0.6833	1.6000e-003	5.3614	9.4000e-004	5.3623	0.5616	8.6000e-004	0.5625	0.0000	146.8480	146.8480	4.9400e-003	4.7900e-003	148.3985
Total	**0.0987**	**0.0579**	**0.6833**	**1.6000e-003**	**5.3614**	**9.4000e-004**	**5.3623**	**0.5616**	**8.6000e-004**	**0.5625**	**0.0000**	**146.8480**	**146.8480**	**4.9400e-003**	**4.7900e-003**	**148.3985**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Other Non-Asphalt Surfaces	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

PC ORIGINAL PKG

5.0 Energy Detail

Vega 2 & 3 - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.7852	1.3000e-004	0.0143	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296
Unmitigated	5.7852	1.3000e-004	0.0143	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.4110					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3729					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.3200e-003	1.3000e-004	0.0143	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296
Total	**5.7852**	**1.3000e-004**	**0.0143**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0278**	**0.0278**	**7.0000e-005**	**0.0000**	**0.0296**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.4110					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3729					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.3200e-003	1.3000e-004	0.0143	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0278	0.0278	7.0000e-005	0.0000	0.0296
Total	**5.7852**	**1.3000e-004**	**0.0143**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0278**	**0.0278**	**7.0000e-005**	**0.0000**	**0.0296**

7.0 Water Detail

7.1 Mitigation Measures Water

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vega 2 & 3

Imperial County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	1.00	0
Other Non-Asphalt Surfaces	1,553.00	Acre	1,553.00	67,648,680.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2024
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Industrial land use added to account for trip generation for operations.

Construction Phase - Building construction and paving assumed to occur simultaneously. Construction phasing updated to match PD.

Off-road Equipment - Equipment updated per information provided by the PD.

Trips and VMT - Updated per information provided by the PD.

On-road Fugitive Dust - % Paved calculated from Access Route Figure in PD. Default worker commute=10.2 miles. 2.61 miles of unpaved road to access project site. 1.65/10.2=16% unpaved roads. Vendor commute=11.9 miles and same roads will be used.

Grading -

Vehicle Trips - Conservative estimate of 1 trip per day for operations.

Road Dust - Used same % paved roads as construction workers.

Energy Use - General light industrial used for trip generation only

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Construction Off-road Equipment Mitigation - Mitigation measure AQ-1 accounted. PM Reduction value for applying soil stabilizers to unpaved roadways per communication with ICAPCD (Monica Soucier via email correspondence).

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	155,000.00	195.00
tblConstructionPhase	NumDays	10,000.00	22.00
tblConstructionPhase	NumDays	15,500.00	43.00
tblConstructionPhase	NumDays	11,000.00	195.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	VendorPercentPave	50.00	87.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblOnRoadDust	WorkerPercentPave	50.00	84.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	84
tblTripsAndVMT	VendorTripNumber	11,088.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	250.00
tblTripsAndVMT	WorkerTripNumber	20.00	250.00
tblTripsAndVMT	WorkerTripNumber	28,413.00	250.00
tblTripsAndVMT	WorkerTripNumber	15.00	250.00

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	ST_TR	1.99	1,000.00
tblVehicleTrips	SU_TR	5.00	1,000.00
tblVehicleTrips	WD_TR	4.96	1,000.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.8376	35.1215	45.9687	0.0844	1,208.8031	1.4545	1,210.2575	121.1904	1.3528	122.5432	0.0000	8,249.4666	8,249.4666	2.0024	0.1184	8,323.3569
Maximum	**4.8376**	**35.1215**	**45.9687**	**0.0844**	**1,208.8031**	**1.4545**	**1,210.2575**	**121.1904**	**1.3528**	**122.5432**	**0.0000**	**8,249.4666**	**8,249.4666**	**2.0024**	**0.1184**	**8,323.3569**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.8376	35.1215	45.9687	0.0844	114.0647	1.4545	115.5192	11.9345	1.3528	13.2873	0.0000	8,249.4666	8,249.4666	2.0024	0.1184	8,323.3569
Maximum	**4.8376**	**35.1215**	**45.9687**	**0.0844**	**114.0647**	**1.4545**	**115.5192**	**11.9345**	**1.3528**	**13.2873**	**0.0000**	**8,249.4666**	**8,249.4666**	**2.0024**	**0.1184**	**8,323.3569**

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	90.56	0.00	90.45	90.15	0.00	89.16	0.00	0.00	0.00	0.00	0.00	0.00

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**31.7072**	**1.4400e-003**	**0.1583**	**1.0000e-005**	**0.0000**	**5.6000e-004**	**5.6000e-004**	**0.0000**	**5.6000e-004**	**5.6000e-004**		**0.3399**	**0.3399**	**8.9000e-004**	**0.0000**	**0.3621**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**31.7072**	**1.4400e-003**	**0.1583**	**1.0000e-005**	**0.0000**	**5.6000e-004**	**5.6000e-004**	**0.0000**	**5.6000e-004**	**5.6000e-004**		**0.3399**	**0.3399**	**8.9000e-004**	**0.0000**	**0.3621**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition & Grubbing	Demolition	1/2/2023	1/31/2023	5	22	
2	Grading	Grading	2/1/2023	3/31/2023	5	43	
3	Building Construction	Building Construction	4/3/2023	12/29/2023	5	195	
4	Paving	Paving	4/3/2023	12/29/2023	5	195	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 129

Acres of Paving: 1553

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition & Grubbing	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition & Grubbing	Excavators	3	8.00	158	0.38
Demolition & Grubbing	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition & Grubbing	6	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	250.00	2.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	250.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**		**0.9975**	**0.9975**		**0.9280**	**0.9280**		**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.9403	0.6059	6.2526	0.0153	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
Total	**0.9403**	**0.6059**	**6.2526**	**0.0153**	**602.1148**	**9.6200e-003**	**602.1244**	**60.3651**	**8.8600e-003**	**60.3740**		**1,548.2795**	**1,548.2795**	**0.0581**	**0.0549**	**1,566.0824**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	**2.2691**	**21.4844**	**19.6434**	**0.0388**		**0.9975**	**0.9975**		**0.9280**	**0.9280**	**0.0000**	**3,746.9840**	**3,746.9840**	**1.0494**		**3,773.2183**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.9403	0.6059	6.2526	0.0153	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
Total	**0.9403**	**0.6059**	**6.2526**	**0.0153**	**56.8133**	**9.6200e-003**	**56.8229**	**5.9435**	**8.8600e-003**	**5.9524**		**1,548.2795**	**1,548.2795**	**0.0581**	**0.0549**	**1,566.0824**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**9.2036**	**1.4245**	**10.6281**	**3.6538**	**1.3105**	**4.9643**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.9403	0.6059	6.2526	0.0153	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
Total	**0.9403**	**0.6059**	**6.2526**	**0.0153**	**602.1148**	**9.6200e-003**	**602.1244**	**60.3651**	**8.8600e-003**	**60.3740**		**1,548.2795**	**1,548.2795**	**0.0581**	**0.0549**	**1,566.0824**

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.5894	0.0000	3.5894	1.4250	0.0000	1.4250			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**3.5894**	**1.4245**	**5.0139**	**1.4250**	**1.3105**	**2.7355**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.9403	0.6059	6.2526	0.0153	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
Total	**0.9403**	**0.6059**	**6.2526**	**0.0153**	**56.8133**	**9.6200e-003**	**56.8229**	**5.9435**	**8.8600e-003**	**5.9524**		**1,548.2795**	**1,548.2795**	**0.0581**	**0.0549**	**1,566.0824**

PC ORIGINAL PKG

Vega 2 & 3 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9194	17.6181	18.8361	0.0303		0.9240	0.9240		0.8648	0.8648		2,882.4098	2,882.4098	0.7137		2,900.2515
Total	**1.9194**	**17.6181**	**18.8361**	**0.0303**		**0.9240**	**0.9240**		**0.8648**	**0.8648**		**2,882.4098**	**2,882.4098**	**0.7137**		**2,900.2515**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7800e-003	0.1021	0.0432	6.0000e-004	4.5734	9.9000e-004	4.5744	0.4602	9.4000e-004	0.4612		62.9137	62.9137	2.4000e-004	8.6800e-003	65.5070
Worker	0.9403	0.6059	6.2526	0.0153	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
Total	**0.9451**	**0.7080**	**6.2958**	**0.0159**	**606.6882**	**0.0106**	**606.6988**	**60.8253**	**9.8000e-003**	**60.8351**		**1,611.1932**	**1,611.1932**	**0.0584**	**0.0636**	**1,631.5894**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9194	17.6181	18.8361	0.0303		0.9240	0.9240		0.8648	0.8648	0.0000	2,882.4098	2,882.4098	0.7137		2,900.2515
Total	**1.9194**	**17.6181**	**18.8361**	**0.0303**		**0.9240**	**0.9240**		**0.8648**	**0.8648**	**0.0000**	**2,882.4098**	**2,882.4098**	**0.7137**		**2,900.2515**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7800e-003	0.1021	0.0432	6.0000e-004	0.4382	9.9000e-004	0.4392	0.0475	9.4000e-004	0.0485		62.9137	62.9137	2.4000e-004	8.6800e-003	65.5070
Worker	0.9403	0.6059	6.2526	0.0153	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
Total	**0.9451**	**0.7080**	**6.2958**	**0.0159**	**57.2515**	**0.0106**	**57.2621**	**5.9910**	**9.8000e-003**	**6.0008**		**1,611.1932**	**1,611.1932**	**0.0584**	**0.0636**	**1,631.5894**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.9403	0.6059	6.2526	0.0153	602.1148	9.6200e-003	602.1244	60.3651	8.8600e-003	60.3740		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
Total	**0.9403**	**0.6059**	**6.2526**	**0.0153**	**602.1148**	**9.6200e-003**	**602.1244**	**60.3651**	**8.8600e-003**	**60.3740**		**1,548.2795**	**1,548.2795**	**0.0581**	**0.0549**	**1,566.0824**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.9403	0.6059	6.2526	0.0153	56.8133	9.6200e-003	56.8229	5.9435	8.8600e-003	5.9524		1,548.2795	1,548.2795	0.0581	0.0549	1,566.0824
Total	**0.9403**	**0.6059**	**6.2526**	**0.0153**	**56.8133**	**9.6200e-003**	**56.8229**	**5.9435**	**8.8600e-003**	**5.9524**		**1,548.2795**	**1,548.2795**	**0.0581**	**0.0549**	**1,566.0824**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Other Non-Asphalt Surfaces	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Unmitigated	31.7072	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.7314					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.9612					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0146	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Total	**31.7072**	**1.4400e-003**	**0.1583**	**1.0000e-005**		**5.6000e-004**	**5.6000e-004**		**5.6000e-004**	**5.6000e-004**		**0.3399**	**0.3399**	**8.9000e-004**		**0.3621**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.7314					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	23.9612					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0146	1.4400e-003	0.1583	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.3399	0.3399	8.9000e-004		0.3621
Total	**31.7072**	**1.4400e-003**	**0.1583**	**1.0000e-005**		**5.6000e-004**	**5.6000e-004**		**5.6000e-004**	**5.6000e-004**		**0.3399**	**0.3399**	**8.9000e-004**		**0.3621**

7.0 Water Detail

7.1 Mitigation Measures Water

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PC ORIGINAL PKG

Vega 5 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vega 5

Imperial County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	1.00	0
Other Non-Asphalt Surfaces	410.00	Acre	410.00	17,859,600.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2025
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Industrial land use added to account for trip generation for operations.

Construction Phase - Building construction and paving assumed to occur simultaneously. Construction phasing updated to match PD.

Off-road Equipment - Equipment updated per information provided by the PD.

Trips and VMT - Updated per information provided by the PD.

On-road Fugitive Dust - Map provided in PD shows access roads to the project site are 100% paved.

Grading -

Vehicle Trips - Conservative estimate of 1 trip per day for operations.

Road Dust - Used same % paved roads as construction workers.

Energy Use - General light industrial used for trip generation only

PC ORIGINAL PKG

Vega 5 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Construction Off-road Equipment Mitigation - Mitigation measure AQ-1 accounted. PM Reduction value for applying soil stabilizers to unpaved roadways per

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	7,750.00	197.00
tblConstructionPhase	NumDays	500.00	23.00
tblConstructionPhase	NumDays	775.00	42.00
tblConstructionPhase	NumDays	550.00	197.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	100
tblTripsAndVMT	VendorTripNumber	2,927.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	125.00
tblTripsAndVMT	WorkerTripNumber	20.00	125.00
tblTripsAndVMT	WorkerTripNumber	7,501.00	125.00
tblTripsAndVMT	WorkerTripNumber	15.00	125.00

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	ST_TR	1.99	1,000.00
tblVehicleTrips	SU_TR	5.00	1,000.00
tblVehicleTrips	WD_TR	4.96	1,000.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	3.9647	32.6342	41.4866	0.0712	10.1735	1.3400	11.5134	3.9110	1.2328	5.1438	0.0000	6,919.0275	6,919.0275	1.9697	0.0580	6,973.2344
Maximum	**3.9647**	**32.6342**	**41.4866**	**0.0712**	**10.1735**	**1.3400**	**11.5134**	**3.9110**	**1.2328**	**5.1438**	**0.0000**	**6,919.0275**	**6,919.0275**	**1.9697**	**0.0580**	**6,973.2344**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	3.9647	32.6342	41.4866	0.0712	4.5593	1.3400	5.8992	1.6822	1.2328	2.9150	0.0000	6,919.0275	6,919.0275	1.9697	0.0580	6,973.2344
Maximum	**3.9647**	**32.6342**	**41.4866**	**0.0712**	**4.5593**	**1.3400**	**5.8992**	**1.6822**	**1.2328**	**2.9150**	**0.0000**	**6,919.0275**	**6,919.0275**	**1.9697**	**0.0580**	**6,973.2344**

PC ORIGINAL PKG

Vega 5 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	55.18	0.00	48.76	56.99	0.00	43.33	0.00	0.00	0.00	0.00	0.00	0.00

PC ORIGINAL PKG

Vega 5 - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3709**	**3.8000e-004**	**0.0418**	**0.0000**	**0.0000**	**1.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**1.5000e-004**		**0.0897**	**0.0897**	**2.3000e-004**	**0.0000**	**0.0956**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3709**	**3.8000e-004**	**0.0418**	**0.0000**	**0.0000**	**1.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**1.5000e-004**		**0.0897**	**0.0897**	**2.3000e-004**	**0.0000**	**0.0956**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition & Grubbing	Demolition	1/1/2024	1/31/2024	5	23	
2	Grading	Grading	2/1/2024	3/29/2024	5	42	
3	Building Construction	Building Construction	4/1/2024	12/31/2024	5	197	
4	Paving	Paving	4/1/2024	12/31/2024	5	197	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 126

Acres of Paving: 410

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition & Grubbing	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition & Grubbing	Excavators	3	8.00	158	0.38
Demolition & Grubbing	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition & Grubbing	6	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	125.00	2.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2437	20.8781	19.7073	0.0388		0.9602	0.9602		0.8922	0.8922		3,747.4228	3,747.4228	1.0485		3,773.6345
Total	**2.2437**	**20.8781**	**19.7073**	**0.0388**		**0.9602**	**0.9602**		**0.8922**	**0.8922**		**3,747.4228**	**3,747.4228**	**1.0485**		**3,773.6345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
Total	**0.5801**	**0.2572**	**4.0308**	**8.7400e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**883.3310**	**883.3310**	**0.0260**	**0.0248**	**891.3662**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2437	20.8781	19.7073	0.0388		0.9602	0.9602		0.8922	0.8922	0.0000	3,747.4228	3,747.4228	1.0485		3,773.6345
Total	**2.2437**	**20.8781**	**19.7073**	**0.0388**		**0.9602**	**0.9602**		**0.8922**	**0.8922**	**0.0000**	**3,747.4228**	**3,747.4228**	**1.0485**		**3,773.6345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
Total	**0.5801**	**0.2572**	**4.0308**	**8.7400e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**883.3310**	**883.3310**	**0.0260**	**0.0248**	**891.3662**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**9.2036**	**1.3354**	**10.5390**	**3.6538**	**1.2286**	**4.8823**		**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
Total	**0.5801**	**0.2572**	**4.0308**	**8.7400e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**883.3310**	**883.3310**	**0.0260**	**0.0248**	**891.3662**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.5894	0.0000	3.5894	1.4250	0.0000	1.4250			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**3.5894**	**1.3354**	**4.9248**	**1.4250**	**1.2286**	**2.6535**	**0.0000**	**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
Total	**0.5801**	**0.2572**	**4.0308**	**8.7400e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**883.3310**	**883.3310**	**0.0260**	**0.0248**	**891.3662**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8116	16.6032	18.7590	0.0303		0.8319	0.8319		0.7780	0.7780		2,882.8590	2,882.8590	0.7102		2,900.6130
Total	**1.8116**	**16.6032**	**18.7590**	**0.0303**		**0.8319**	**0.8319**		**0.7780**	**0.7780**		**2,882.8590**	**2,882.8590**	**0.7102**		**2,900.6130**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8300e-003	0.0921	0.0403	5.9000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		61.9594	61.9594	2.4000e-004	8.4800e-003	64.4927
Worker	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
Total	**0.5849**	**0.3493**	**4.0711**	**9.3300e-003**	**0.9920**	**5.5400e-003**	**0.9975**	**0.2636**	**5.1300e-003**	**0.2688**		**945.2904**	**945.2904**	**0.0262**	**0.0333**	**955.8589**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8116	16.6032	18.7590	0.0303		0.8319	0.8319		0.7780	0.7780	0.0000	2,882.8590	2,882.8590	0.7102		2,900.6130
Total	**1.8116**	**16.6032**	**18.7590**	**0.0303**		**0.8319**	**0.8319**		**0.7780**	**0.7780**	**0.0000**	**2,882.8590**	**2,882.8590**	**0.7102**		**2,900.6130**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8300e-003	0.0921	0.0403	5.9000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		61.9594	61.9594	2.4000e-004	8.4800e-003	64.4927
Worker	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
Total	**0.5849**	**0.3493**	**4.0711**	**9.3300e-003**	**0.9920**	**5.5400e-003**	**0.9975**	**0.2636**	**5.1300e-003**	**0.2688**		**945.2904**	**945.2904**	**0.0262**	**0.0333**	**955.8589**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
Total	**0.5801**	**0.2572**	**4.0308**	**8.7400e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**883.3310**	**883.3310**	**0.0260**	**0.0248**	**891.3662**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.5801	0.2572	4.0308	8.7400e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		883.3310	883.3310	0.0260	0.0248	891.3662
Total	**0.5801**	**0.2572**	**4.0308**	**8.7400e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**883.3310**	**883.3310**	**0.0260**	**0.0248**	**891.3662**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388
Other Non-Asphalt Surfaces	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Unmitigated	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.3259					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8400e-003	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Total	**8.3709**	**3.8000e-004**	**0.0418**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0897**	**0.0897**	**2.3000e-004**		**0.0956**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.3259					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8400e-003	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Total	**8.3709**	**3.8000e-004**	**0.0418**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0897**	**0.0897**	**2.3000e-004**		**0.0956**

7.0 Water Detail

7.1 Mitigation Measures Water

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vega 5

Imperial County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	1.00	0
Other Non-Asphalt Surfaces	410.00	Acre	410.00	17,859,600.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2025
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Industrial land use added to account for trip generation for operations.

Construction Phase - Building construction and paving assumed to occur simultaneously. Construction phasing updated to match PD.

Off-road Equipment - Equipment updated per information provided by the PD.

Trips and VMT - Updated per information provided by the PD.

On-road Fugitive Dust - Map provided in PD shows access roads to the project site are 100% paved.

Grading -

Vehicle Trips - Conservative estimate of 1 trip per day for operations.

Road Dust - Used same % paved roads as construction workers.

Energy Use - General light industrial used for trip generation only

PC ORIGINAL PKG

Vega 5 - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Construction Off-road Equipment Mitigation - Mitigation measure AQ-1 accounted. PM Reduction value for applying soil stabilizers to unpaved roadways per

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	7,750.00	197.00
tblConstructionPhase	NumDays	500.00	23.00
tblConstructionPhase	NumDays	775.00	42.00
tblConstructionPhase	NumDays	550.00	197.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	100
tblTripsAndVMT	VendorTripNumber	2,927.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	125.00
tblTripsAndVMT	WorkerTripNumber	20.00	125.00
tblTripsAndVMT	WorkerTripNumber	7,501.00	125.00
tblTripsAndVMT	WorkerTripNumber	15.00	125.00

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	ST_TR	1.99	1,000.00
tblVehicleTrips	SU_TR	5.00	1,000.00
tblVehicleTrips	WD_TR	4.96	1,000.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.4776	3.5638	4.8434	8.8700e-003	0.4164	0.1683	0.5848	0.1360	0.1562	0.2922	0.0000	781.6556	781.6556	0.1805	5.9700e-003	787.9457
Maximum	**0.4776**	**3.5638**	**4.8434**	**8.8700e-003**	**0.4164**	**0.1683**	**0.5848**	**0.1360**	**0.1562**	**0.2922**	**0.0000**	**781.6556**	**781.6556**	**0.1805**	**5.9700e-003**	**787.9457**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.4776	3.5638	4.8434	8.8700e-003	0.2985	0.1683	0.4669	0.0892	0.1562	0.2454	0.0000	781.6549	781.6549	0.1805	5.9700e-003	787.9450
Maximum	**0.4776**	**3.5638**	**4.8434**	**8.8700e-003**	**0.2985**	**0.1683**	**0.4669**	**0.0892**	**0.1562**	**0.2454**	**0.0000**	**781.6549**	**781.6549**	**0.1805**	**5.9700e-003**	**787.9450**

PC ORIGINAL PKG

Vega 5 - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**28.31**	**0.00**	**20.16**	**34.41**	**0.00**	**16.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
5	**11-30-2023**	**2-28-2024**	0.6268	0.6268
6	**2-29-2024**	**5-29-2024**	1.0358	1.0358
7	**5-30-2024**	**8-29-2024**	1.0087	1.0087
8	**8-30-2024**	**9-30-2024**	0.3508	0.3508
		Highest	1.0358	1.0358

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5273	3.0000e-005	3.7600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5273**	**3.0000e-005**	**3.7600e-003**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**7.3300e-003**	**7.3300e-003**	**2.0000e-005**	**0.0000**	**7.8000e-003**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5273	3.0000e-005	3.7600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5273**	**3.0000e-005**	**3.7600e-003**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**7.3300e-003**	**7.3300e-003**	**2.0000e-005**	**0.0000**	**7.8000e-003**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition & Grubbing	Demolition	1/1/2024	1/31/2024	5	23	
2	Grading	Grading	2/1/2024	3/29/2024	5	42	
3	Building Construction	Building Construction	4/1/2024	12/31/2024	5	197	

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Paving	Paving	4/1/2024	12/31/2024	5	197	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 126

Acres of Paving: 410

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition & Grubbing	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition & Grubbing	Excavators	3	8.00	158	0.38
Demolition & Grubbing	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition & Grubbing	6	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	125.00	2.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition & Grubbing - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0258	0.2401	0.2266	4.5000e-004		0.0110	0.0110		0.0103	0.0103	0.0000	39.0955	39.0955	0.0109	0.0000	39.3689
Total	**0.0258**	**0.2401**	**0.2266**	**4.5000e-004**		**0.0110**	**0.0110**		**0.0103**	**0.0103**	**0.0000**	**39.0955**	**39.0955**	**0.0109**	**0.0000**	**39.3689**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4100e-003	3.0300e-003	0.0372	9.0000e-005	0.0111	5.0000e-005	0.0111	2.9400e-003	5.0000e-005	2.9900e-003	0.0000	8.4013	8.4013	2.6000e-004	2.6000e-004	8.4857
Total	**5.4100e-003**	**3.0300e-003**	**0.0372**	**9.0000e-005**	**0.0111**	**5.0000e-005**	**0.0111**	**2.9400e-003**	**5.0000e-005**	**2.9900e-003**	**0.0000**	**8.4013**	**8.4013**	**2.6000e-004**	**2.6000e-004**	**8.4857**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0258	0.2401	0.2266	4.5000e-004		0.0110	0.0110		0.0103	0.0103	0.0000	39.0954	39.0954	0.0109	0.0000	39.3689
Total	**0.0258**	**0.2401**	**0.2266**	**4.5000e-004**		**0.0110**	**0.0110**		**0.0103**	**0.0103**	**0.0000**	**39.0954**	**39.0954**	**0.0109**	**0.0000**	**39.3689**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4100e-003	3.0300e-003	0.0372	9.0000e-005	0.0111	5.0000e-005	0.0111	2.9400e-003	5.0000e-005	2.9900e-003	0.0000	8.4013	8.4013	2.6000e-004	2.6000e-004	8.4857
Total	**5.4100e-003**	**3.0300e-003**	**0.0372**	**9.0000e-005**	**0.0111**	**5.0000e-005**	**0.0111**	**2.9400e-003**	**5.0000e-005**	**2.9900e-003**	**0.0000**	**8.4013**	**8.4013**	**2.6000e-004**	**2.6000e-004**	**8.4857**

3.3 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1933	0.0000	0.1933	0.0767	0.0000	0.0767	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0676	0.6799	0.5822	1.3000e-003		0.0280	0.0280		0.0258	0.0258	0.0000	114.4910	114.4910	0.0370	0.0000	115.4167
Total	**0.0676**	**0.6799**	**0.5822**	**1.3000e-003**	**0.1933**	**0.0280**	**0.2213**	**0.0767**	**0.0258**	**0.1025**	**0.0000**	**114.4910**	**114.4910**	**0.0370**	**0.0000**	**115.4167**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.8800e-003	5.5300e-003	0.0679	1.7000e-004	0.0202	1.0000e-004	0.0203	5.3700e-003	9.0000e-005	5.4500e-003	0.0000	15.3416	15.3416	4.8000e-004	4.8000e-004	15.4955
Total	**9.8800e-003**	**5.5300e-003**	**0.0679**	**1.7000e-004**	**0.0202**	**1.0000e-004**	**0.0203**	**5.3700e-003**	**9.0000e-005**	**5.4500e-003**	**0.0000**	**15.3416**	**15.3416**	**4.8000e-004**	**4.8000e-004**	**15.4955**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0754	0.0000	0.0754	0.0299	0.0000	0.0299	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0676	0.6799	0.5822	1.3000e-003		0.0280	0.0280		0.0258	0.0258	0.0000	114.4909	114.4909	0.0370	0.0000	115.4166
Total	**0.0676**	**0.6799**	**0.5822**	**1.3000e-003**	**0.0754**	**0.0280**	**0.1034**	**0.0299**	**0.0258**	**0.0557**	**0.0000**	**114.4909**	**114.4909**	**0.0370**	**0.0000**	**115.4166**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.8800e-003	5.5300e-003	0.0679	1.7000e-004	0.0202	1.0000e-004	0.0203	5.3700e-003	9.0000e-005	5.4500e-003	0.0000	15.3416	15.3416	4.8000e-004	4.8000e-004	15.4955
Total	**9.8800e-003**	**5.5300e-003**	**0.0679**	**1.7000e-004**	**0.0202**	**1.0000e-004**	**0.0203**	**5.3700e-003**	**9.0000e-005**	**5.4500e-003**	**0.0000**	**15.3416**	**15.3416**	**4.8000e-004**	**4.8000e-004**	**15.4955**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6354	1.8478	2.9900e-003		0.0819	0.0819		0.0766	0.0766	0.0000	257.6056	257.6056	0.0635	0.0000	259.1921
Total	**0.1784**	**1.6354**	**1.8478**	**2.9900e-003**		**0.0819**	**0.0819**		**0.0766**	**0.0766**	**0.0000**	**257.6056**	**257.6056**	**0.0635**	**0.0000**	**259.1921**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6000e-004	9.8100e-003	4.0200e-003	6.0000e-005	2.1600e-003	1.0000e-004	2.2600e-003	6.2000e-004	9.0000e-005	7.2000e-004	0.0000	5.5406	5.5406	2.0000e-005	7.6000e-004	5.7676
Worker	0.0463	0.0259	0.3185	7.8000e-004	0.0949	4.5000e-004	0.0953	0.0252	4.1000e-004	0.0256	0.0000	71.9593	71.9593	2.2600e-003	2.2300e-003	72.6814
Total	**0.0468**	**0.0357**	**0.3226**	**8.4000e-004**	**0.0970**	**5.5000e-004**	**0.0976**	**0.0258**	**5.0000e-004**	**0.0263**	**0.0000**	**77.5000**	**77.5000**	**2.2800e-003**	**2.9900e-003**	**78.4491**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6354	1.8478	2.9900e-003		0.0819	0.0819		0.0766	0.0766	0.0000	257.6053	257.6053	0.0635	0.0000	259.1918
Total	**0.1784**	**1.6354**	**1.8478**	**2.9900e-003**		**0.0819**	**0.0819**		**0.0766**	**0.0766**	**0.0000**	**257.6053**	**257.6053**	**0.0635**	**0.0000**	**259.1918**

PC ORIGINAL PKG

Vega 5 - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6000e-004	9.8100e-003	4.0200e-003	6.0000e-005	2.1600e-003	1.0000e-004	2.2600e-003	6.2000e-004	9.0000e-005	7.2000e-004	0.0000	5.5406	5.5406	2.0000e-005	7.6000e-004	5.7676
Worker	0.0463	0.0259	0.3185	7.8000e-004	0.0949	4.5000e-004	0.0953	0.0252	4.1000e-004	0.0256	0.0000	71.9593	71.9593	2.2600e-003	2.2300e-003	72.6814
Total	**0.0468**	**0.0357**	**0.3226**	**8.4000e-004**	**0.0970**	**5.5000e-004**	**0.0976**	**0.0258**	**5.0000e-004**	**0.0263**	**0.0000**	**77.5000**	**77.5000**	**2.2800e-003**	**2.9900e-003**	**78.4491**

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0973	0.9382	1.4406	2.2500e-003		0.0462	0.0462		0.0425	0.0425	0.0000	197.2613	197.2613	0.0638	0.0000	198.8563
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0973**	**0.9382**	**1.4406**	**2.2500e-003**		**0.0462**	**0.0462**		**0.0425**	**0.0425**	**0.0000**	**197.2613**	**197.2613**	**0.0638**	**0.0000**	**198.8563**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0463	0.0259	0.3185	7.8000e-004	0.0949	4.5000e-004	0.0953	0.0252	4.1000e-004	0.0256	0.0000	71.9593	71.9593	2.2600e-003	2.2300e-003	72.6814
Total	**0.0463**	**0.0259**	**0.3185**	**7.8000e-004**	**0.0949**	**4.5000e-004**	**0.0953**	**0.0252**	**4.1000e-004**	**0.0256**	**0.0000**	**71.9593**	**71.9593**	**2.2600e-003**	**2.2300e-003**	**72.6814**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0973	0.9382	1.4406	2.2500e-003		0.0462	0.0462		0.0425	0.0425	0.0000	197.2611	197.2611	0.0638	0.0000	198.8561
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0973**	**0.9382**	**1.4406**	**2.2500e-003**		**0.0462**	**0.0462**		**0.0425**	**0.0425**	**0.0000**	**197.2611**	**197.2611**	**0.0638**	**0.0000**	**198.8561**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0463	0.0259	0.3185	7.8000e-004	0.0949	4.5000e-004	0.0953	0.0252	4.1000e-004	0.0256	0.0000	71.9593	71.9593	2.2600e-003	2.2300e-003	72.6814
Total	**0.0463**	**0.0259**	**0.3185**	**7.8000e-004**	**0.0949**	**4.5000e-004**	**0.0953**	**0.0252**	**4.1000e-004**	**0.0256**	**0.0000**	**71.9593**	**71.9593**	**2.2600e-003**	**2.2300e-003**	**72.6814**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388
Other Non-Asphalt Surfaces	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388

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5.0 Energy Detail

Vega 5 - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5273	3.0000e-005	3.7600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-003
Unmitigated	1.5273	3.0000e-005	3.7600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3725					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1545					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.5000e-004	3.0000e-005	3.7600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-003
Total	**1.5273**	**3.0000e-005**	**3.7600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**7.3300e-003**	**7.3300e-003**	**2.0000e-005**	**0.0000**	**7.8000e-003**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3725					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1545					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.5000e-004	3.0000e-005	3.7600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.3300e-003	7.3300e-003	2.0000e-005	0.0000	7.8000e-003
Total	**1.5273**	**3.0000e-005**	**3.7600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**7.3300e-003**	**7.3300e-003**	**2.0000e-005**	**0.0000**	**7.8000e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vega 5

Imperial County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	1.00	0
Other Non-Asphalt Surfaces	410.00	Acre	410.00	17,859,600.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2025
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Industrial land use added to account for trip generation for operations.

Construction Phase - Building construction and paving assumed to occur simultaneously. Construction phasing updated to match PD.

Off-road Equipment - Equipment updated per information provided by the PD.

Trips and VMT - Updated per information provided by the PD.

On-road Fugitive Dust - Map provided in PD shows access roads to the project site are 100% paved.

Grading -

Vehicle Trips - Conservative estimate of 1 trip per day for operations.

Road Dust - Used same % paved roads as construction workers.

Energy Use - General light industrial used for trip generation only

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Construction Off-road Equipment Mitigation - Mitigation measure AQ-1 accounted. PM Reduction value for applying soil stabilizers to unpaved roadways per

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	7,750.00	197.00
tblConstructionPhase	NumDays	500.00	23.00
tblConstructionPhase	NumDays	775.00	42.00
tblConstructionPhase	NumDays	550.00	197.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	1.97	0.00
tblEnergyUse	T24NG	15.20	0.00
tblLandUse	LandUseSquareFeet	0.00	1.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	100
tblTripsAndVMT	VendorTripNumber	2,927.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	125.00
tblTripsAndVMT	WorkerTripNumber	20.00	125.00
tblTripsAndVMT	WorkerTripNumber	7,501.00	125.00
tblTripsAndVMT	WorkerTripNumber	15.00	125.00

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	ST_TR	1.99	1,000.00
tblVehicleTrips	SU_TR	5.00	1,000.00
tblVehicleTrips	WD_TR	4.96	1,000.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	3.6801	32.6454	39.2032	0.0695	10.1735	1.3400	11.5134	3.9110	1.2328	5.1438	0.0000	6,760.8759	6,760.8759	1.9700	0.0592	6,817.6753
Maximum	**3.6801**	**32.6454**	**39.2032**	**0.0695**	**10.1735**	**1.3400**	**11.5134**	**3.9110**	**1.2328**	**5.1438**	**0.0000**	**6,760.8759**	**6,760.8759**	**1.9700**	**0.0592**	**6,817.6753**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	3.6801	32.6454	39.2032	0.0695	4.5593	1.3400	5.8992	1.6822	1.2328	2.9150	0.0000	6,760.8758	6,760.8758	1.9700	0.0592	6,817.6753
Maximum	**3.6801**	**32.6454**	**39.2032**	**0.0695**	**4.5593**	**1.3400**	**5.8992**	**1.6822**	**1.2328**	**2.9150**	**0.0000**	**6,760.8758**	**6,760.8758**	**1.9700**	**0.0592**	**6,817.6753**

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	55.18	0.00	48.76	56.99	0.00	43.33	0.00	0.00	0.00	0.00	0.00	0.00

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3709**	**3.8000e-004**	**0.0418**	**0.0000**	**0.0000**	**1.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**1.5000e-004**		**0.0897**	**0.0897**	**2.3000e-004**	**0.0000**	**0.0956**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.3709**	**3.8000e-004**	**0.0418**	**0.0000**	**0.0000**	**1.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**1.5000e-004**		**0.0897**	**0.0897**	**2.3000e-004**	**0.0000**	**0.0956**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition & Grubbing	Demolition	1/1/2024	1/31/2024	5	23	
2	Grading	Grading	2/1/2024	3/29/2024	5	42	
3	Building Construction	Building Construction	4/1/2024	12/31/2024	5	197	
4	Paving	Paving	4/1/2024	12/31/2024	5	197	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 126

Acres of Paving: 410

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition & Grubbing	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition & Grubbing	Excavators	3	8.00	158	0.38
Demolition & Grubbing	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Trenchers	1	8.00	78	0.50
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition & Grubbing	6	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	125.00	2.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	125.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2437	20.8781	19.7073	0.0388		0.9602	0.9602		0.8922	0.8922		3,747.4228	3,747.4228	1.0485		3,773.6345
Total	**2.2437**	**20.8781**	**19.7073**	**0.0388**		**0.9602**	**0.9602**		**0.8922**	**0.8922**		**3,747.4228**	**3,747.4228**	**1.0485**		**3,773.6345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
Total	**0.4379**	**0.2685**	**2.8885**	**7.4300e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**751.1272**	**751.1272**	**0.0263**	**0.0253**	**759.3348**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition & Grubbing - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2437	20.8781	19.7073	0.0388		0.9602	0.9602		0.8922	0.8922	0.0000	3,747.4228	3,747.4228	1.0485		3,773.6345
Total	**2.2437**	**20.8781**	**19.7073**	**0.0388**		**0.9602**	**0.9602**		**0.8922**	**0.8922**	**0.0000**	**3,747.4228**	**3,747.4228**	**1.0485**		**3,773.6345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
Total	**0.4379**	**0.2685**	**2.8885**	**7.4300e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**751.1272**	**751.1272**	**0.0263**	**0.0253**	**759.3348**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**9.2036**	**1.3354**	**10.5390**	**3.6538**	**1.2286**	**4.8823**		**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
Total	**0.4379**	**0.2685**	**2.8885**	**7.4300e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**751.1272**	**751.1272**	**0.0263**	**0.0253**	**759.3348**

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.5894	0.0000	3.5894	1.4250	0.0000	1.4250			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**3.5894**	**1.3354**	**4.9248**	**1.4250**	**1.2286**	**2.6535**	**0.0000**	**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
Total	**0.4379**	**0.2685**	**2.8885**	**7.4300e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**751.1272**	**751.1272**	**0.0263**	**0.0253**	**759.3348**

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8116	16.6032	18.7590	0.0303		0.8319	0.8319		0.7780	0.7780		2,882.8590	2,882.8590	0.7102		2,900.6130
Total	**1.8116**	**16.6032**	**18.7590**	**0.0303**		**0.8319**	**0.8319**		**0.7780**	**0.7780**		**2,882.8590**	**2,882.8590**	**0.7102**		**2,900.6130**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5900e-003	0.1017	0.0415	5.9000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		62.0683	62.0683	2.3000e-004	8.5200e-003	64.6129
Worker	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
Total	**0.4425**	**0.3702**	**2.9300**	**8.0200e-003**	**0.9920**	**5.5400e-003**	**0.9975**	**0.2636**	**5.1300e-003**	**0.2688**		**813.1955**	**813.1955**	**0.0266**	**0.0339**	**823.9477**

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8116	16.6032	18.7590	0.0303		0.8319	0.8319		0.7780	0.7780	0.0000	2,882.8590	2,882.8590	0.7102		2,900.6130
Total	**1.8116**	**16.6032**	**18.7590**	**0.0303**		**0.8319**	**0.8319**		**0.7780**	**0.7780**	**0.0000**	**2,882.8590**	**2,882.8590**	**0.7102**		**2,900.6130**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5900e-003	0.1017	0.0415	5.9000e-004	0.0221	9.8000e-004	0.0231	6.3500e-003	9.4000e-004	7.2900e-003		62.0683	62.0683	2.3000e-004	8.5200e-003	64.6129
Worker	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
Total	**0.4425**	**0.3702**	**2.9300**	**8.0200e-003**	**0.9920**	**5.5400e-003**	**0.9975**	**0.2636**	**5.1300e-003**	**0.2688**		**813.1955**	**813.1955**	**0.0266**	**0.0339**	**823.9477**

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
Total	**0.4379**	**0.2685**	**2.8885**	**7.4300e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**751.1272**	**751.1272**	**0.0263**	**0.0253**	**759.3348**

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4379	0.2685	2.8885	7.4300e-003	0.9699	4.5600e-003	0.9744	0.2573	4.1900e-003	0.2615		751.1272	751.1272	0.0263	0.0253	759.3348
Total	**0.4379**	**0.2685**	**2.8885**	**7.4300e-003**	**0.9699**	**4.5600e-003**	**0.9744**	**0.2573**	**4.1900e-003**	**0.2615**		**751.1272**	**751.1272**	**0.0263**	**0.0253**	**759.3348**

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3
Other Non-Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388
Other Non-Asphalt Surfaces	0.530702	0.059328	0.179664	0.144474	0.026250	0.006790	0.008325	0.016302	0.000941	0.000118	0.022966	0.000752	0.003388

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Unmitigated	8.3709	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.3259					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8400e-003	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Total	**8.3709**	**3.8000e-004**	**0.0418**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0897**	**0.0897**	**2.3000e-004**		**0.0956**

PC ORIGINAL PKG

Vega 5 - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.0411					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.3259					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8400e-003	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0897	0.0897	2.3000e-004		0.0956
Total	**8.3709**	**3.8000e-004**	**0.0418**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0897**	**0.0897**	**2.3000e-004**		**0.0956**

7.0 Water Detail

7.1 Mitigation Measures Water

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vega Complex Operations

Imperial County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	217.80	1000sqft	5.00	217,800.00	0
Refrigerated Warehouse-No Rail	217.80	1000sqft	5.00	217,800.00	0
Other Asphalt Surfaces	1,953.00	Acre	1,953.00	85,072,680.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2024
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Industrial land use used to account for BESS. Parking used to add acreage of total project site.

Construction Phase - Model run done for operations only.

Off-road Equipment - Model run done for operations only.

Trips and VMT - Model run done for operations only.

Architectural Coating - Model run done for operations only.

Vehicle Trips - Accounting for 2 vehicle trips per day

Road Dust - Percent paved taken from Vega 2 & 3 construcion workers PC ORIGINAL PKG

Vega Complex Operations - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Water And Wastewater - Water use from PD.

Solid Waste - No soild waste generated

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Interior	100.00	0.00
tblConstructionPhase	NumDays	11,000.00	0.00
tblConstructionPhase	PhaseEndDate	2/14/2822	12/17/2779
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	84
tblSolidWaste	SolidWasteGenerationRate	409.46	0.00
tblTripsAndVMT	WorkerTripNumber	7,183.00	0.00
tblVehicleTrips	ST_TR	2.12	5.0000e-003
tblVehicleTrips	SU_TR	2.12	5.0000e-003
tblVehicleTrips	WD_TR	2.12	5.0000e-003
tblWater	IndoorWaterUseRate	100,732,500.00	0.00
tblWater	OutdoorWaterUseRate	0.00	10,430,000.00

2.0 Emissions Summary

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Vega Complex Operations - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2779	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2779	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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Vega Complex Operations - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Energy	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
Mobile	0.0103	0.0121	0.1077	2.3000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		23.1271	23.1271	9.3000e-004	9.6000e-004	23.4367
Total	**51.5354**	**6.0668**	**5.4354**	**0.0366**	**3.5405**	**0.4610**	**4.0015**	**0.3559**	**0.4610**	**0.8169**		**7,286.6919**	**7,286.6919**	**0.1415**	**0.1341**	**7,330.1963**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Energy	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
Mobile	0.0103	0.0121	0.1077	2.3000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		23.1271	23.1271	9.3000e-004	9.6000e-004	23.4367
Total	**51.5354**	**6.0668**	**5.4354**	**0.0366**	**3.5405**	**0.4610**	**4.0015**	**0.3559**	**0.4610**	**0.8169**		**7,286.6919**	**7,286.6919**	**0.1415**	**0.1341**	**7,330.1963**

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Vega Complex Operations - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	12/18/2779	12/17/2779	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1953

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 653,400; Non-Residential Outdoor: 217,800; Striped Parking Area: 5,104,361 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	0	0.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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Vega Complex Operations - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Architectural Coating - 2779

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

PC ORIGINAL PKG

Vega Complex Operations - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Architectural Coating - 2779

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0103	0.0121	0.1077	2.3000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		23.1271	23.1271	9.3000e-004	9.6000e-004	23.4367
Unmitigated	0.0103	0.0121	0.1077	2.3000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		23.1271	23.1271	9.3000e-004	9.6000e-004	23.4367

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	1.09	1.09	1.09	5,381	5,381
Refrigerated Warehouse-No Rail	1.09	1.09	1.09	5,381	5,381
Total	2.18	2.18	2.18	10,763	10,763

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.40	9.50	11.90	59.00	0.00	41.00	92	5	3
Refrigerated Warehouse-No	16.40	9.50	11.90	59.00	0.00	41.00	92	5	3

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Refrigerated Warehouse-No Rail	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
NaturalGas Unmitigated	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	30867.9	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
Total		**0.6658**	**6.0525**	**5.0841**	**0.0363**		**0.4600**	**0.4600**		**0.4600**	**0.4600**		**7,263.0421**	**7,263.0421**	**0.1392**	**0.1332**	**7,306.2027**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	30.8679	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
Total		**0.6658**	**6.0525**	**5.0841**	**0.0363**		**0.4600**	**0.4600**		**0.4600**	**0.4600**		**7,263.0421**	**7,263.0421**	**0.1392**	**0.1332**	**7,306.2027**

6.0 Area Detail

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Vega Complex Operations - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Unmitigated	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	11.3822					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	39.4546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0225	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Total	**50.8593**	**2.2100e-003**	**0.2435**	**2.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**		**0.5228**	**0.5228**	**1.3600e-003**		**0.5569**

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Vega Complex Operations - Imperial County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	11.3822					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	39.4546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0225	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Total	**50.8593**	**2.2100e-003**	**0.2435**	**2.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**		**0.5228**	**0.5228**	**1.3600e-003**		**0.5569**

7.0 Water Detail

7.1 Mitigation Measures Water

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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Vega Complex Operations - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vega Complex Operations

Imperial County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	217.80	1000sqft	5.00	217,800.00	0
Refrigerated Warehouse-No Rail	217.80	1000sqft	5.00	217,800.00	0
Other Asphalt Surfaces	1,953.00	Acre	1,953.00	85,072,680.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2024
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Industrial land use used to account for BESS. Parking used to add acreage of total project site.

Construction Phase - Model run done for operations only.

Off-road Equipment - Model run done for operations only.

Trips and VMT - Model run done for operations only.

Architectural Coating - Model run done for operations only.

Vehicle Trips - Accounting for 2 vehicle trips per day

Road Dust - Percent paved taken from Vega 2 & 3 construcion workers PC ORIGINAL PKG

Vega Complex Operations - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Water And Wastewater - Water use from PD.

Solid Waste - No soild waste generated

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Interior	100.00	0.00
tblConstructionPhase	NumDays	11,000.00	0.00
tblConstructionPhase	PhaseEndDate	2/14/2822	12/17/2779
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	84
tblSolidWaste	SolidWasteGenerationRate	409.46	0.00
tblTripsAndVMT	WorkerTripNumber	7,183.00	0.00
tblVehicleTrips	ST_TR	2.12	5.0000e-003
tblVehicleTrips	SU_TR	2.12	5.0000e-003
tblVehicleTrips	WD_TR	2.12	5.0000e-003
tblWater	IndoorWaterUseRate	100,732,500.00	0.00
tblWater	OutdoorWaterUseRate	0.00	10,430,000.00

2.0 Emissions Summary

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Vega Complex Operations - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2779	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2779	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

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Vega Complex Operations - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	9.2797	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0427	0.0427	1.1000e-004	0.0000	0.0455
Energy	0.1215	1.1046	0.9279	6.6300e-003		0.0840	0.0840		0.0840	0.0840	0.0000	2,697.9588	2,697.9588	0.2828	0.0535	2,720.9819
Mobile	1.5100e-003	2.3700e-003	0.0164	4.0000e-005	0.6444	3.0000e-005	0.6444	0.0648	3.0000e-005	0.0648	0.0000	3.5440	3.5440	1.5000e-004	1.6000e-004	3.5960
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	9.9856	9.9856	1.7300e-003	2.1000e-004	10.0916
Total	**9.4028**	**1.1072**	**0.9662**	**6.6700e-003**	**0.6444**	**0.0841**	**0.7284**	**0.0648**	**0.0841**	**0.1488**	**0.0000**	**2,711.5310**	**2,711.5310**	**0.2848**	**0.0539**	**2,734.7149**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	9.2797	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0427	0.0427	1.1000e-004	0.0000	0.0455
Energy	0.1215	1.1046	0.9279	6.6300e-003		0.0840	0.0840		0.0840	0.0840	0.0000	2,697.9588	2,697.9588	0.2828	0.0535	2,720.9819
Mobile	1.5100e-003	2.3700e-003	0.0164	4.0000e-005	0.6444	3.0000e-005	0.6444	0.0648	3.0000e-005	0.0648	0.0000	3.5440	3.5440	1.5000e-004	1.6000e-004	3.5960
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	9.9856	9.9856	1.7300e-003	2.1000e-004	10.0916
Total	**9.4028**	**1.1072**	**0.9662**	**6.6700e-003**	**0.6444**	**0.0841**	**0.7284**	**0.0648**	**0.0841**	**0.1488**	**0.0000**	**2,711.5310**	**2,711.5310**	**0.2848**	**0.0539**	**2,734.7149**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	12/18/2779	12/17/2779	5	0	

Acres of Grading (Site Preparation Phase): 0

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Vega Complex Operations - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Grading Phase): 0

Acres of Paving: 1953

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 653,400; Non-Residential Outdoor: 217,800; Striped Parking Area: 5,104,361 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	0	0.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2779

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Architectural Coating - 2779

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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Vega Complex Operations - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Architectural Coating - 2779

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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Vega Complex Operations - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5100e-003	2.3700e-003	0.0164	4.0000e-005	0.6444	3.0000e-005	0.6444	0.0648	3.0000e-005	0.0648	0.0000	3.5440	3.5440	1.5000e-004	1.6000e-004	3.5960
Unmitigated	1.5100e-003	2.3700e-003	0.0164	4.0000e-005	0.6444	3.0000e-005	0.6444	0.0648	3.0000e-005	0.0648	0.0000	3.5440	3.5440	1.5000e-004	1.6000e-004	3.5960

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	1.09	1.09	1.09	5,381	5,381
Refrigerated Warehouse-No Rail	1.09	1.09	1.09	5,381	5,381
Total	2.18	2.18	2.18	10,763	10,763

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.40	9.50	11.90	59.00	0.00	41.00	92	5	3
Refrigerated Warehouse-No	16.40	9.50	11.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Refrigerated Warehouse-No Rail	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,495.4807	1,495.4807	0.2598	0.0315	1,511.3581
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,495.4807	1,495.4807	0.2598	0.0315	1,511.3581
NaturalGas Mitigated	0.1215	1.1046	0.9279	6.6300e-003		0.0840	0.0840		0.0840	0.0840	0.0000	1,202.4781	1,202.4781	0.0231	0.0221	1,209.6238
NaturalGas Unmitigated	0.1215	1.1046	0.9279	6.6300e-003		0.0840	0.0840		0.0840	0.0840	0.0000	1,202.4781	1,202.4781	0.0231	0.0221	1,209.6238

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Vega Complex Operations - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	1.12668e+007	0.1215	1.1046	0.9279	6.6300e-003		0.0840	0.0840		0.0840	0.0840	0.0000	1,202.4781	1,202.4781	0.0231	0.0221	1,209.6238
Total		**0.1215**	**1.1046**	**0.9279**	**6.6300e-003**		**0.0840**	**0.0840**		**0.0840**	**0.0840**	**0.0000**	**1,202.4781**	**1,202.4781**	**0.0231**	**0.0221**	**1,209.6238**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	1.12668e+007	0.1215	1.1046	0.9279	6.6300e-003		0.0840	0.0840		0.0840	0.0840	0.0000	1,202.4781	1,202.4781	0.0231	0.0221	1,209.6238
Total		**0.1215**	**1.1046**	**0.9279**	**6.6300e-003**		**0.0840**	**0.0840**		**0.0840**	**0.0840**	**0.0000**	**1,202.4781**	**1,202.4781**	**0.0231**	**0.0221**	**1,209.6238**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	8.67715e+006	1,495.4807	0.2598	0.0315	1,511.3581
Total		**1,495.4807**	**0.2598**	**0.0315**	**1,511.3581**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	8.67715e+006	1,495.4807	0.2598	0.0315	1,511.3581
Total		**1,495.4807**	**0.2598**	**0.0315**	**1,511.3581**

6.0 Area Detail

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Vega Complex Operations - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	9.2797	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0427	0.0427	1.1000e-004	0.0000	0.0455
Unmitigated	9.2797	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0427	0.0427	1.1000e-004	0.0000	0.0455

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.0773					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	7.2005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0200e-003	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0427	0.0427	1.1000e-004	0.0000	0.0455
Total	**9.2797**	**2.0000e-004**	**0.0219**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0427**	**0.0427**	**1.1000e-004**	**0.0000**	**0.0455**

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Vega Complex Operations - Imperial County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.0773					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	7.2005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0200e-003	2.0000e-004	0.0219	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0427	0.0427	1.1000e-004	0.0000	0.0455
Total	**9.2797**	**2.0000e-004**	**0.0219**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0427**	**0.0427**	**1.1000e-004**	**0.0000**	**0.0455**

7.0 Water Detail

7.1 Mitigation Measures Water

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	9.9856	1.7300e-003	2.1000e-004	10.0916
Unmitigated	9.9856	1.7300e-003	2.1000e-004	10.0916

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0 / 10.43	9.9856	1.7300e-003	2.1000e-004	10.0916
Total		**9.9856**	**1.7300e-003**	**2.1000e-004**	**10.0916**

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0 / 10.43	9.9856	1.7300e-003	2.1000e-004	10.0916
Total		**9.9856**	**1.7300e-003**	**2.1000e-004**	**10.0916**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PC ORIGINAL PKG

Vega Complex Operations - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vega Complex Operations

Imperial County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	217.80	1000sqft	5.00	217,800.00	0
Refrigerated Warehouse-No Rail	217.80	1000sqft	5.00	217,800.00	0
Other Asphalt Surfaces	1,953.00	Acre	1,953.00	85,072,680.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2024
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Industrial land use used to account for BESS. Parking used to add acreage of total project site.

Construction Phase - Model run done for operations only.

Off-road Equipment - Model run done for operations only.

Trips and VMT - Model run done for operations only.

Architectural Coating - Model run done for operations only.

Vehicle Trips - Accounting for 2 vehicle trips per day

Road Dust - Percent paved taken from Vega 2 & 3 construcion workers PC ORIGINAL PKG

Vega Complex Operations - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Water And Wastewater - Water use from PD.

Solid Waste - No soild waste generated

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Interior	100.00	0.00
tblConstructionPhase	NumDays	11,000.00	0.00
tblConstructionPhase	PhaseEndDate	2/14/2822	12/17/2779
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	84
tblSolidWaste	SolidWasteGenerationRate	409.46	0.00
tblTripsAndVMT	WorkerTripNumber	7,183.00	0.00
tblVehicleTrips	ST_TR	2.12	5.0000e-003
tblVehicleTrips	SU_TR	2.12	5.0000e-003
tblVehicleTrips	WD_TR	2.12	5.0000e-003
tblWater	IndoorWaterUseRate	100,732,500.00	0.00
tblWater	OutdoorWaterUseRate	0.00	10,430,000.00

2.0 Emissions Summary

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Vega Complex Operations - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2779	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2779	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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Vega Complex Operations - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Energy	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
Mobile	7.2700e-003	0.0134	0.0836	2.0000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		20.3574	20.3574	9.3000e-004	9.9000e-004	20.6764
Total	**51.5323**	**6.0681**	**5.4112**	**0.0365**	**3.5405**	**0.4610**	**4.0015**	**0.3559**	**0.4610**	**0.8169**		**7,283.9222**	**7,283.9222**	**0.1415**	**0.1342**	**7,327.4360**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Energy	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
Mobile	7.2700e-003	0.0134	0.0836	2.0000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		20.3574	20.3574	9.3000e-004	9.9000e-004	20.6764
Total	**51.5323**	**6.0681**	**5.4112**	**0.0365**	**3.5405**	**0.4610**	**4.0015**	**0.3559**	**0.4610**	**0.8169**		**7,283.9222**	**7,283.9222**	**0.1415**	**0.1342**	**7,327.4360**

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Vega Complex Operations - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	12/18/2779	12/17/2779	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1953

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 653,400; Non-Residential Outdoor: 217,800; Striped Parking Area: 5,104,361 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	0	0.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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Vega Complex Operations - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Architectural Coating - 2779

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

PC ORIGINAL PKG

Vega Complex Operations - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Architectural Coating - 2779

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.2700e-003	0.0134	0.0836	2.0000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		20.3574	20.3574	9.3000e-004	9.9000e-004	20.6764
Unmitigated	7.2700e-003	0.0134	0.0836	2.0000e-004	3.5405	1.5000e-004	3.5407	0.3559	1.4000e-004	0.3560		20.3574	20.3574	9.3000e-004	9.9000e-004	20.6764

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	1.09	1.09	1.09	5,381	5,381
Refrigerated Warehouse-No Rail	1.09	1.09	1.09	5,381	5,381
Total	2.18	2.18	2.18	10,763	10,763

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.40	9.50	11.90	59.00	0.00	41.00	92	5	3
Refrigerated Warehouse-No	16.40	9.50	11.90	59.00	0.00	41.00	92	5	3

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Refrigerated Warehouse-No Rail	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
NaturalGas Unmitigated	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027

PC ORIGINAL PKG

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	30867.9	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
Total		**0.6658**	**6.0525**	**5.0841**	**0.0363**		**0.4600**	**0.4600**		**0.4600**	**0.4600**		**7,263.0421**	**7,263.0421**	**0.1392**	**0.1332**	**7,306.2027**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	30.8679	0.6658	6.0525	5.0841	0.0363		0.4600	0.4600		0.4600	0.4600		7,263.0421	7,263.0421	0.1392	0.1332	7,306.2027
Total		**0.6658**	**6.0525**	**5.0841**	**0.0363**		**0.4600**	**0.4600**		**0.4600**	**0.4600**		**7,263.0421**	**7,263.0421**	**0.1392**	**0.1332**	**7,306.2027**

6.0 Area Detail

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Vega Complex Operations - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Unmitigated	50.8593	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	11.3822					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	39.4546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0225	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Total	**50.8593**	**2.2100e-003**	**0.2435**	**2.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**		**0.5228**	**0.5228**	**1.3600e-003**		**0.5569**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	11.3822					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	39.4546					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0225	2.2100e-003	0.2435	2.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004		0.5228	0.5228	1.3600e-003		0.5569
Total	**50.8593**	**2.2100e-003**	**0.2435**	**2.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**		**0.5228**	**0.5228**	**1.3600e-003**		**0.5569**

7.0 Water Detail

7.1 Mitigation Measures Water

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Vega Complex Operations - Imperial County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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ATTACHMENT B

Renewable Energy Emissions Displacement

PC ORIGINAL PKG

Project Fossil Fuel Emissions Displacement

Megawatt Project[1]	Operational Time[2]	Annual Hours of Generation[2]	Annual Kilowatt Hours	Heat Rate[3]	Btu Displaced[4]
14.583 MW	50 Percent	4,380 Hours	63,873,540 Kilowatt Hours	9,313	594,854,278,020

[1] *The Project is anticipated to generate 350 megawatts daily. 350 ÷ 24 hours = 14.583 MWHR facility*

[2] *The Project is assumed to generate electricity 50 percent of the time available (4,380 hours annually).*

[3] *Heat Rate indicates the energy generator efficiency of existing fossil-fuel based energy generators. The heat rate of a power plant measures the amount of fuel used to generate one unit of electricity. Power plants with lower heat rates are more efficient than plants with higher heat rates. The CEC's "Updated Thermal Power Plant Efficiency Measures and Operational Characteristics for Production Cost Modeling" (2019) estimates heat rates and operating ranges for thermal power plants supplying energy to California. The average heat rate of power plants types are as follows:*
***Steam Boiler fueled by coal: 10,800 heat rate. **Steam Boiler fueled by natural gas: 10,200 heat rate. **Gas Turbine: 10,100 heat rate. **Combined natural gas Boiler and Turbine: 7,640 heat rate.*
Omitting steam boilers fueled by coal since so little of California's energy is derived from coal, the average heat rate = 9,313 [(10,100 + 10,200 + 7,640) ÷ 3 = 9,313]

[4] *63,873,540 anuual kilowatt hours x 9,313 average heat rate of existing fossil fuel generators = 594,854,278,020 Btu displaced from fossil fuel production.*
Energy consumption in California is predominately derived from natural gas (34.23%). Coal constitutes 2.96% of all energy-based energy consumption in California. Renewable sources (not including hydroelectric generators) account for 31.70% and nuclear power accounts for 8.98%. 7.34% of the state's energy comes from unspecificed nonrenewable sources and this percentage is added to the natural gas total for the purpose of this analysis. CEC. 2020. "2019 Total System Electric Generation". https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data
247,280,923,373 of the displaced BTU is displaced natural gas consumption and 17,250,774,063 of the displaced BTU is displaced coal.
The heat content of coal is assumed at 24 million Btu per ton of coal burned. At a rate of 24 million Btu per ton of coal burned, the Project would displace 719 tons of burned coal annually.

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Project Fossil Fuel Emissions Displacement

Fossil Fuel Emissions Displacement[5]

Emissions from Natural Gas Generation

247281 Displaced MMBtu

Tons Annually (Metric Tons for GHGs)

NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
0.61	0.19	0.58	0.23	0.42	10,880.36	0.00	0.00	10880.36

Emissions from Coal Generation

719 Displaced tons of burned coal

Tons Annually (Metric Tons for GHGs)

NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
4.31	0.18	0.03	0.02	0.20	1,736.58	0.01	0.01	1739.54

Total Emissions - Natural Gas and Coal

NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
4.92	0.37	0.61	0.26	0.63	12616.94	0.01	0.01	12619.90

[5]Source: Displaced emissions calculated by ECORP Consulting using U.S. EPA's AP-42 Fifth Edition Compilation of Air Emissions Factors 1995; 2015.

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Biological Technical Report

Vega SES 2 and 3 Solar Projects

Imperial County, California

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December 2020, revised September 2022

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ENVIRONMENTAL CONSULTANTS

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LIST OF ACRONYMS AND ABBREVIATIONS

AOU	American Ornithologists' Union
APN	Assessor's Parcel Number
BCC	Bird of Conservation Concern
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CNPSEI	CNPS Electronic Inventory
CRPR	California Rare Plant Rank
CWA	Clean Water Act
ESA	Endangered Species Act
Gen-tie	Generator intertie
GIS	Geographic Information System
GPS	Global Positioning System
HCP	Habitat conservation plan
MBTA	Migratory Bird Treaty Act
MW	Megawatt
MWH	Megawatt-hour
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
Projects	Vega SES 2 and Vega SES 3 Solar Projects
RWQCB	Regional Water Quality Control Board (Colorado River Basin
SAA	Streambed Alteration Agreement
SSAR	Society for the Study of Amphibians and Reptiles
SSC	Species of Special Concern
sUAS	Small unmanned aircraft system
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

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USGS	U.S. Geological Survey

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1.0 INTRODUCTION

The Vega SES 2 and Vega SES 3 Solar Projects (Projects) are proposed 100-Megawatt (MW) direct current (dc) and 400 MW-hour (MWH) battery storage utility-scale solar projects located on approximately 1,712 acres of vacant land on three parcels in Imperial County, California. ECORP Consulting, Inc. conducted a literature review, small unmanned aircraft system (sUAS) survey, and biological reconnaissance survey of the Project sites to document the existing biological resources, to assess the habitat for its potential to support sensitive plant and wildlife species, and, as required under the California Environmental Quality Act (CEQA), to determine whether Project-related impacts could occur to sensitive biological resources.

1.1 Purpose of the Report

This report was prepared to describe biological resources on the Project sites and to support Project review under CEQA. Assessment of potential occurrences of special-status plants and animals is based on habitat, geographic and elevational range, and data from field surveys conducted by ECORP in 2020. For the purposes of this report, the term Project Areas refers to the areas proposed to be directly affected by implementation of the Projects and corresponds to the client-supplied Project boundaries. The term Survey Area refers to the Project Areas and a 500-foot buffer around the Project Area boundaries, potentially subject to temporary or indirect impacts.

1.2 Project Location and Description

The proposed Projects are located on approximately 1,712 acres of vacant land on three parcels in Imperial County, California (Assessor Parcel Numbers [APNs] 025-260-011, 025-010-006, and 025-270-023). The Projects are approximately 10 miles east of the Salton Sea and five miles west of the Chocolate Mountains (Figure 1). As depicted on the U.S. Geological Survey (USGS) 7.5-minute Iris, CA topographic quadrangle, the Projects are located within Sections 3, 4, 7, 8, 9, 10, 14, 15, 16, 17, and 18 of Township 11 South, Range 15 East, San Bernardino Base and Meridian.

For the purposes of this report, Vega 2 and 3 Projects were divided into 3 Study Areas (Figure 2). The term Study Area includes the 500-foot buffer.

A complete summary of geographic information is provided in Table 1.

Table 1. Geographic Information Summary

Study Area	Project Name	Accessor's Parcel Number (APN)	Sections	Township	Range	7.5-minute Quadrangle	Approximate Center of Study Area (latitude/longitude)
1	SES 2	025-260-011	8, 16, 17	11 South	15 East	Iris, CA[1]	33.212810, -115.432084
2	SES 2 and 3	025-010-006	3, 4, 7, 8, 9, 10, 15, 16, 17, 18	11 South	15 East	Iris, CA[1]	33.224760, -115.414804
3	SES 2	025-270-023	10, 14, 15	11 South	15 East	Iris, CA[1]	33.211691, -115.395183

[1]USGS 1992

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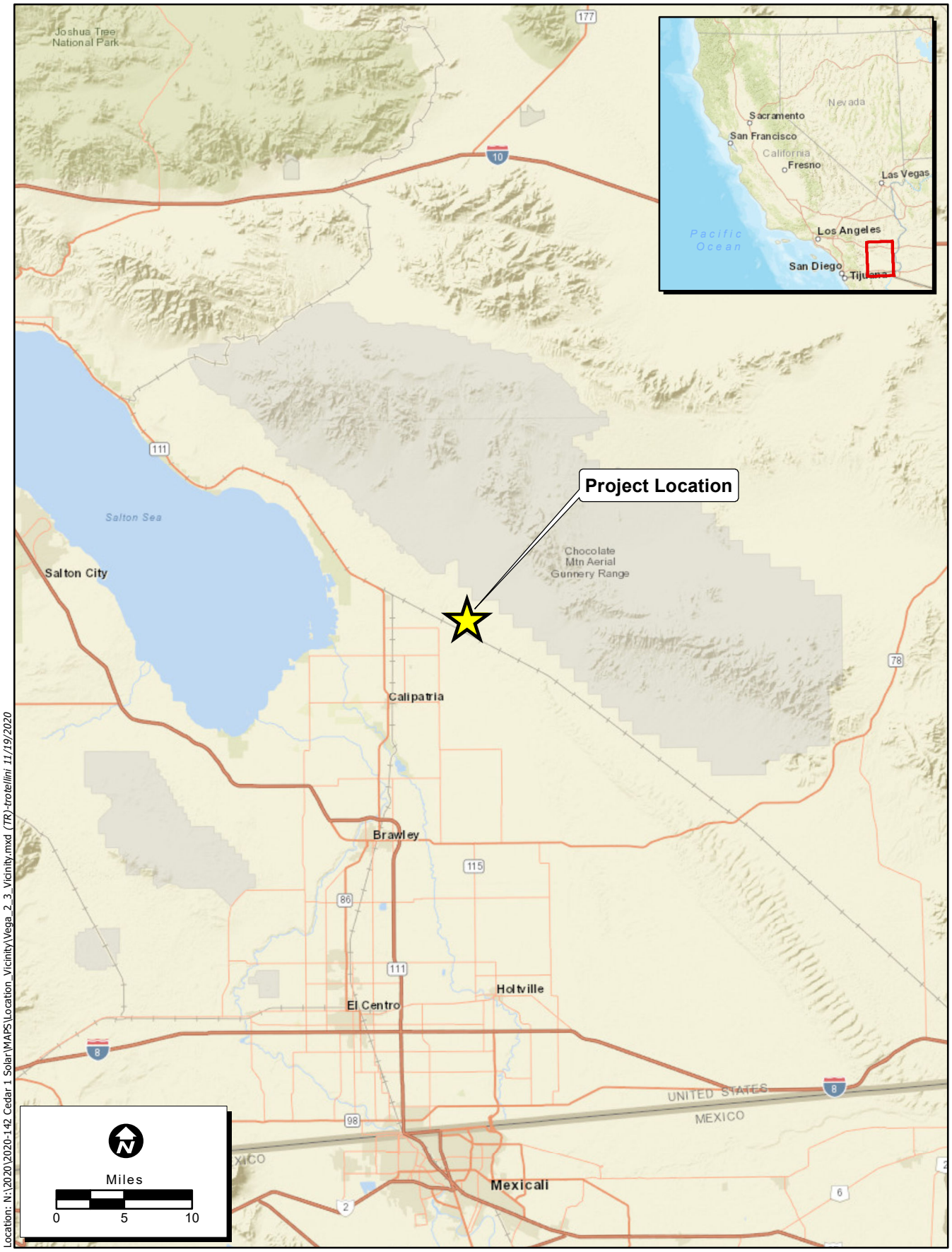

Location: N:\2020\2020-142 Cedar 1 Solar\MAPS\Location_Vicinity\Vega_2_3_Vicinity.mxd (TR)-trotellini 11/19/2020

Map Date: 11/18/2020

Sources:

Figure 1. Project Vicinity

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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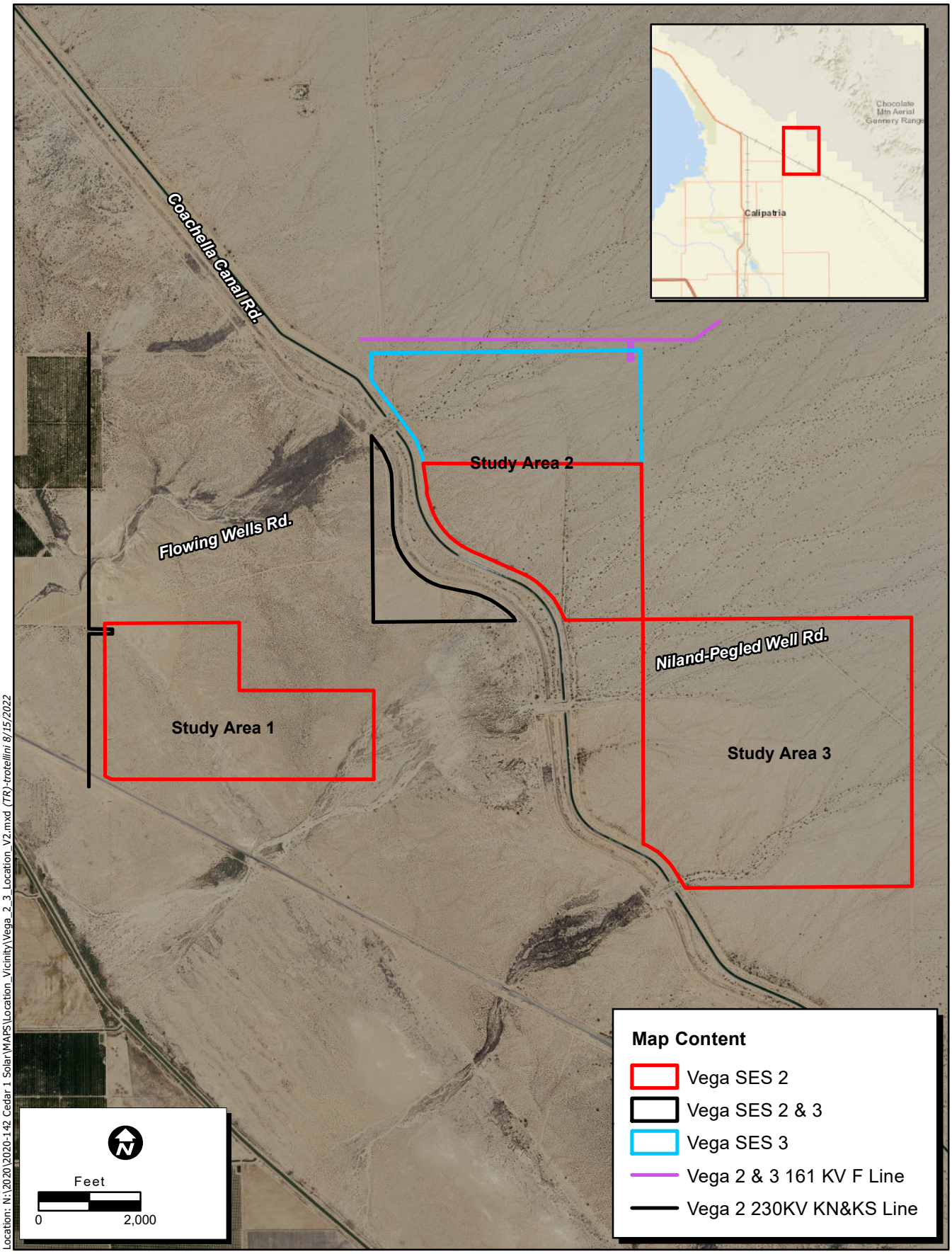

Location: N:\2020\2020-142 Cedar 1 Solar\MAPS\Location_Vicinity\Vega_2_3_Location_V2.mxd (TR)-trotellini 8/15/2022

Map Date: 8/15/2022

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Figure 2. Project Location

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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Study Area 1 includes a battery storage utility-scale solar project located on approximately 448.3 acres of vacant land within one private parcel in Imperial County, California. Study Area 2, also known as the Mesa Grande parcel, includes a battery storage utility-scale solar project located on approximately 640 acres of vacant land within one private parcel in Imperial County. Study Area 3, also known as the Li Tong parcel, includes a battery storage utility-scale solar project located on approximately 624 acres of vacant land within one private parcel in Imperial County. The proposed Projects will connect to previously established Imperial Irrigation District generator intertie lines adjacent to Study Area 1 and 2.

Topography consists of gentle slopes with a gradual increase in elevation from the western extent to the eastern extent. The southwest portion of Study Area 1 (adjacent to the Union Pacific railroad) is slightly below sea level at an elevation of -2 meters (-7 feet) and the eastern extent of Study Area 3 is at an elevation of 55 meters (182 feet) above mean sea level. Adjacent land uses include active agricultural land to the west and Open Space/Bureau of Land Management Land to the north, east, and south. The Coachella Canal travels from northwest to southeast between the project impact areas of Study Area 2. Siphon Six travels through the northwestern portion of Study Area 2 and Siphon Five travels through the southwestern portion of Study Area 2 and the northwestern portion of Study Area 3.

2.0 REGULATORY CONSIDERATIONS

The biological reconnaissance survey was conducted to identify potential constraints and to ensure compliance with state and federal regulations regarding listed, protected, and sensitive species could be achieved. The regulations are detailed below.

2.1 Federal Regulations

2.1.1 Endangered Species Act

The Endangered Species Act (ESA) protects plants and animals that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service. Section 9 of the ESA prohibits the taking of endangered wildlife, where taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 U.S. Code 1538). Under Section 7 of the ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan (HCP) is developed.

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2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

2.1.3 Clean Water Act

The purpose of the Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into Waters of the U.S. without a permit from the U.S. Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The U.S. Environmental Protection Agency (USEPA) acts as a cooperating agency to set policy, guidance, and criteria for use in evaluation permit applications and also reviews USACE permit applications.

The USACE regulates "fill" or dredging of fill material within its jurisdictional features. "Fill material" means any material used for the primary purpose of replacing an aquatic area with dry land or changing the bottom elevation of a water body. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the State Water Resources Control Board (SWRCB), administered by each of nine California Regional Water Quality Control Boards (RWQCBs).

2.2 State and Local Regulations

2.2.1 California Endangered Species Act

The California ESA generally parallels the main provisions of the ESA but, unlike its federal counterpart, the California ESA applies the take prohibitions to species proposed for listing (called "candidates" by the State). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California ESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult

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with California Department of Fish and Wildlife (CDFW) to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

2.2.2 Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under federal and/or California ESAs. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code § 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any State agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code §§ 1900-1913) was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW. The Fish and Wildlife Commission has the authority to designate native plants as "endangered" or "rare" and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code § 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

2.2.4 Porter Cologne Water Quality Control Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" [Water Code 13260(a)].

Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050[e]). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of Waste Discharge Requirements for these activities.

On April 2, 2019, the SWRCB adopted the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (referred to as the Procedures) for inclusion in the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (Resolution No. 2019-0015). The new Procedures include:

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- definition of wetlands and aquatic resources that are Waters of the State,
- description of application requirements for individual orders (not general orders) for water quality certification, or waste discharge requirements,
- description of information required in compensatory mitigation plans, and
- definition of exemptions to application procedures.

The Office of Administrative Law approved the procedures on August 28, 2019, and the rule went into effect May 28, 2020.

2.2.5 California Fish and Game Code

2.2.5.1 Streambed Alteration Agreement

Section 1602 of the California Fish and Game Code requires that a Notification of Lake or Streambed Alteration be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." The CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant is the Streambed Alteration Agreement (SAA). Often, projects that require an SAA also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the SAA may overlap.

2.2.5.2 Migratory Birds

The CDFW enforces the protection of nongame native birds in §§ 3503, 3503.5, and 3800 of the California Fish and Game Code. Section 3513 of the California Fish and Game Code prohibits the possession or take of birds listed under the MBTA. These sections mandate the protection of California nongame native birds' nests and also make it unlawful to take these birds. All raptor species are protected from "take" pursuant to California Fish and Game Code § 3503.5 and are also protected at the federal level by the MBTA of 1918 (USFWS 1918).

2.2.6 Conservation and Open Space Element

Imperial County created the Conservation and Open Space Element plan to provide details and measures for management and preservation of biological resources as well as various other resources (i.e., cultural, soils, minerals). This plan focuses on protecting scarce resources and preventing wasteful exploitation, neglect, and destruction of California's natural resources. The plan outlines areas with sensitive habitat and sensitive species, also labelled "Resource Areas". Open space easements and protection of riparian habitat, rock outcrops, California fan palm oases, and wildlife corridors are also discussed in the plan. As it currently stands, the open space element follows CEQA guidelines with special focus on its scarce resources.

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2.2.7 CEQA Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of an important resource on a population-wide or region-wide basis.

3.0 METHODS

3.1 Literature Review

Prior to conducting the biological reconnaissance survey, ECORP biologists performed a literature review using the CDFW's California Natural Diversity Data Base (CNDDB; CDFW 2020a) and the California Native Plant Society's (CNPS') Electronic Inventory (CNPSEI; CNPS 2020) to determine the special-status plant and

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wildlife species that have been documented in the vicinity of the Project. The CNDDB and CNPSEI database searches were conducted on September 24 and November 2, 2020. ECORP searched CNDDB and CNPSEI records within the Project Area boundaries as depicted on USGS 7.5-minute Iris topographic quadrangle, and the surrounding topographic quadrangles: Wister, Iris Wash, Lion Head Mountain, Niland, Tortuga, Westmorland, Wiest, and Amos. The CNDDB and CNPSEI contain records of reported occurrences of federally or state-listed endangered, threatened, proposed endangered or threatened species, California Species of Special Concern (SSC), and other special-status species or habitat that may occur within or in the vicinity of the Project. Additional information was gathered from the following sources and includes, but is not limited to the following:

- U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) *Web Soil Survey* (NRCS 2020a);
- *Special Animals List* (CDFW 2020b);
- *State and Federally Listed Endangered and Threatened Animals of California* (CDFW 2020c);
- *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012);
- *The Manual of California Vegetation*, 2nd Edition (Sawyer et al. 2009); and
- various online websites (e.g., CalFlora 2020).

A desktop review of the National Wetlands Inventory (USFWS 2020a) and the corresponding USGS topographic maps was also conducted to determine if there were any blue line streams or drainages in the Survey Area that might potentially fall under the jurisdiction of either federal or State agencies.

3.2 Field Survey

3.2.1 sUAS Survey and Vegetation Mapping

Due to the size of the area and limited road access, an initial survey utilizing a sUAS was conducted to quickly assess current site conditions and gather high-resolution imagery. Upon arrival at the site, an initial field reconnaissance was conducted by the drone pilot to obtain an understanding of the site topography, access, vegetation densities, and staging areas for controlling the aerial flights. The drone was programmed to do a systematic flight over the property to collect high-resolution aerial photographs of the entire property. The photos collected were then combined into a single orthomosaic image that was incorporated into mapping files in a Geographic Information System (GIS).

The information gathered from the sUAS/drone survey were then used to assist the biologists with accurate mapping of the vegetation communities. A botanist utilized the high-resolution drone imagery to map vegetation communities. Vegetation classifications were in accordance with *A Manual of California Vegetation* (Sawyer et al. 2009). Vegetation communities that did not fit within the Sawyer classification system were described following Holland (1986) or Cowardin (alternative methods). Areas of the site that had already been graded, developed, and/or disturbed were mapped as such. Acreages of each vegetation community were calculated based on GIS data collected during the sUAS survey.

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3.2.2 Biological Reconnaissance Survey

The biological reconnaissance survey was conducted by walking the entire Study Area to determine the vegetation communities and wildlife habitats on the Project sites. Private property and inaccessible areas within the buffer were surveyed utilizing 8x42 binoculars. The biologists documented the plant and animal species present in the Survey Area and the conditions within the Survey Area were assessed for their potential to provide habitat for special-status plant and wildlife species, including those from the literature review. Data were recorded on submeter Global Positioning System (GPS) devices, data sheets, and maps. In instances where a special-status species was observed, the date, species, location and habitat, and GPS coordinates were recorded. The locations of special-status species observations were recorded using a handheld submeter GPS in North American Datum (NAD) 83, Universal Transverse Mercator (UTM) coordinates, Zone 11S. Photographs were also taken during the survey to provide visual representation of the various vegetation communities within the Project sites. The Project sites were also examined to assess its potential to facilitate wildlife movement or function as a movement corridor for wildlife throughout the region.

Plant and wildlife species, including any special-status species that were observed during the survey, were recorded. Plant nomenclature follows that of *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012). Wildlife nomenclature follows that of *The American Ornithologists' Union (AOU) Checklist of North American Birds* (AOU 2020), the Society for the Study of Amphibians and Reptiles (SSAR 2017), and the *Revised Checklist of North American Mammals North of Mexico* (Bradley et al. 2014).

3.2.3 Aquatic Resources Delineation

An aquatic resources delineation was conducted by ECORP delineation specialists in conjunction with the biological reconnaissance survey, the results of which are presented under separate cover (ECORP 2020).

3.3 Potential for Occurrence Determinations

Using information from the literature review and observations in the field, a list of special-status plant and animal species that have potential to occur within the Survey Area was generated. For the purposes of this assessment, special-status species are defined as plants or animals that:

- have been designated as either rare, threatened, or endangered by CDFW, CNPS, or the USFWS, and/or are protected under either the federal or California ESAs;
- are candidate species being considered or proposed for listing under these same acts;
- are fully protected by the California Fish and Game Code, §§ 3511, 4700, 5050, or 5515; and
- are of expressed concern to resource and regulatory agencies or local jurisdictions.

Special-status species reported for the region in the literature review or for which suitable habitat occurs on the Survey Area were assessed for their potential to occur within the Survey Area based on the following guidelines:

Present: The species was observed on site during a site visit or focused survey.

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High: Habitat (including soils and elevation factors) for the species occurs within the Survey Area and a known occurrence has recently been recorded (within the last 20 years) within five miles of the area.

Moderate: Habitat (including soils and elevation factors) for the species occurs within the Survey Area and a documented observation occurs within the database search, but not within five miles of the area; a historic documented observation (more than 20 years old) was recorded within five miles of the Survey Area; or a recently documented observation occurs within five miles of the area and marginal or limited amounts of habitat occurs in the Project site.

Low: Limited or marginal habitat for the species occurs within the Survey Area and a recently documented observation occurs within the database search, but not within five miles of the area; a historic documented observation (more than 20 years old) was recorded within five miles of the Survey Area; or suitable habitat strongly associated with the species occurs on site, but no records or only historic records were found within the database search.

Presumed Absent: Species was not observed during a site visit or focused surveys conducted in accordance with protocol guidelines at an appropriate time for identification; habitat (including soils and elevation factors) does not exist on site; or the known geographic range of the species does not include the Survey Area.

Note: Location information on some special-status species may be of questionable accuracy or unavailable. Therefore, for survey purposes, the environmental factors associated with a species' occurrence requirements may be considered sufficient reason to give a species a positive potential for occurrence. In addition, just because a record of a species does not exist in the databases does not mean it does not occur. In many cases, records may not be present in the databases because an area has not been surveyed for that particular species.

4.0 RESULTS

The results of the literature review and field surveys, including site characteristics, vegetation communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors) are summarized below.

4.1 Literature Review

4.1.1 Special-Status Plants and Wildlife

Special-status plants and wildlife species reported for the region in the literature review or for which suitable habitat occurs were evaluated for their potential to occur within the Project Areas or in the buffer areas within the Survey Area where indirect impacts could occur. Of all available records, a total of 18 special-status plant species and 19 special-status wildlife species were identified as having the potential for occurrence in the vicinity of the Project Areas (Attachments B and C).

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4.1.2 U.S. Fish and Wildlife Service Designated Critical Habitat

The Project Areas are not located within any USFWS-designated critical habitat. The closest designated critical habitat is for desert tortoise (*Gopherus agassizii*) located approximately seven miles to the northeast and Peirson's milk-vetch (*Astragalus magdalenae* var. *peirsonii*) located approximately six miles to the southeast of the Project Areas.

4.2 Biological Reconnaissance Survey

The biological reconnaissance survey was conducted by ECORP biologists Christina Congedo, Greg Hampton, Caroline Garcia, Christina Torres, and Jennifer Kendrick. Summarized below are the results of the biological reconnaissance survey, including site characteristics, plants and plant communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors). Weather conditions during the survey are summarized in Table 2.

Table 2. Weather Conditions During the Survey

Study Area	Date	Time		Temperature (˚F)		Cloud Cover (%)		Wind Speed (mph)	
		Start	End	Start	End	Start	End	Start	End
1	09/29/2020	0630	1400	67	105	0	0	4	3-6
1	9/30/2020	0640	1200	69	105	0	0	4-5	7
2	11/9/2020	0830	1530	57	64	5	0	0	0-3
2	11/10/2020	0745	1605	49	64	0	0	0	0
2 and 3	11/11/2020	0930	1645	63	67	0	0	2-3	2-3
3	11/12/2020	0800	1600	55	72	15	5	0-3	0-3
3	11/13/2020	0750	1430	48	77	0	0	0-3	0-3

4.2.1 Property Characteristics

The Study Areas consist of mostly undeveloped land. Disturbances onsite include the railroad, Coachella Canal, a small grove of active agriculture, and roads. An extensive alluvial fan system with associated riparian community traverses the Study Areas. This system begins at the Chocolate Mountains to the northeast and heads southwest across the sites. Study Area 1 is bordered by an active railroad right-of-way to the southwest. Within the southeast buffer of Study Area 1, an intermittent drainage flows southwest under the railroad tracks via a concrete underpass. A ridgeline, which runs northwest-southeast splits Study Area 1, with either side of the ridge descending into lowlands. Portions of the Coachella Canal travel through the western sections of Study Areas 2 and 3. Adjacent land uses include agricultural land to the west and undeveloped land to the north, south, and east. Representative site photographs are included in Attachment A.

Topography for the Study Areas generally consists of gentle slopes with a gradual increase in elevation from the western extent to the eastern extent. The southwest portion of Study Area 1 is slightly below sea

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level at an elevation of -2 meters (-7 feet), and the eastern extent of Study Area 3 is at an elevation of 55 meters (182 feet) above mean sea level. A soils analysis search was conducted using the Web Soil Survey data (NRCS 2020a). The eastern portions of Study Areas 2 and 3 fall within the Colorado Desert Area soil survey; therefore, soil survey data was not available for these portions. Eleven soil units, or types, occur within the Project Areas (Figure 3). These include:

- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 129 – Pits
- 130 - Rositas sand, 0 to 2 percent slopes
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 139 - Superstition loamy fine sand
- 141- Torriorthents and Orthids, 5 to 30 percent slopes
- 145 - Water

The Niland gravelly sand (124), Niland gravelly sand, wet (125), and Pits (129) map units contain hydric minor components (NRCS 2020b). A summary of characteristics based on official series descriptions for each of the soil series mapped within the Study Areas are provided under separate cover in the aquatic resources delineation report (ECORP 2020).

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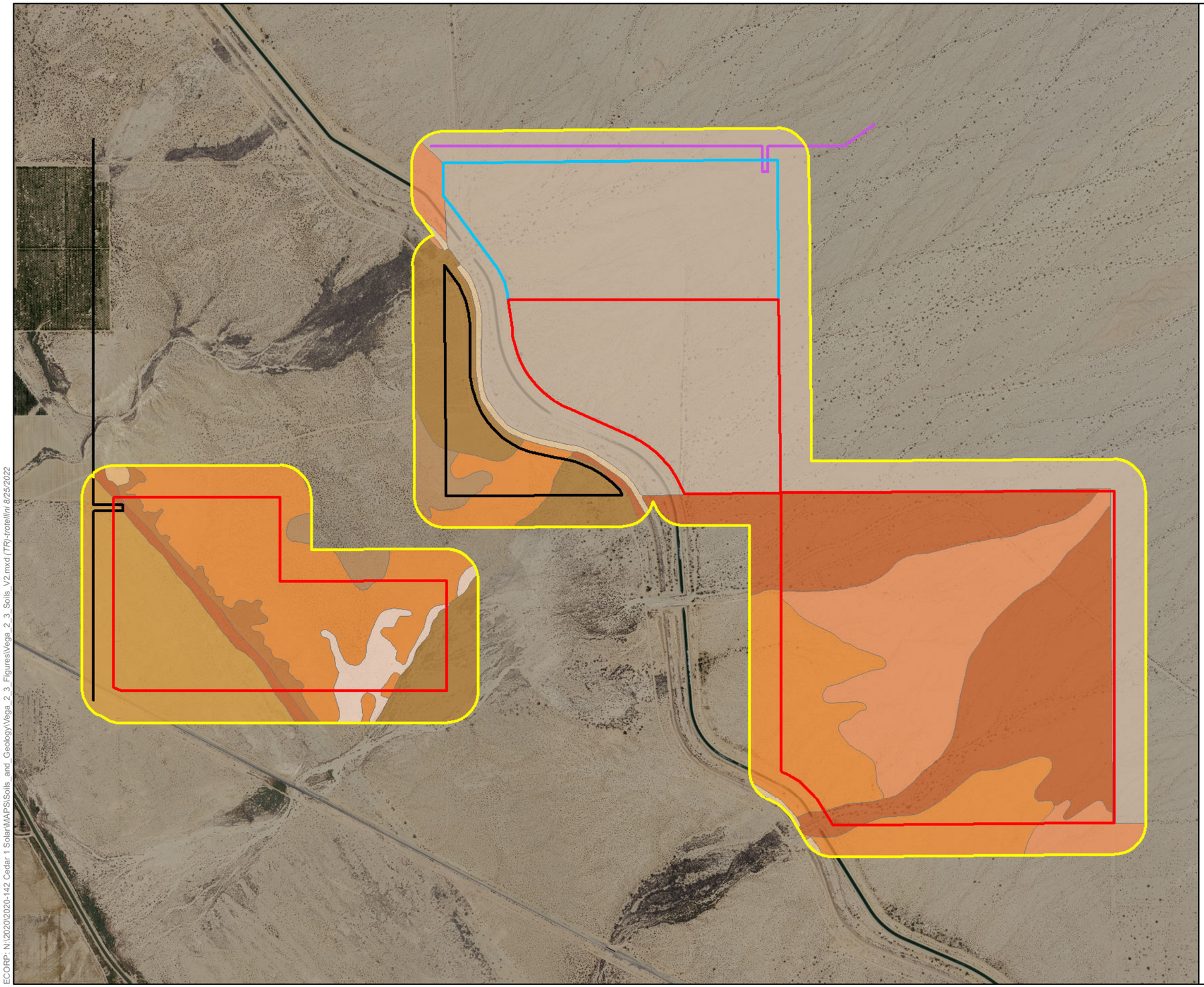


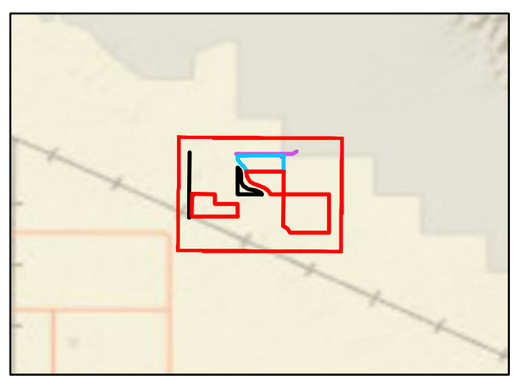
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Series Designation - Series Description

- 102 - Badland
- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 129 - Pits
- 130 - Rositas sand, 0 to 2 percent slopes
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 139 - Superstition loamy fine sand
- 141 - Torriorthents and Orthids, 5 to 30 percent slopes
- 145 - Water
- NOTCOM - No Digital Data Available

Sources: NAIP (2018)
Other Related Info if Needed



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Map Date: 8/25/2022

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Scale in Feet
0 500 1,000 1,500

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Figure 3. Natural Resources Conservation Service Soil Types
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

4.2.2 Vegetation Communities/Land Use

The majority of the Study Areas consists of creosote bush scrub and blue palo verde/ironwood woodland. The location of each vegetation community in the Study Areas are described in detail below and presented on Figure 4. Acreage of each habitat and vegetation community in the Project Areas, where direct impacts would occur, are shown in Table 3. Representative photographs of the habitats within the Study Areas are included in Attachment A.

Table 3. Vegetation Communities and Land Covers in Project Areas

Vegetation Communities and Land Covers	Acres
Bush Seepweed Scrub	7.44
Creosote Bush Scrub	881.97
Disturbed Creosote Bush Scrub	11.30
Blue Palo Verde/Ironwood Woodland	230.73
Tamarisk Thickets	1.57
Urban/Developed - Roads	8.50
Project Area Totals	**1141.51**

4.2.2.1 Bush Seepweed Scrub (*Suaeda [moquinii] nigra* Shrubland Alliance)

Bush sweepweed scrub is found on flat to gently sloping valley bottoms, bajadas, and toe slopes adjacent to alluvial fans. Bush seepweed scrub is dominated by bush sweepweed, a USFWS Wetland Inventory OBL species (USACE 1996), and can be co-dominant with four-wing saltbush (*Atriplex canescens*) and/or alkali goldenbush (*Isocoma acradenia*). This vegetation community typically has a sparse to intermittent herbaceous layer. This community was only observed in Study Area 1. Bush seepweed dominated the shrub cover with occasional occurrences of four-wing saltbush, arrow weed (*Pluchea sericea*), big saltbush (*Atriplex lentiformis*), alkali goldenbush, and tamarisk.

4.2.2.2 Creosote Bush Scrub (*Larrea tridentata* Shrubland Alliance)

Creosote bush scrub is the most characteristic vegetation of the California desert and is found on alluvial fans, bajadas, upland slopes, and washes. Creosote bush scrub is dominated by a nearly monotypic stand of creosote bush with an open canopy and an herbaceous layer of seasonal annuals and perennials. This community was dominant in all three Study Areas. Other species that were observed within this community included burrobush (*Ambrosia dumosa*), narrow leaved cryptantha (*Cryptantha angustifolia*), and desert plantain (*Plantago ovata*).

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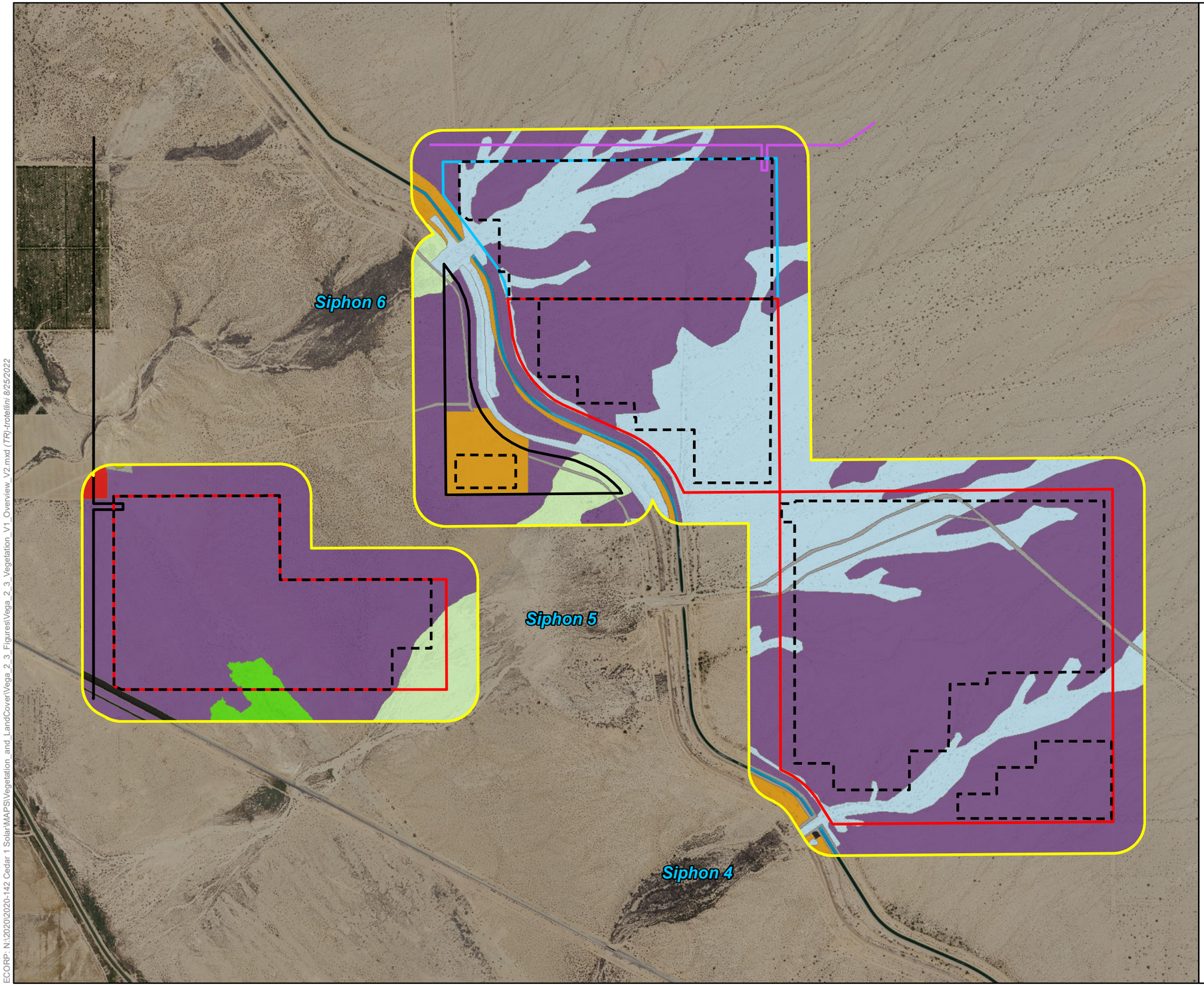


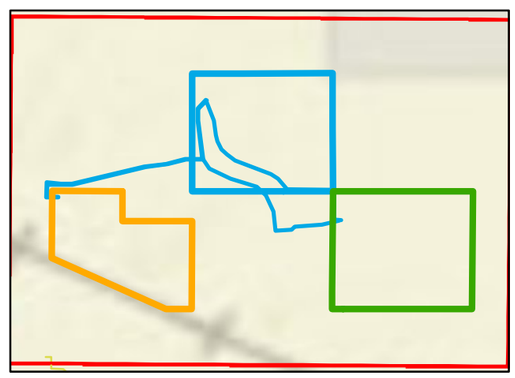
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Impact Areas
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Vegetation Communities and Land Cover

- Blue Palo Verde - Ironwood Woodland
- Four-wing Saltbush Scrub
- Bush Seepweed Scrub
- Active Agriculture
- Channel
- Creosote Bush Scrub
- Disturbed Creosote Bush Scrub
- Tamarisk Thickets
- Urban/Developed - Dirt Roads
- Urban/Developed

Sources: NAIP(2018), ECORP UAS Imagery (2020)
Other Related Info if Needed



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Map Date: 8/25/2022

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Scale in Feet
0 500 1,000 1,500

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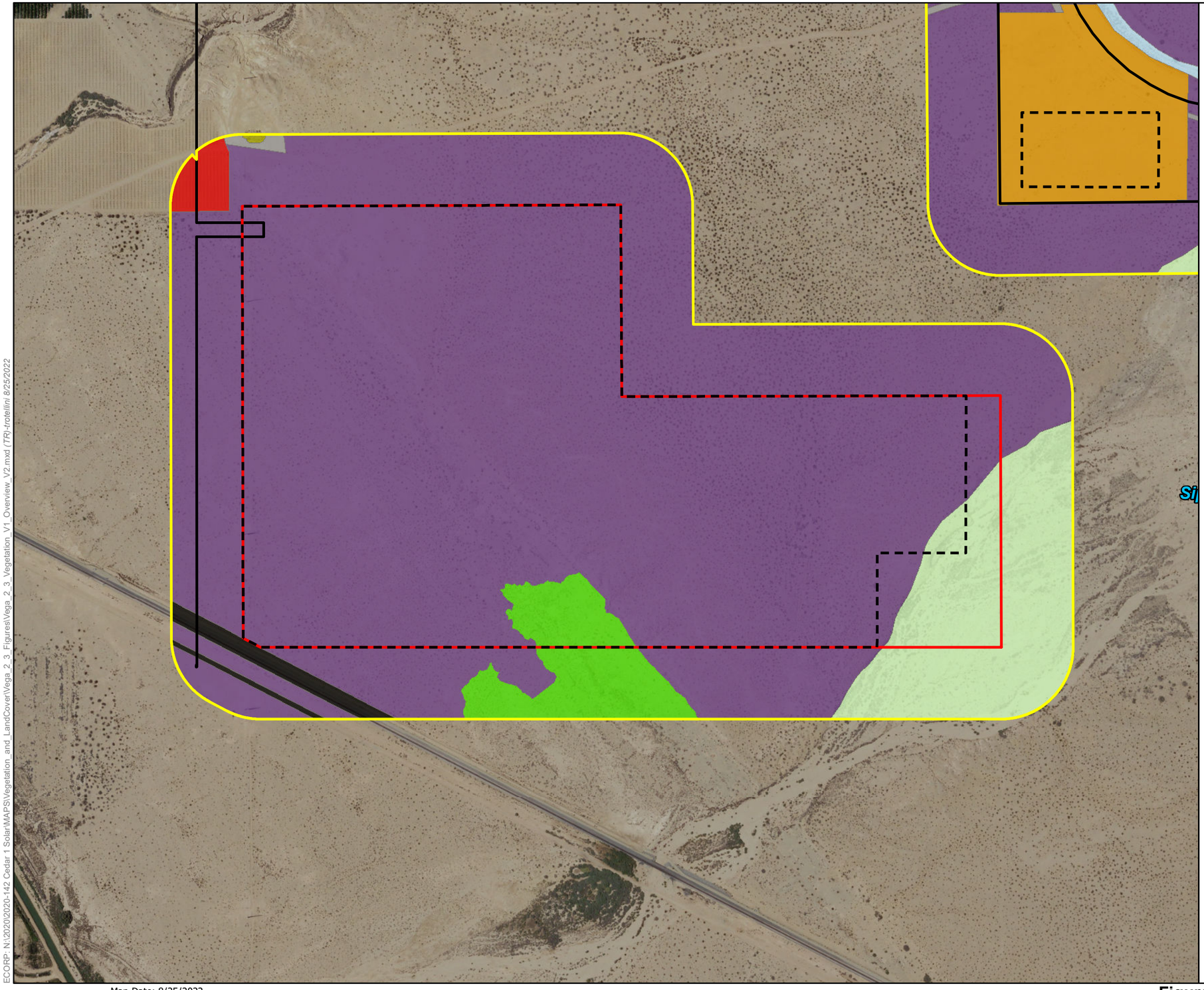
Figure 4. Vegetation Communities and Land Cover Overview
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



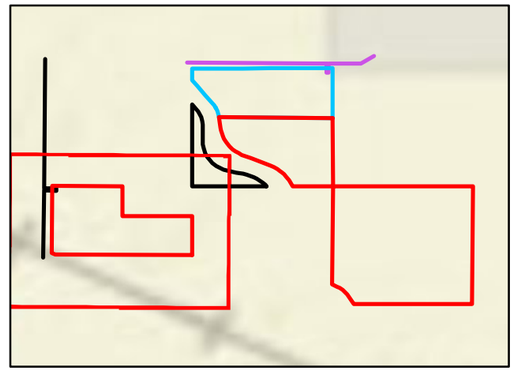
Map Features

- Vega SES 2
- Vega SES 2 & 3
- 500-ft Buffer
- Impact Areas
- Vega 2 230KV KN&KS Line

Vegetation Communities and Land Cover

- Blue Palo Verde - Ironwood Woodland
- Four-wing Saltbush Scrub
- Bush Seepweed Scrub
- Active Agriculture
- Creosote Bush Scrub
- Disturbed Creosote Bush Scrub
- Tamarisk Thickets
- Urban/Developed - Dirt Roads
- Urban/Developed

Sources: NAIP(2018), ECORP UAS Imagery (2020)
Other Related Info if Needed



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Map Date: 8/25/2022

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Scale in Feet
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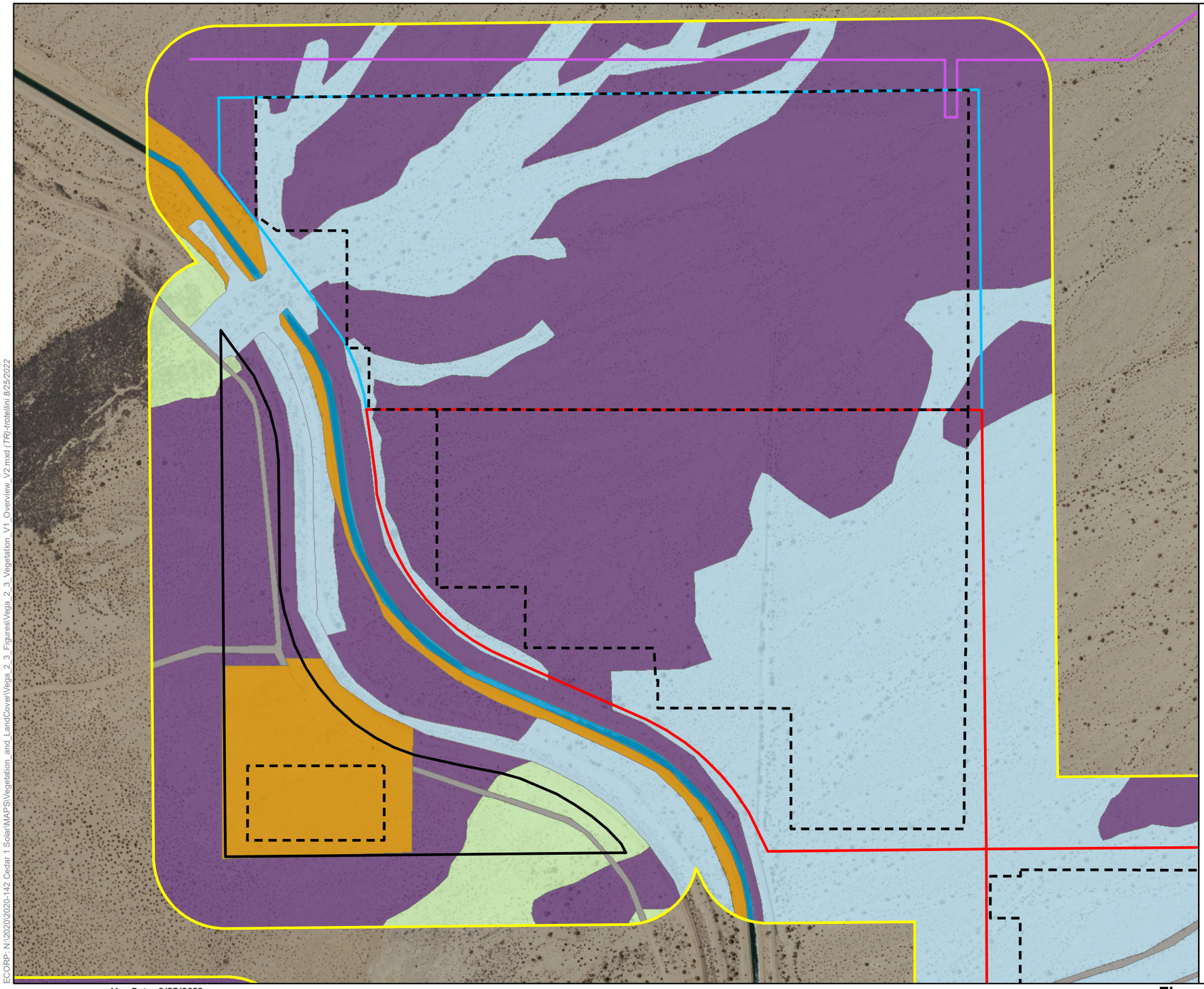
Figure 4. Vegetation Communities and Land Cover
Study Area 1
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



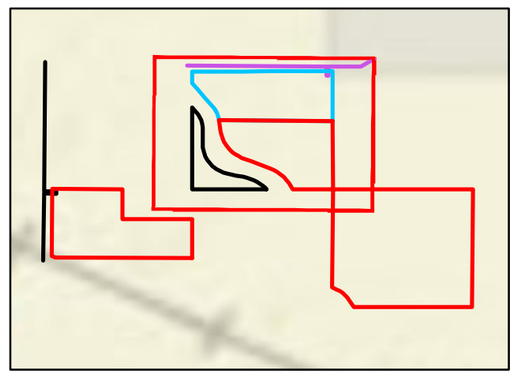
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Impact Areas
- Vega 2 & 3 161 KV F Line

Vegetation Communities and Land Cover

- Blue Palo Verde - Ironwood Woodland
- Channel
- Creosote Bush Scrub
- Disturbed Creosote Bush Scrub
- Tamarisk Thickets
- Urban/Developed - Dirt Roads

Sources: NAIP(2018), ECORP UAS Imagery (2020)
Other Related Info if Needed



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Map Date: 8/25/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
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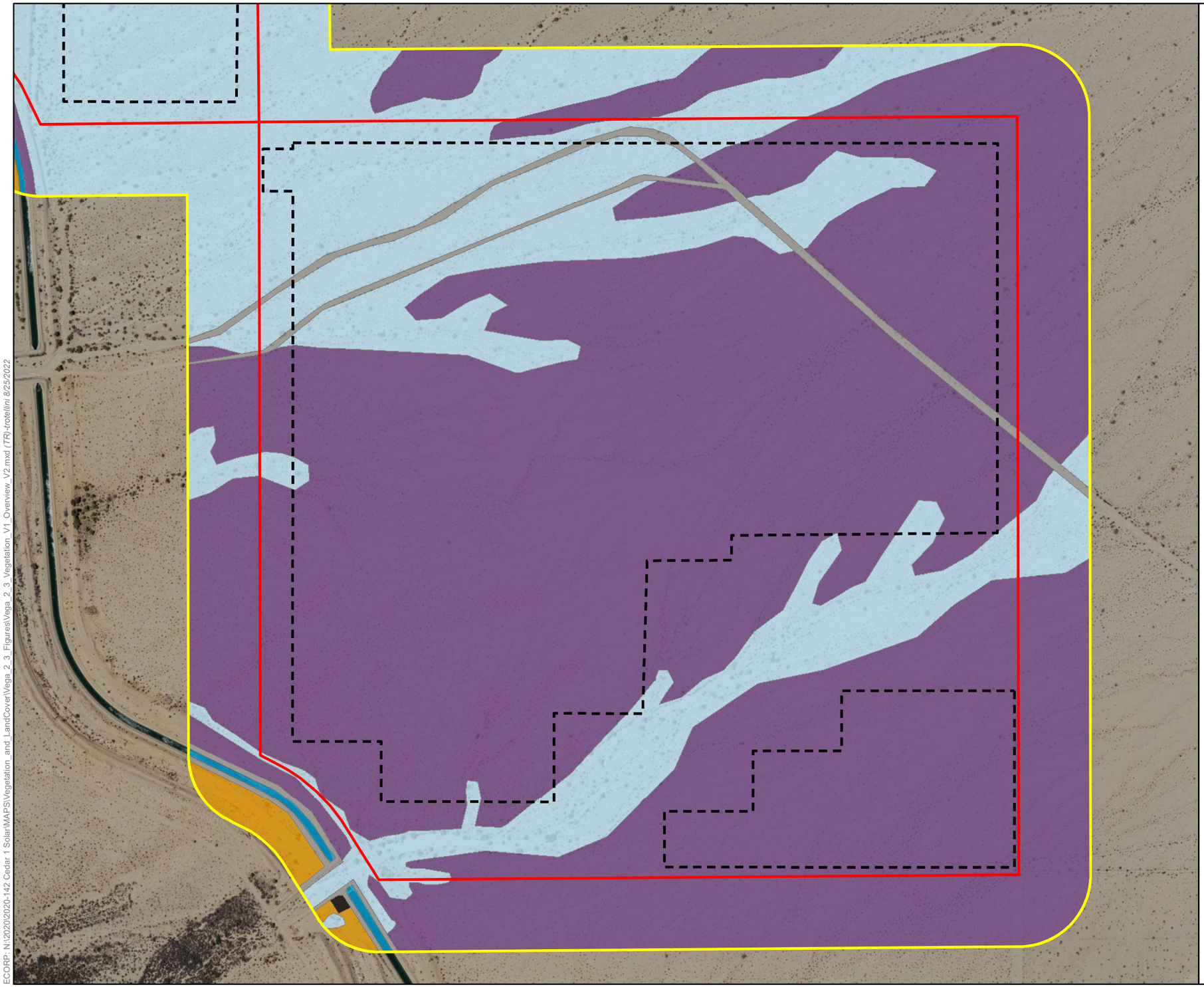
PC ORIGINAL PKG

Figure 4. Vegetation Communities and Land Cover
Study Area 2
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



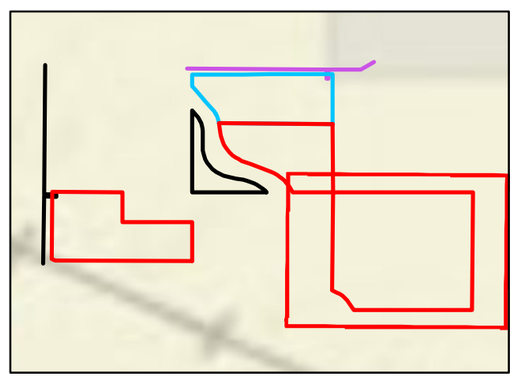
Map Features

- Vega SES 2
- 500-ft Buffer
- Impact Areas

Vegetation Communities and Land Cover

- Blue Palo Verde - Ironwood Woodland
- Channel
- Creosote Bush Scrub
- Disturbed Creosote Bush Scrub
- Urban/Developed - Dirt Roads
- Urban/Developed

Sources: NAIP(2018), ECORP UAS Imagery (2020)
Other Related Info if Needed



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Map Date: 8/25/2022

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Scale in Feet
0 350 700

PC ORIGINAL PKG

Figure 4. Vegetation Communities and Land Cover
Study Area 3
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

4.2.2.3 Disturbed Creosote Bush Scrub (Disturbed *Larrea tridentata* Shrubland Alliance)

Disturbed creosote bush is creosote bush scrub that has been previously altered. Within Study Areas 2 and 3, this vegetation cover is characterized as sparser with a high percentage of nonnative plant species including common Mediterranean grass (*Schismus barbatus*) and Saharan mustard (*Brassica tournefortii*).

Other plant species observed within this community include desert plantain and crinkle mat (*Tiquilia plicata*).

4.2.2.4 Blue Palo Verde/Ironwood Woodland (*Parkinsonia florida - Olneya tesota* Woodland Alliance)

Blue palo verde/ironwood woodland is characterized by blue palo verde or ironwood as a dominant or co-dominant plant species in the tree or tall shrub canopy that is open to continuous. The shrub layer is intermittent or open, while the herbaceous layer is sparse with seasonal annuals. It occurs in desert arroyo margins, seasonal watercourses, desert washes, bottomlands, bajadas, alluvial fans, and lower slopes. Blue palo verde/ironwood woodland take up large portions of Study Area 2 and 3. Other plant species observed within this community included creosote bush, cheesebush (*Ambrosia salsola*), and burrobush.

4.2.2.5 Tamarisk Thickets (*Tamarix* spp. Shrubland Semi-Natural Alliance)

Tamarisk thickets are characterized by a weedy monoculture of tamarisk. This habitat is typically in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. Within all three Study Areas, tamarisk was often the dominant, with arrow weed occasionally as a co-dominant plant species. Other species observed within this community included popcorn flowers (*Cryptantha* spp.), screw bean mesquite (*Prosopis pubescens*), and Mediterranean grass.

4.2.2.6 Other Land Cover Types

Urban/Developed

Urban/Developed areas do not constitute a vegetation classification, but rather a land cover type. Areas mapped as developed have been constructed upon or otherwise physically altered to an extent that natural vegetation communities are no longer supported. In the Study Areas, this land cover consisted primarily of compacted dirt roads and structures. In Study Area 1, an area consisting of bare ground surrounding four-wing saltbush scrub was also classified as "urban/developed – dirt roads" as this area functioned as a vehicle turnaround.

4.2.2.7 Vegetation Communities and Land Covers within Survey Area

One additional vegetation community and one additional land cover was observed within the buffer, but not within the Project Areas. These are described in detail below. No impacts to this vegetation community and land cover are expected as a result of Project-related activities.

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Active Agriculture

Active agriculture consists of row crops that include planted, typically monotypic rows of crops of annual and perennial species with open space between rows. Species composition frequently changes by season and year. Row crops often occur in upland areas with high soil quality, or floodplains and are almost always artificially irrigated. This land cover was observed in the northwestern portion of the buffer of Study Area 1.

Fourwing Saltbush Scrub (Atriplex canescens Shrubland Alliance)

Fourwing saltbush scrub is characterized by fourwing saltbush as a dominant within the shrub layer. The shrub canopy is open or intermittent, while the herbaceous layer can be variable, with seasonal herbs and nonnative grasses. It is found within playas, shores, lake deposits, dissected alluvial fans, or channel beds. Fourwing saltbush scrub was only observed in a small section within the buffer of Study Area 2. Other plant species observed areas within this community included creosote bush, Mediterranean grass, and brittlebush (*Encelia* spp.).

4.2.3 Wildlife Observed

Wildlife species observed included western side-blotch lizard (*Uta stansburiana elegans*), western whiptail lizard (*Aspidoscelis tigris*), desert patch-nosed snake (*Salvadora hexalepis hexalepis*), northern harrier *(Circus hudsonius*), loggerhead shrike (*Lanius ludovicianus*), black-tailed gnatcatcher (*Polioptila melanura*), great egret (*Ardea alba*), American kestrel (*Falco sparverius*), Gambel's quail (*Callipepla gambelii*), European starling (*Sturnus vulgaris*), killdeer (*Charadrius vociferus*), rock wren (*Salpinctes obsoletus*), turkey vulture (*Cathartes aura*), common raven (*Corvus corax*), great-tailed grackle (*Quiscalus mexicanus*), phainopepla (*Phainopepla nitens*), red-tailed hawk (*Buteo jamaicensis*), greater roadrunner (*Geococcyx californianus*), ladder-backed woodpecker (*Dryobates scalaris*), black phoebe (*Sayornis nigricans*), Say's phoebe (*Sayornis saya*), house finch (*Haemorhous mexicanus*), black-throated sparrow (*Amphispiza bilineata*), white-crowned sparrow (*Zonotrichia leucophrys*), Anna's hummingbird *(Calypte anna*), bushtit (*Psaltriparus minimus*), peregrine falcon (*Falco peregrinus*), cactus wren (*Campylorhynchus brunneicapillus*), lesser goldfinch (*Spinus psaltria*), black-tailed jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), bobcat (*Lynx rufus*), and signs of coyote (*Canis latrans*), desert kit fox (*Vulpes macrotis*), antelope squirrel (*Ammospermophilus leucurus*), kangaroo rat (*Dipodomys* sp.), and raccoon (*Procyon lotor*).

4.3 Special-Status Species Assessment

The literature review resulted in 22 special-status plant and 27 special-status wildlife species that have historically been recorded in the vicinity of the Project Areas or that are highly associated with habitat that occurs on the Project sites. Special-status plants were evaluated for their potential to occur within the Project Areas where impacts could occur. Special-status wildlife were evaluated for their potential to occur within the Survey Areas, a broader area that includes the Project Areas and buffer, where direct or indirect impacts could occur. Special-status wildlife species observed during the reconnaissance survey are depicted on Figure 5.

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4.3.1 Plants

Numerous special-status plant species have been recorded within five miles of the Project Areas, according to the CNDDB (CDFW 2020a), IPaC (USFWS 2020b), and CNPSEI (CNPS 2020). Of all available records, 18 special-status plant species were identified as those with the potential for occurrence within the vicinity of the Project Areas, while an additional four plant were presumed absent based on their known habitat not occurring within the Project Areas. Descriptions of the CNPS designations are found in Table 4 and a list of the special-status plant species identified in the literature review is presented below (CNPS 2020).

Table 4. CNPS Status Designations

List Designation	Meaning
1A	Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B	Plants Rare, Threatened, or Endangered in California and Elsewhere
2A	Plants Presumed Extirpated in California, But Common Elsewhere
2B	Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3	Plants about which we need more information; a review list
4	Plants of limited distribution; a watch list
List 1B, 2, and 4 extension meanings:	
.1	Seriously threatened in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)
.2	Moderately threatened in California (20-80 percent occurrences threatened / moderate degree and immediacy of threat)
.3	Not very threatened in California (less than 20 percent of occurrences threatened / low degree and immediacy of threat or no current threats known)

Note: According to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code (California Department of Fish and Game [CDFG] 1984). This interpretation is inconsistent with other definitions.

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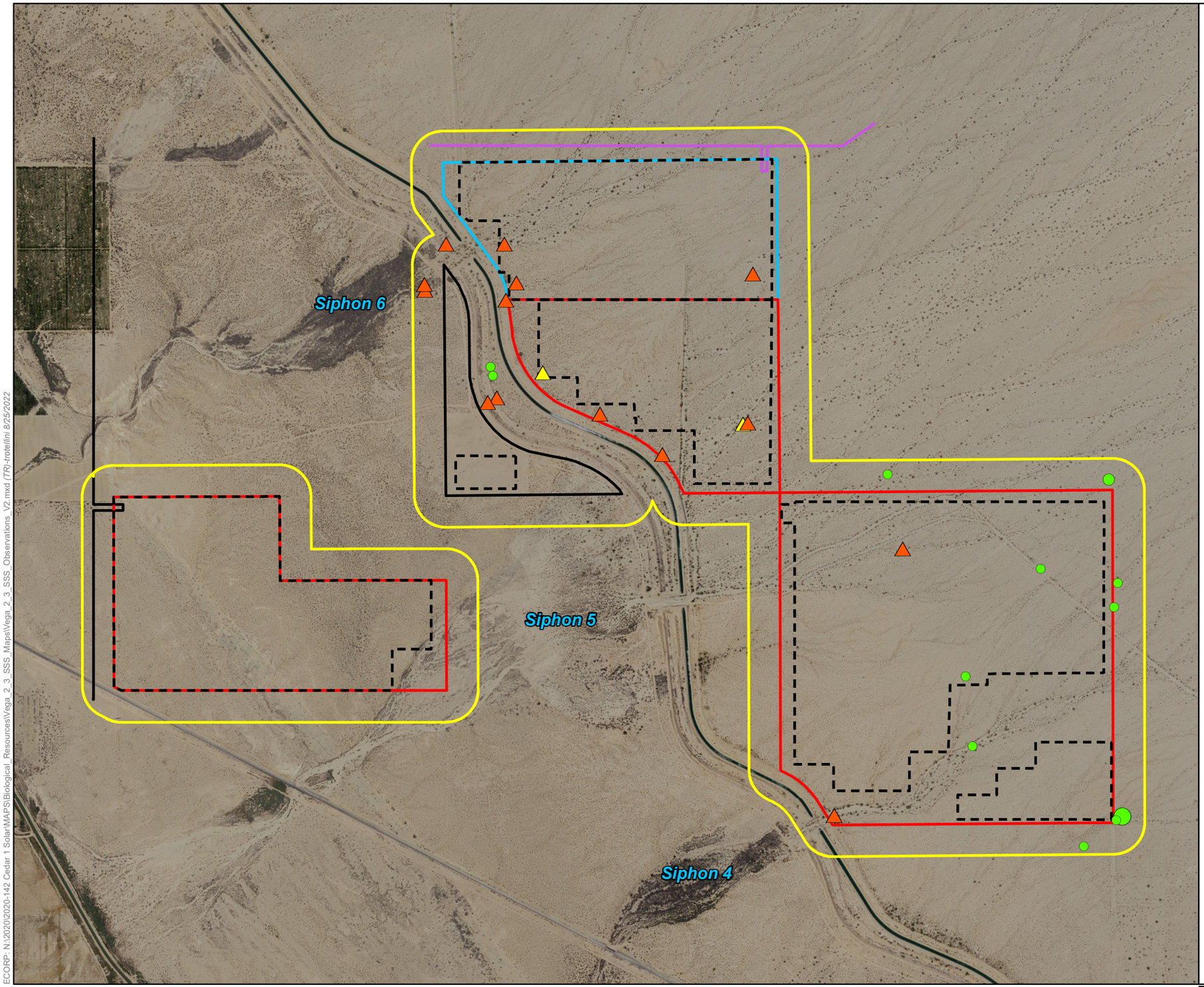


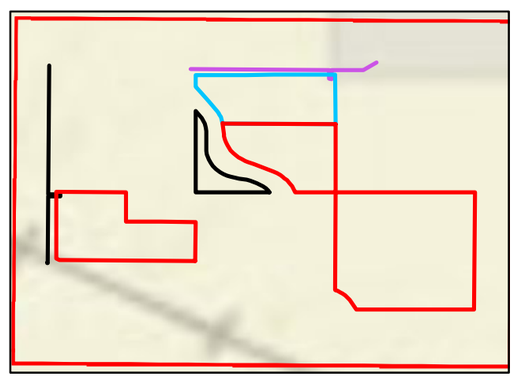
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Impact Areas
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Special status Species Observations

- Munz's cholla *(Cylindropuntia munzii)*
- Munz's cholla *(Cylindropuntia munzii)* (2 Count)
- Munz's cholla *(Cylindropuntia munzii)* (3-4 Count)
- Black-tailed Gnatcatcher (*Polioptila melanura*)
- Loggerhead Shrike (*Lanius ludovicianus*)

Sources: NAIP (2018)
Other Related Info if Needed



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Map Date: 8/25/2022

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Scale in Feet
0 500 1,000 1,500

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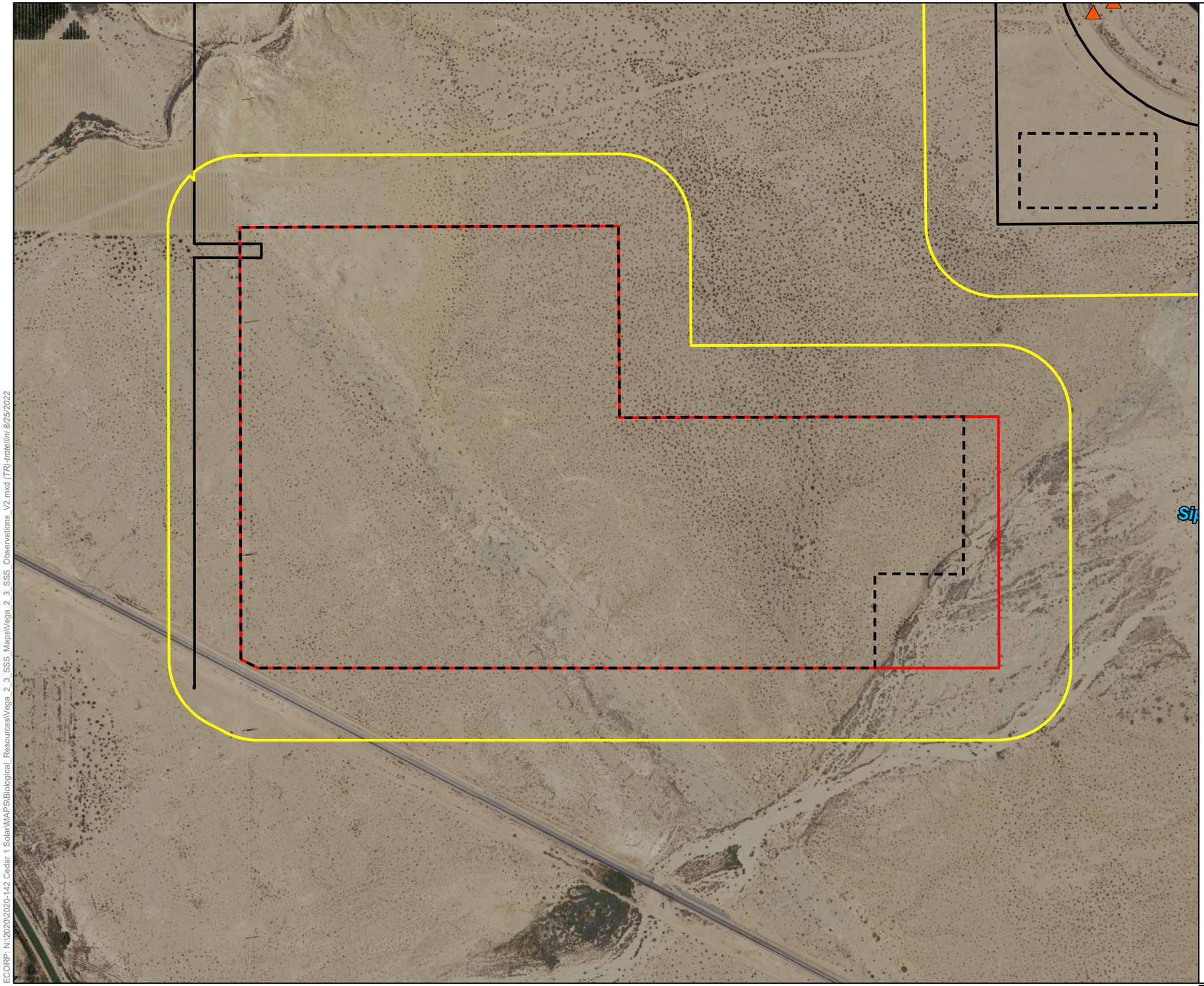
Figure 5. Special-status Species Observations Overview
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



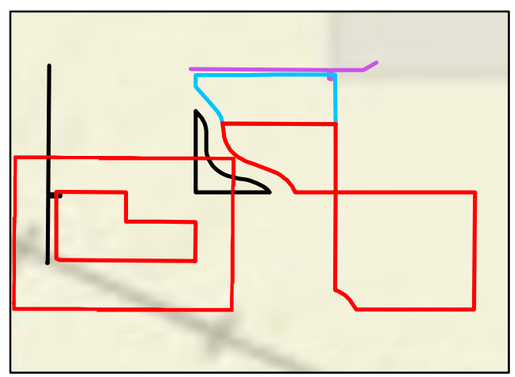
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Impact Areas
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Special status Species Observations

- Munz's cholla *(Cylindropuntia munzii)*
- Munz's cholla *(Cylindropuntia munzii)* (2 Count)
- Munz's cholla *(Cylindropuntia munzii)* (3-4 Count)
- Black-tailed Gnatcatcher (*Polioptila melanura*)
- Loggerhead Shrike (*Lanius ludovicianus*)
- Northern Harrier (*Circus hudsonius*)

Sources: NAIP (2018)
Other Related Info if Needed



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Map Date: 8/25/2022

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Scale in Feet
0 350 700

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Figure 5. Special-status Species Observations
Study Area 1
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

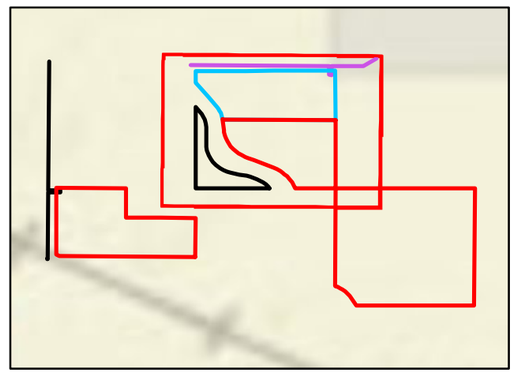
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Impact Areas
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Special status Species Observations

- Munz's cholla *(Cylindropuntia munzii)*
- Munz's cholla *(Cylindropuntia munzii)* (2 Count)
- Munz's cholla *(Cylindropuntia munzii)* (3-4 Count)
- Black-tailed Gnatcatcher (*Polioptila melanura*)
- Loggerhead Shrike (*Lanius ludovicianus*)

Sources: NAIP (2018)
Other Related Info if Needed



Map Date: 8/25/2022

ECORP Consulting, Inc.
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Scale in Feet
0 350 700

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Figure 5. Special-status Species Observations
Study Area 2
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

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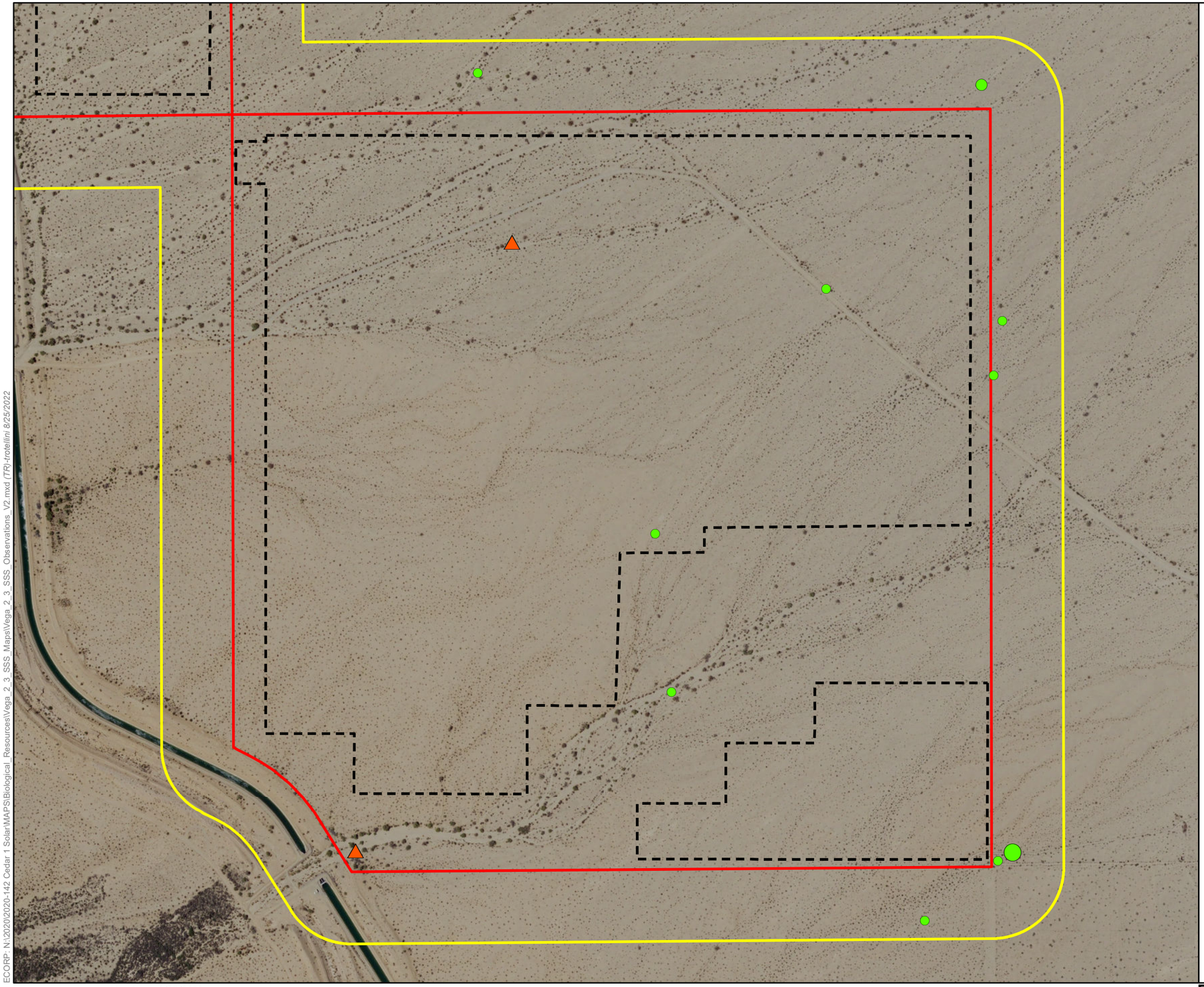


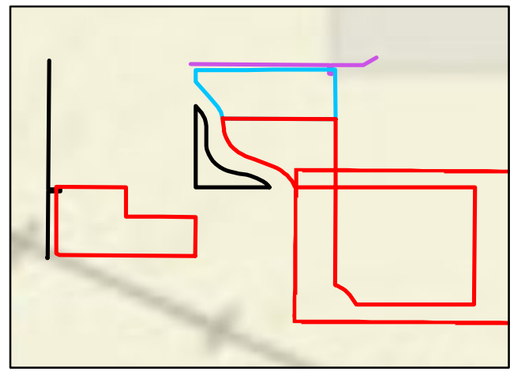
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 500-ft Buffer
- Impact Areas
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Special status Species Observations

- Munz's cholla *(Cylindropuntia munzii)*
- Munz's cholla *(Cylindropuntia munzii)* (2 Count)
- Munz's cholla *(Cylindropuntia munzii)* (3-4 Count)
- Black-tailed Gnatcatcher (*Polioptila melanura*)
- Loggerhead Shrike (*Lanius ludovicianus*)

Sources: NAIP (2018)
Other Related Info if Needed



ECORP: N:\2020\2020-142 Cedar 1 Solar\MAPS\Biological_Resources\Vega_2_3_SSS_Maps\Vega_2_3_SSS_Observations_V2.mxd (TR)-trotellini 8/25/2022

Map Date: 8/25/2022

ECORP Consulting, Inc.
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Scale in Feet
0 350 700

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Figure 5. Special-status Species Observations
Study Area 3
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

4.3.1.1 Special-Status Plant Species Present

During the reconnaissance survey, the following species was observed within Study Areas 2 and 3:

- Munz's cholla (*Cylindropuntia munzii*) is a CNPS California Rare Plant Rank (CRPR) 1B.3 plant species. This species is known to occur at elevations between 150 and 600 meters (492 and 1,969 feet) and blooms in the month of May. Munz's cholla is known to occur in gravelly or sandy Sonoran desert scrub habitat. A total of two individuals were observed within Study Area 2 and 15 individuals were observed within Study Area 3. Most are located adjacent to the Project Areas. Two individuals are located within the Project Area of Study Area 3 and could be directly impacted. Additionally, there is high potential for this species to occur in Study Area 1 due to presence of creosote bush scrub habitat.

4.3.1.2 Special-Status Plant Species with a Moderate Potential to Occur

Due to the presence of suitable habitat and several known recent occurrences within five miles of the Project Areas, the following species were determined to have a moderate potential to occur:

- Gravel milk-vetch (*Astragalus sabulonum*) is a CRPR 2B.2 plant species. This species is known to occur at elevations between -60 and 930 meters (-197 and 3,051 feet) and blooms between February and June. Gravel milk-vetch is known to occur in Sonoran desert scrub habitat within sandy, sometimes gravelly flats, washes, and roadsides. One historic CNDDB record from 1906 was recorded approximately 3.66 miles northwest of Study Area 1. Potential habitat occurs within the Study Areas for this species in the creosote bush scrub habitat.
- Wiggins' croton (*Croton wigginsii*) is a CRPR 2B.2 plant species. This species is known to occur at elevations between 50 and 100 meters (164 and 328 feet) and blooms between March and May. Wiggins' croton is known to occur in sandy Sonoran desert scrub habitat. One historic CNDDB record from 1986 was recorded approximately 3.8 miles southeast of Study Area 3. Potential habitat occurs within the Study Areas for this species in the sandy, creosote bush scrub habitat.
- Glandular ditaxis (*Ditaxis claryana*) is a CRPR 2B.2 plant species. This species is known to occur at elevations between sea level and 465 meters (sea level and 1,526 feet) and blooms between October and March. Glandular ditaxis (*Ditaxis claryana*) is known to occur in sandy Sonoran desert scrub habitat. One historic CNDDB record from 1978 was recorded within the northern portion of Study Area 3. Potential habitat occurs within the Study Areas for this species in the creosote bush scrub habitat.
- Sand food (*Pholisma sonorae*) is a CRPR 1B.2 plant species. This parasitic species attaches to the roots of host *Eriogonum*, *Tiquilia*, *Ambrosia*, and *Pluchea* species. Sand food is known to occur at elevations between sea level and 200 meters (sea level and 656 feet) and blooms between April and June. It is known to occur in sandy Sonoran desert scrub habitat. One historic CNDDB record from 1980 was recorded approximately 4.42 miles southeast of the Study Areas, and a known occurrence exists within the CNPS quadrant database. Potential habitat occurs within the Study Areas for this species in the sandy, creosote bush scrub habitat.

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4.3.1.3 Special-Status Plant Species with Low Potential to Occur

The following species were found to have a low potential to occur on the Project Areas because of limited habitat for the species on the site and a known occurrence has been reported in the database, but not within five miles of the Project Areas, or suitable habitat strongly associated with the species occurs within the Project Areas, but no records were found in the database search:

- Salton milk-vetch (*Astragalus crotalariae*), CNPS 4.3
- Harwood's milk-vetch (*Astragalus insularis* var. *harwoodii*), CNPS 2B.2
- Borrego milk-vetch (*Astragalus lentiginosus* var. *borreganus*), CNPS 4.3
- pink fairy-duster (*Calliandra eriophylla*), CNPS 2B.3
- sand evening-primrose (*Chylismia arenaria*), CNPS 2B.2
- spiny abrojo (*Condalia globosa* var. *pubescens*), CNPS 4.2
- Abrams' spurge (*Euphorbia abramsiana*), CNPS 2B.2
- ribbed cryptantha (*Johnstonella costata*), CNPS 4.3
- slender-spined all thorn (*Koeberlinia spinosa* var. *tenuispina*), CNPS 2B.2
- slender cottonheads (*Nemacaulis denudata* var. *gracilis*), CNPS 2B.2
- roughstalk witch grass (*Panicum hirticaule* var. *hirticaule*), CNPS 2B.1
- Coves' cassia (*Senna covesii*), CNPS 2B.1
- Mecca-aster (*Xylorhiza cognata*), CNPS 1B.2

4.3.1.4 Special-Status Plant Species Presumed Absent

The following species are presumed absent from the Project sites due to the lack of suitable habitat, soil type, and/or elevation range at the Project Areas:

- chaparral sand-verbena (*Abronia villosa* var. *aurita*), CNPS 1B.1
- Peirson's milk-vetch (*Astragalus magdalenae* var. *peirsonii)*, CNPS 1B.2
- Algodones Dunes sunflower (*Helianthus niveus* var. *tephrodes*), CNPS 1B.2
- giant Spanish-needle (*Palafoxia arida* var. *gigantea*), CNPS 1B.3

4.3.2 Wildlife

The literature search documented 27 special-status wildlife species in the vicinity of the Survey Area, seven of which are federally and/or state-listed. Of the 27 special-status wildlife species identified in the literature review, two were present within the Survey Area, one was found to have a high potential to occur, eight were found to have a moderate potential to occur and six were found to have a low potential

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to occur; the remaining nine species are presumed absent from the Survey Area. Descriptions of the federal and state wildlife designations are found in Table 5, and a brief natural history and discussion of the special-status wildlife species found onsite that have a high or moderate potential to occur within the Survey Area are provided below.

Table 5. Wildlife Status Designations

List Designation	Meaning
Federal Designation	**Jurisdiction under United States Fish and Wildlife Service (USFWS)**
END	Federally listed as Endangered
THR	Federally listed as Threatened
CAN	Federal Candidate Species
FSC	Federal Species of Concern
FPD	Federal Proposed for Delisting
BBC	Bird of Conservation Concern
State Designation	**Jurisdiction under California Fish and Wildlife Service (CDFW)**
END	State listed as Endangered
THR	State listed as Threatened
SSC	California Species of Special Concern
FP	Fully Protected Species
WL	Watch List

4.3.2.1 Special-Status Wildlife Species Present

The following species were observed within the Survey Area during the reconnaissance survey:

- Loggerhead shrike is a USFWS bird of conservation concern (BCC) and CDFW SSC. This species prefers open country with scattered shrubs and trees. They frequent agricultural fields, abandoned orchards, desert scrublands, and riparian areas. Two individuals were observed perching in palo verde-ironwood woodland, and creosote bush scrub of Study Area 2.
- Black-tailed gnatcatcher is a CDFW WL species. This species remains in pairs all year, defending permanent territories. Black-tailed gnatcatchers prefer dry washes or desert brush with varied growth of mesquite, acacias, and paloverdes, but are also known to inhabit tamarisk scrub. Many pairs of black-tailed gnatcatchers were observed foraging and calling within the palo verde-ironwood woodland, tamarisk thickets, bush seepweed scrubs, and creosote bush scrub within and adjacent to Study Areas 1 and 2.

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4.3.2.2 Special-Status Wildlife Species with a High Potential to Occur

One species was found to have a high potential to occur within the Survey Area due to the presence of suitable habitat for the species on the sites and because a known occurrence has been recorded within five miles of the sites:

- Burrowing owl (*Athene cunicularia*) is a USFWS BCC, a CDFW SSC, and Imperial County Species of Conservation Focus. It is typically found in dry open areas with few trees and short grasses; it is also found in vacant lots near human habitation. It uses uninhabited mammal burrows for roosts and nests, often in close proximity to California ground squirrel (*Otospermophilus beecheyi*) colonies. It primarily feeds on large insects and small mammals but will also eat birds and amphibians. A burrowing owl was observed on the Vega SES 5 Project site, which is adjacent to Vega SES 2/Study Area 1. This means burrowing owl is likely to also occur within the Vega 2 and 3 Project Areas and may not have been observed due to wintering movement trends.

4.3.2.3 Special-Status Wildlife Species with a Moderate Potential to Occur

Nine species were found to have moderate potential to occur within the Survey Area because habitat (including soils and elevation factors) for the species occurs on the sites and a known occurrence exists within the database search, but not within five miles of the Survey Area; or a known occurrence exists within five miles of the Survey Area and marginal or limited amounts of habitat occurs within the Survey Area:

- Flat-tailed horned lizard (*Phrynosoma mcallii*) is a CDFW SSC and Imperial County Species of Conservation Focus. This species is most commonly found on sandy flats and valleys within desert scrub habitat with little or no windblown sand. They can also be found on salt flats and gravelly soils. The creosote bush scrub habitat provides suitable habitat for the flat-tailed horned lizard. There are known regional populations to north and south of the sites but occurrences in proximity to the Project Areas themselves is not well-known.

- Desert tortoise is a federally and state-threatened species. This species is found in sandy flats to rocky foothills, including alluvial fans, washes, and canyons where suitable soils for den construction are present. The creosote bush scrub, alluvial fans, and washes provide suitable habitat for the desert tortoise. One burrow with a half-moon shape was found during the reconnaissance survey within Vega 2 in Study Area 1. No desert tortoise sign (scat, tracks, carcasses, scrapes, etc.) was observed however the shape indicates that a desert tortoise could use the burrow. Desert tortoise critical habitat is seven miles northeast of the Project Areas.

- Northern harrier is a CDFW SSC. This species is typically found in open habitats with dense ground cover including grasslands, agricultural fields, and marshes. Northern harriers nest on the ground, preferring wetland habitat for cover. There is some suitable habitat for this species within all three Study Areas. This species was observed outside of the Survey Area during the reconnaissance survey.

- California horned lark (*Eremophila alpestris* ssp. *actia*) is a CDFW WL species. It occurs in bare, open areas dominated by low vegetation or widely scattered shrubs, including prairies, deserts,

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and plowed fields. It nests in a hollow on the ground. The sparse creosote scrub habitat onsite and in the buffer zones provides potential habitat.

- Merlin (*Falco columbarius*) is a CDFW WL species. This species prefers open and semi-open areas within woodlands near water bodies including rivers, lakes, and wetlands. There are suitable open areas within the upland habitats adjacent to the tamarisk thickets that provide suitable habitat for the merlin. Therefore, wintering individuals have a moderate potential to occur within the Survey Area. There is a CNDDB record from 2007 located approximately three miles from the Project Areas.
- Crissal thrasher (*Toxostoma crissale*) is a CDFW SSC. It inhabits desert scrub and riparian brush with dense mesquite thickets often near streams or washes. The tamarisk thickets and bush seepweed scrub along the washes provides suitable habitat for this species.
- California black rail (*Laterallus jamaicensis* ssp. *coturniculus*) is a USFWS BBC, state-threatened, and CDFW fully protected species. California black rail are typically found in marsh habitat, including riparian marshes, saltmarshes, and wetlands. This species prefers consistent shallow water within the habitats. There is suitable habitat during the rainy season and shortly after for the California black rail within the riparian habitats in the Study Areas. There is one recent CNNDB record from 2015 approximately 4.8 miles from the Project Areas and four historic CNDDB records, two of which are located within the Project Areas.
- Yuma hispid cotton rat (*Sigmodon hispidus eremicus*) is a CDFW SSC. This species is generally associated with mesic habitats near drainage ditches, streams, and sloughs but also occurs in open fields or on the borders of open fields where there is dense grass habitat or agricultural fields. There is potential for this species to occur near the Coachella Canal, where they can utilize runways through dense herbaceous growth along the canal.
- Palm Springs pocket mouse (*Perognathus longimembris bangsi*) is a CDFW SSC. This species is associated with flat or gently sloping habitats of loose or sandy soils, with relatively sparse vegetation. There is potential for this species in the creosote bush scrub habitats of the Study Areas.

4.3.2.4 Wildlife Species with Low Potential to Occur

Six species were found to have a low potential to occur within the Survey Area because limited habitat for the species occurs on the sites and a known occurrence has been reported in the database, but not within five miles of the Survey Area, or suitable habitat strongly associated with the species occurs within the Survey Area, but no records were found in the database search:

- mountain plover (*Charadrius montanus*), USFWS BCC and CDFW SSC,
- Gila woodpecker (*Melanerpes uropygialis*), USFWS BCC and state endangered,
- Yuma Ridgway's rail (*Rallus obsoletus yumanensis*), USFWS END and state threatened and CDFW fully protected,

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- California leaf-nosed bat (*Macrotus californicus*), CDFW SSC,
- pallid bat (*Antrozous pallidus*), CDFW SSC, and
- western yellow bat (*Lasiurus xanthinus*), CDFW SSC.

4.3.2.5 Wildlife Species Presumed Absent

The following nine species are presumed absent from the Survey Area due to the lack of suitable habitat:

- razorback sucker (*Xyrauchen texanus*), federally listed endangered, state listed endangered, and CDFW FP,
- Sonoran desert toad (*Incilius alvarius*), CDFW SSC,
- barefoot gecko (*Coleonyx switaki*), state threatened,
- western mastiff bat (*Eumops perotis* ssp. *californicus*), CDFW SSC,
- pocketed free-tailed bat (*Nyctinomops femorosaccus*), CDFW SSC,
- big free-tailed bat (*Nyctinomops macrotis*), CDFW SSC
- Mexican long-tongued bat (*Choeronycteris mexicana*), CDFW SSC,
- Townsend's big-eared bat (*Corynorhinus townsendii*), CDFW SSC, and
- peninsular bighorn sheep (*Ovis canadensis* ssp. *nelson*), federally listed endangered, state listed endangered, and CDFW FP.

4.4 Wildlife Movement Corridors, Linkages, and Significant Ecological Areas

The concept of habitat corridors addresses the linkage between large blocks of habitat that allow the safe movement of mammals and other wildlife species from one habitat area to another. The definition of a corridor is varied, but corridors may include such areas as greenbelts, refuge systems, underpasses, and biogeographic land bridges, for example. In general, a corridor is described as a linear habitat, embedded in a dissimilar matrix, which connects two or more large blocks of habitat. Wildlife movement corridors are critical for the survivorship of ecological systems for several reasons. Corridors can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas provides for the potential of genetic exchange between wildlife species populations, thereby maintaining genetic variability and adaptability to maximize the success of wildlife responses to changing environmental conditions. This is especially critical for small populations subject to loss of variability from genetic drift and effects of inbreeding. Naturally, the nature of corridor use and wildlife movement patterns varies greatly among species.

The Study Areas were assessed for their ability to function as a wildlife corridor. The Study Areas have an alluvial fan system, which stems from the Chocolate Mountains and spreads across the landscape in the lowland areas. This interconnected drainage system has associated riparian corridors, which occur

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throughout all three Study Areas. These areas provide cover for migrating and nesting birds. It also provides foraging habitat for raptors and small and large mammals, including rodents, felids, and canids. The large drainages and canal lined with tamarisk thickets and blue palo verde/ironwood woodlands are likely utilized by wildlife moving through the area. A bobcat was spotted using the tamarisk thickets for movement during the reconnaissance surveys. Therefore, these features and associated riparian habitat would be considered linkages between natural habitat areas.

The western portion of the Study Areas 2 and 3 are restricted by the Coachella Canal, and the southern border of Study Area 1 is restricted by railroad tracks. Due to the nature of this Study Area's location between the canal and railroad, it is already disconnected and acts as more of a buffer between agricultural lands and wildlands to the northeast, but not as a corridor for mammals.

The blue palo verde/ironwood woodland of Study Areas 2 and 3 provides shelter and good-quality foraging habitat. This habitat would function as a corridor for wildlife movement from the Chocolate Mountains. The bush seepweed scrub provides moderate shelter and little to moderate-quality foraging habitat. The creosote bush scrub habitats offer little shelter, but moderate-quality foraging habitat. The eastern portion of the Study Areas 2 and 3, east of Coachella Canal, currently provide wildlife movement opportunities because it consists of open and relatively unimpeded land. This portion of the Projects would be considered a wildlife movement corridor.

5.0 PROJECT IMPACTS

Implementation of the Projects has potential to impact blue palo verde – ironwood woodland, bush seepweed scrub, creosote bush scrub, disturbed creosote bush scrub, and tamarisk thickets. These communities may provide suitable nesting and foraging habitat for passerines, including loggerhead shrike, black-tailed gnatcatcher, burrowing owl, raptor foraging habitat, and habitat for gravel milk-vetch, Wiggins' croton, glandular ditaxis, sand food, and Munz's cholla. The following recommendations would be required to determine if the Projects would result in significant impacts to vegetation communities, special-status plant and wildlife species, jurisdictional waters, and wildlife movement corridors.

5.1.1 Special-Status Species

5.1.1.1 Special-Status Plants

The literature review identified 18 special-status plant species that have the potential to occur within the Project Areas. Of 22 original records, four plant species are presumed absent due to the lack of suitable habitat within the Project Areas. These species are chaparral sand-verbena, Peirson's milk-vetch, Algodones Dunes sunflower, and giant Spanish-needle. A total of 13 plant species have a low potential to occur due to the limited suitable habitat within the Project Areas. These species are Salton milk-vetch, Harwood's milk-vetch, Borrego milk-vetch, pink fairy-duster, sand evening-primrose, spiny abrojo, Abrams' spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, roughstalk witch grass, Coves' cassia, and Mecca-aster. A total of four plant species have a moderate potential to occur due to the presence of suitable habitat within the Project Areas. These species are gravel milk-vetch, Wiggins' croton, glandular ditaxis, and sand food.

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One rare plant species, Munz's cholla (CRPR 1B.3), was found to be present within Study Areas 2 and 3, and there is high potential for this species to occur within Study Area 1. Suitable habitat for this species is present within the creosote bush scrub habitat. Two individuals are located within the Project Area of Study Area 3 and could be directly impacted. Impacts that may occur to the species includes loss of individuals, habitat, and seedbank. Depending on the size of the population, this impact may be significant. Implementation of **BIO-1**, **BIO-2**, and **BIO-9** is recommended to decrease the chances of a significant impact.

5.1.1.2 Special-Status Wildlife

The literature review identified 27 special-status wildlife species that have the potential to occur within the Survey Area. However, 15 of these species have a low or no potential to occur due to the lack of suitable and/or limited habitat within the Survey Area. Wildlife species that are presumed absent from the Survey Areas include razorback sucker, Sonoran desert toad, barefoot gecko, western mastiff bat, pocketed free-tailed bat, big free-tailed bat, Mexican long-tongued bat, Townsend's big-eared bat, and peninsular bighorn sheep. Wildlife species with a low potential to occur include Gila woodpecker, Yuma Ridgway's rail, California leaf-nosed bat, pallid bat, and western yellow bat.

Ten species have a moderate or high potential to occur within the Survey Area, these species are flat-tailed horned lizard, Mojave desert tortoise, northern harrier, California horned lark, merlin, Crissal thrasher, California black rail, Yuma hispid cotton rat, Palm Springs pocket mouse, and burrowing owl. Additionally, two special-status wildlife species were observed onsite during the habitat assessment; loggerhead shrike and black-tailed gnatcatcher were observed in the tamarisk thickets, bush seepweed scrub, blue palo verde/ironwood woodland, and creosote bush scrub throughout the Study Areas. Direct impacts to these species that could occur include injury, mortality, nest failures, and loss of young. Indirect impacts include loss of nesting and foraging habitat, increase in anthropogenic effects (i.e., noise levels, introduction of invasive and nonnative species, increase in human activity, increase in dust). Impacts to these species could be considered significant; therefore, implementation of **BIO-2**, **BIO-3**, **BIO-4**, **BIO-5**, and **BIO-7** is recommended.

Foraging habitat for a number of raptor species and breeding habitat for numerous passerine species that are protected by the MBTA occurs throughout the Project sites. The sites provide nesting habitat for ground-nesting species as well as species that nest in riparian scrub habitat. The presence of large ironwood and palo verde trees within the Study Areas is suitable nesting habitat for raptor species. Additionally, northern harriers are ground nesters, for which the tamarisk thickets and other dense habitats provide potential nesting habitat for this species. Direct impacts to nesting avian species include injury, mortality, loss of young, and nest failure. Indirect impacts include loss of foraging and nesting habitat for passerine and raptors species, increase in noise and human activities, and potential introduction of invasive or nonnative species. Implementation of **BIO-4**, **BIO-5**, and **BIO-7** are recommended to mitigate for potential impacts.

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5.1.2 Sensitive Natural Communities

The approximately 1,712-acre Project sites are comprised of blue palo verde/ironwood woodland, creosote bush scrub, disturbed creosote bush scrub, bush seepweed scrub, tamarisk thickets, and urban/developed land, which would be directly impacted by the Projects. In-kind mitigation, up to 3:1 ratio, may be required by CDFW to offset impacts to bush seepweed scrub, blue palo verde/ironwood woodland, and tamarisk thickets in order to reduce impacts to less than significant. Implementation of **BIO-7** and **BIO-8** is recommended to reduce potential impacts to less than significant threshold.

5.1.3 State- and/or Federally Protected Wetlands and Waters

The results of the Aquatic Resources Delineation and discussion of potential impacts on state- or federally protected wetlands or Waters of the U.S. are discussed in the Aquatic Resources Delineation Report (ECORP 2020), prepared under separate cover. Implementation of **BIO-6** and **BIO-8** is recommended to mitigate for potential significant impacts.

5.1.4 Wildlife Corridors and Nursery Sites

Study Area 1 is located adjacent to areas containing existing disturbances (i.e., railroad, roads, Coachella Canal, and active agricultural land). A majority of this area does not contain suitable vegetation and/or cover to support wildlife movement. Study Areas 2 and 3 does support wildlife movement opportunities connecting the Project Areas to large, undeveloped natural areas to the northeast. The riparian habitats of these areas, in particular, could act as a potential corridor and nursey site for migrating wildlife species. The proposed Project Area of Study Area 3 avoids one of the alluvial fan systems that could function as a corridor, thereby preserving wildlife movement in this area. Implementation of **BIO-2**, **BIO-4**, **BIO-5**, **BIO-6**, and **BIO-7** are recommended to mitigate for potential significant impacts.

5.1.5 Habitat and Conservation Plans and Natural Community Conservation

The Projects will follow the guidelines in Imperial County's Conservation and Open Space Element and meet the requirements outlined in the plan. Consultation with County of Imperial Department of Planning and Development, USFWS, and CDFW would be required should listed plant and/or wildlife species be found to occur.

6.0 RECOMMENDATIONS AND MITIGATION MEASURES

The following recommendations have been developed in accordance with the CEQA impacts analysis for the Projects (see Section 5) but should not be considered mitigation measures at this point in the Project planning process. These actions are recommended prior to Project implementation:

BIO-1 **Rare Plant Surveys:** Rare plant surveys should be conducted within suitable habitat on the Project Areas during the appropriate blooming period for the gravel milk-vetch, Wiggins' croton, glandular ditaxis, sand food, and Munz's cholla. The surveys should be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status

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Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If Project-related impacts to rare plants on the Project site are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population, salvage or seed collection, and additional monitoring requirements.

BIO-2 **Biological Monitoring:** A qualified biologist should be present to monitor all ground-disturbing and vegetation-clearing activities conducted for the Projects. During each monitoring day, the biological monitor should perform clearance survey "sweeps" at the start of each work day that vegetation clearing takes place to minimize impacts on special-status species with potential to occur (including, but not limited to, special-status and/or nesting bird species and flat-tailed horned lizard). The monitor will be responsible for ensuring that impacts to special-status species, nesting birds, and active nests will be avoided to the greatest extent possible. Biological monitoring should take place until the Project sites have been completely cleared of any vegetation. If an active nest is identified, the biological monitor should establish an appropriate disturbance limit buffer around the nest using flagging or staking. Construction activities should not occur within any disturbance limit buffer zones until the nest is deemed no longer active by the biologist. If special-status wildlife species are detected during biological monitoring activities, then consultation with the USFWS and/or CDFW should be conducted and a mitigation plan should be developed to avoid and offset impacts to these species. Mitigation measures may consist of work restrictions or additional biological monitoring activities after ground-disturbing activities are complete.

BIO-3 **Pre-Construction Surveys for Burrowing Owl:** Pre-construction surveys for burrowing owl should be conducted within the Project Areas and adjacent areas prior to the start of ground-disturbing activities. The surveys should follow the methods described in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Two surveys should be conducted, with the first survey being conducted between 30 and 14 days before initial ground disturbance (grading, grubbing, and construction), and the second survey being conducted no more than 24 hours prior to initial ground disturbance. If burrowing owls and/or suitable burrowing owl burrows with sign (e.g., whitewash, pellets, feathers, prey remains) are identified on the Project site during the survey and impacts to those features are unavoidable, consultation with the CDFW should be conducted and the methods described in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) for avoidance and/or passive relocation should be followed.

BIO-4 **Pre-Construction Nesting Bird Survey:** If construction or other project activities are scheduled to occur during the bird breeding season (Typically February 1 through August 31

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for raptors and March 15 through August 31 for the majority of migratory bird species), a pre-construction nesting-bird survey should be conducted by a qualified avian biologist to ensure that active bird nests, including those for the loggerhead shrike, black-tailed gnatcatcher, and burrowing owl, will not be disturbed or destroyed. The survey should be completed no more than three days prior to initial ground disturbance. The nesting-bird survey should include the Project Areas and adjacent areas where Project activities have the potential to affect active nests, either directly or indirectly due to construction activity or noise. If an active nest is identified, the biologist should establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities should not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist.

BIO-5 **Pre-Construction Survey for Special-Status Species:** A pre-construction survey should be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey should take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys should take place regardless of breeding season timing and should focus on identifying the presence of special-status wildlife species present within the Project Areas or that were identified as having a high potential to occur within the Project Areas. These species include, but are not limited to, burrowing owl, loggerhead shrike, and black-tailed gnatcatcher. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.

BIO-6 **Aquatic Resources Regulatory Permitting:** If Project-related impacts will occur to areas under the jurisdiction of the USACE, CDFW or RWQCB, a regulatory permit with those agencies is needed prior to the impact occurring. Permitting includes preparation and submittal of a Pre-Construction Notification under Section 404 of the federal Clean Water Act, an Application for Water Quality Certification under Section 401 of the federal Clean Water Act and a Notification of Lake or Streambed Alteration under Section 1600 of the California Fish and Game Code. Other items such as finalized project plans, quantities of fill material, supporting technical studies and so on are also submitted along with the applications. As a part of this process, the project must also identify and approve mitigation through the respective agencies. Mitigation can include onsite or offsite options or could include payment of an in-lieu fee to a conservation organization. Types of mitigation can include restoration, creation, rehabilitation, enhancement or other types of habitat improvement. Typically, the type of mitigation and acreage of mitigation is negotiated with the regulatory agencies during the permitting process.

BIO-7 **Sensitive Habitat Avoidance:** To the greatest extent possible, plans should avoid impacts to blue palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thicket habitats to minimize potential impacts to special-status species. Excluding these habitats from the

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Project should also minimize mitigation and permitting requirements to meet the less than significant threshold.

BIO-8 **Minimization of Impacts to Riparian Habitat:** Solar panels, structures, and new access roads should not be placed within 50 feet of riparian habitat boundaries. A construction buffer of 300 feet should be established around the riparian habitat during bird breading season (February 1 – August 31). Prior to construction, fencing should be installed approximately 10 feet from the wetland and riparian habitat boundaries within 50 feet of the Project. Fencing should be easily visible to construction. Plans should clearly delineate access roads and staging areas. The extensive alluvial fan systems should not be used as access roads between Project Areas.

BIO-9 **Rare Plant Relocation:** If Project impacts are unavoidable to Munz's cholla, prior to grading activities, individuals that will be impacted will be salvaged and transplanted to augment an existing nearby population or other approved mitigation site. During revegetation activities, specific methods regarding salvaging, stockpiling and transplantation, will be required to ensure successful survivorship. These methods can include the correct timing and procedure for individual transplants as well as the reporting and documentation of the process to the necessary regulatory agencies.

The following best management practices are not mitigation measures pursuant to CEQA but are recommended to further reduce impacts to special-status species that have potential to occur on the property:

- Confine all work activities to a pre-determined work area. Prior to the initiation of ground disturbing activities, the project footprint, including laydown and staging areas, will be clearly delineated using fencing. All equipment and materials shall use existing roads and parking areas for equipment staging and laydown.

- To prevent inadvertent entrapment of wildlife during the construction phase of the Project, all excavated, steep-walled holes or trenches more than two feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen fill or wooden planks should be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals.

- Wildlife are often attracted to burrow- or den-like structures such as pipes, and may enter stored pipes and become trapped or injured. To prevent wildlife use of these structures, all construction pipes, culverts, or similar structures with a diameter of four inches or greater should be capped while stored onsite.

- All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or Project site.

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- Use of rodenticides and herbicides on the Project site should be restricted. This is necessary to prevent primary or secondary poisoning of wildlife, including burrowing owl and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the USEPA, California Department of Food and Agriculture, and other State and federal legislation. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to burrowing owl.

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LIST OF ATTACHMENTS

Attachment A – Representative Site Photographs

Attachment B – Special-Status Plant Potential for Occurrence Table

Attachment C – Special-Status Wildlife Potential for Occurrence Table

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ATTACHMENT A

Representative Site Photographs

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Photo 1. View of bush seepweed within the Project Area, facing southeast.

Photo 2. Potential desert tortoise burrow found within the western portion of Study Area 1. No desert tortoise sign was observed. September 29, 2020.

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Photo 3. Section of the Coachella Canal within the northwestern portion of Study Area 2, between project impact areas; photo facing northwest. November 9, 2020.

Photo 4. Munz's cholla (*Cylindropuntia munzii*) found within the western portion of Study Area 2, outside of the project impact area, west of the Coachella Canal. November 9, 2020.

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Photo 5. Drainage system and associated blue palo verde - ironwood woodland habitat within the northwestern portion of Study Area 2; photo facing west. November 9, 2020.

Photo 6. Creosote bush scrub within the southwestern portion of Study Area 2; photo facing east. November 10, 2020.

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Photo 7. Drainage system (with signs of OHV activity) within the northwestern portion of Study Area 3 and associated blue palo verde- ironwood woodland habitat; photo facing east. November 11, 2020.

Photo 8. Small mammal burrow complex along berm within the southwest section of Study Area 3; photo facing west. November 11, 2020.

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ATTACHMENT B

Special-Status Plant Potential for Occurrence

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Special-Status Plant Species with Potential to Occur				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project Areas**
Abronia villosa var. *aurita* chaparral sand-verbena	**USFWS**: None **CDFW**: None **CRPR**: 1B.1 **BLM**: Sensitive	Mar-Sep (75 - 1600)	Chaparral Coastal scrub Desert dunes	**Presumed absent:** No habitat occurs within the Project Areas; a known occurrence exists within the CNPS quadrat database.
Astragalus crotalariae Salton milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 4.3 **BLM**: None	Jan-Apr (-60 - 250)	Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project Areas; a known occurrence exists within the CNPS quadrat database.
Astragalus insularis var. *harwoodii* Harwood's milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Jan-May (0 – 710)	Desert dunes Mojavean desert scrub	**Low:** Limited habitat occurs within the Project Areas. No CNDDB record within 5 miles of Project Areas. A known occurrence exists within the CNPS quadrat database.
Astragalus lentiginosus var. *borreganus* Borrego milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 4.3 **BLM**: None	Feb-May (30 – 895)	Mojavean desert scrub Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project Areas; a known occurrence exists within the CNPS quadrat database.
Astragalus magdalenae var. *peirsonii* Peirson's milk-vetch	**USFWS**: Threatened **CDFW**: Endangered **CRPR**: 1B.2 **BLM**: Federal Threatened	Dec-Apr (60 - 225)	Desert dunes	**Presumed absent:** No habitat occurs within the Project Areas. No CNDDB record within 5 miles of the Project Areas. A known occurrence exists within the CNPS quadrat database.
Astragalus sabulonum gravel milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Feb-Jun (-60 - 930)	Desert dunes Mojavean desert scrub Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project Areas. Historic CNDDB record (1906) approximately 3.66 miles northwest of Project Areas. A known occurrence exists within the CNPS quadrat database.
Calliandra eriophylla pink fairy-duster	**USFWS**: None **CDFW**: None **CRPR**: 2B.3 **BLM**: None	Jan-Mar (120 – 1500)	Sonoran desert scrub	**Low:** Limited habitat occurs within the Project Areas. No CNDDB record within 5 miles of the Project Areas. A known occurrence exists within the CNPS quadrat database.

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Special-Status Plant Species with Potential to Occur				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project Areas**
Chylismia arenaria sand evening-primrose	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Nov-May (-70 – 915)	Sonoran desert scrub	**Low:** Habitat occurs within the Project Areas. No CNDDB record within 5 miles of the Project Areas. A known occurrence exists within the CNPS quadrat database.
Condalia globosa var. *pubescens* spiny abrojo	**USFWS**: None **CDFW**: None **CRPR**: 4.2 **BLM**: None	Mar-May (85 – 1000)	Sonoran desert scrub	**Low:** Limited habitat (elevation) occurs within the Project Areas; a known occurrence exists within the CNPS quadrat database.
Croton wigginsii Wiggins' croton	**USFWS**: None **CDFW**: Rare **CRPR**: 2B.2 **BLM**: Sensitive	Mar-May (50 - 100)	Desert dunes Sonoran desert scrub	**Moderate:** Limited habitat for this species occurs within the Project Areas. One historic CNDDB record (1986) approximately 3.8 miles southeast of the Project Areas. A known occurrence exists within the CNPS quadrat database.
Cylindropuntia munzii Munz's cholla	**USFWS**: None **CDFW**: None **CRPR**: 1B.3 **BLM**: Sensitive	May (150 – 600)	Sonoran desert scrub	**Present:** This species was present on Vega 2 and Vega 3 Project Areas (Study Area 2 & 3). There is high potential for this species in Study Area 1, due to presence of creosote bush scrub habitat.
Ditaxis claryana glandular ditaxis	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Oct, Dec, Jan, Feb, Mar (0 – 465)	Mojavean desert scrub Sonoran desert scrub	**Moderate:** Habitat for the species occurs within the Project Areas. A historic CNDDB record (1978) occurs within Project Areas. A known occurrence exists within the CNPS quadrat database.
Euphorbia abramsiana Abrams' spurge	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Sep-Nov (-5 – 1310)	Mojavean desert scrub Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project Areas. No CNDDB record within 5 miles of Project Areas. A known occurrence exists within the CNPS quadrat database.

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Special-Status Plant Species with Potential to Occur				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project Areas**
Helianthus niveus var. *tephrodes* Algodones Dunes sunflower	**USFWS**: None **CDFW**: Endangered **CRPR**: 1B.2 **BLM**: None	Sep-May (50 - 100)	Desert dunes	**Presumed absent:** No habitat occurs within the Project Areas. No CNDDB record within 5 miles of Project Areas. A known occurrence exists within the CNPS quadrat database.
Johnstonella costata ribbed cryptantha	**USFWS**: None **CDFW**: None **CRPR**: 4.3 **BLM**: None	Feb-May (-60 - 500)	Desert dunes Mojavean desert scrub Sonoran desert scrub	**Low:** Limited habitat for this species occurs within the Project Areas; a known occurrence exists within the CNPS quadrat database.
Koeberlinia spinosa var. *tenuispina* slender-spined all thorn	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	May-Jul (150 - 510)	Riparian woodland Sonoran desert scrub	**Low:** Limited habitat occurs within the Project Areas. No CNDDB record within 5 miles of the Project Areas. A known occurrence exists within the CNPS quadrat database.
Nemacaulis denudata var. *gracilis* slender cottonheads	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Apr-May (-50 - 400)	Coastal dunes Desert dunes Sonoran desert scrub	**Low:** Limited habitat for this species occurs within the Project Areas. No CNDDB record within 5 miles of site. A known occurrence exists within the CNPS quadrat database.
Palafoxia arida var. *gigantea* giant Spanish-needle	**USFWS**: None **CDFW**: None **CRPR**: 1B.3 **BLM**: Sensitive	Jan-May (15 - 100)	Desert dunes	**Presumed absent:** No habitat occurs within the Project Areas. No CNDDB record occurs within 5 miles of the Project Areas.
Panicum hirticaule var. *hirticaule* roughstalk witch grass	**USFWS**: None **CDFW**: None **CRPR**: 2B.1 **BLM**: None	Aug-Dec (45 – 315)	Desert dunes Joshua tree woodland Mojavean desert scrub Sonoran desert scrub	**Low:** Limited habitat occurs within the Project Areas. No CNDDB record within 5 miles of the Project Areas. A known occurrence exists within the CNPS quadrat database.
Pholisma sonorae sand food	**USFWS**: None **CDFW**: None **CRPR**: 1B.2 **BLM**: Sensitive	Apr-Jun (0 - 200)	Desert dunes Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project Areas. One historic CNDDB record (1980) occurs approximately 4.42 miles southeast of the Project Areas. A known occurrence exists within the CNPS quadrat database.

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Special-Status Plant Species with Potential to Occur				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project Areas**
Senna covesii Coves' cassia	**USFWS**: None **CDFW**: None **CRPR**: 2B.1 **BLM**: None	Aug-Dec (45 – 1315)	Desert dunes Joshua tree woodland Mojavean desert scrub Sonoran desert scrub	**Low:** Limited habitat occurs within the Project Areas. No CNDDB record occurs within 5 miles of Project Areas. A known occurrence exists within the CNPS quadrat database.
Xylorhiza cognata Mecca-aster	**USFWS**: None **CDFW**: None **CRPR**: 1B.2 **BLM**: Sensitive	Jan-Jun (20 – 400)	Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project Areas. No CNDDB record occurs within 5 miles of Project Areas. A known occurrence exists within the CNPS quadrat database.

California Native Plant Society (CNPS) Rare Plant Ranks:
1B: Plants rare, threatened, and endangered in California and elsewhere.
2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
4: Plants of limited distribution; a watch list.

CNPS Threat Ranks:
0.1: Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2: Fairly threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat)
0.3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Sources:
California Natural Diversity Data Base (CNDDB) (CDFW 2020)
CNPS Rare and Endangered Plant Inventory (CNPS 2020)
Calflora Information on California Plants (Calflora 2020)
IPaC (USFWS 2020)
Special Status Plants (BLM 2015)

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ATTACHMENT C

Special-Status Wildlife Potential for Occurrence

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Special-Status Wildlife Species Potential For Occurrence				
Scientific Name Common Name	**Status**		**Habitat Requirements**	**Potential for Occurrence**
VERTEBRATES				
OSTEICHTHYES (BONY FISH)				
CATOSTOMIDAE (suckers)				
Xyrauchen texanus razorback sucker	USFWS: CDFW:	**END** **END,** FP	Rivers and lakes in the southwestern United States	**Presumed absent.** There is suitable habitat within Coachella Canal. One historic record (1974), but no recent CNDDB records occur within 5 miles of the Project Areas.
AMPHIBIANS				
BUFONIDAE (true toads)				
Incilius alvarius Sonoran desert toad	USFWS: CDFW:	none SSC	Creosote bush desert scrub, grasslands up into oak-pine woodlands, thorn scrub and tropical deciduous forest in Mexico.	**Presumed absent.** There is suitable habitat within the Project Areas and within the buffer; however, the population may be extirpated (Jennings and Hayes 1994). One historic (1916), but no recent CNDDB records occur within 5 miles of the Project Areas.
REPTILES				
GEKKONIDAE (geckos)				
Coleonyx switaki barefoot gecko	USFWS: CDFW:	none **THR**	Arid rocky areas on flatlands, canyons, thorn scrub, especially where there are large boulders and rock outcrops, and where vegetation is sparse.	**Presumed absent.** Habitat such as canyons, thorn scrub, large boulders, and rock outcrops is not present within the Project Areas. No CNDDB records occur within 5 miles of the Project Areas.
PHRYNOSOMATIDAE (spiny lizards)				
Phrynosoma mcallii flat-tailed horned lizard	USFWS: CDFW:	none SSC	Desert scrub on sandy flats and valleys with little or no windblown sand, salt flats, and areas with gravelly soils. There are three regional populations of flat-tailed horned lizard in California; two of these (representing the majority of the range in the State) occur in Imperial County. These are on the west side of the Salton Sea/Imperial Valley and on the east side of the Imperial Valley.	**Moderate.** There is suitable habitat within the Project Areas. No CNDDB records occur within 5 miles of the Project Areas.

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TESTUDINDAE (land tortoises)				
Gopherus agassizii Mojave desert tortoise	USFWS: CDFW:	**THR** **THR**	Sandy flats to rocky foothills, including alluvial fans, washes and canyons where suitable soils for den construction might be found.	**Moderate.** There is **m**arginally suitable habitat within the Project Areas and buffer. Desert tortoise critical habitat is approximately 7 miles northeast of the Project Areas. No CNDDB records occur within 5 miles of the Project Areas.
BIRDS				
ACCIPITRIDAE (hawks, kites, harriers, and eagles)				
Circus hudsonius northern harrier	USFWS: CDFW:	none SSC	Undisturbed tracts of grasslands and wetlands with low, thick vegetation. Prefers to breed in dry upland habitats, old fields, grazed meadows, drained marshlands, and high-desert shrubsteppe. Also found in pasturelands, croplands, and open floodplains.	**Moderate.** There is some suitable habitat within the Project Areas. One individual was observed outside of the Survey Area in adjacent habitat to the Project Areas. No CNDDB records occur within 5 miles of the Project Areas.
ALAUDIDAE (larks)				
Eremophila alpestris* ssp. *actia California horned lark	USFWS: CDFW:	none WL	Bare open areas dominated by low vegetation or widely scattered shrubs, includes prairies, deserts, and plowed fields. Nests in a hollow on the ground.	**Moderate.** The open areas within the Project Areas and in buffer provide suitable habitat. No CNDDB records occur within 5 miles of the Project Areas.
CHARADRIIAE (plovers and lapwings)				
Charadrius montanus mountain plover	USFWS: CDFW:	BCC SSC	Shortgrass prairie, especially where blue grama, buffalo grass, and western wheat grass are dominant; and in grassy semidesert with scattered saltbush, sage, prickly pear, and yucca, at elevations ranging from 2,100 to 10,663 feet. Also found in fallow or recently plowed agricultural fields and in overgrazed landscapes that mimic their natural shortgrass habitat.	**Low.** There is limited suitable habitat within the Project Areas. Three recent CNDDB records occur within 5 miles of the Project Areas with the closest approximately 2.8 miles southwest of the Project Areas (2011).
FALCONIDAE (falcons and caracaras)				
Falco columbarius merlin	USFWS CDFW	none WL	Open and semi open areas in fragmented woodlots, near rivers, lakes, or bogs, and on lake islands.	**Moderate.** There is suitable river and wetland habitat within the Project Areas and buffer. One CNDDB record (2007) occurs approximately 3 miles west of the Project Areas.

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LANIIDAE (shrikes)				
Lanius ludovicianus loggerhead shrike (nesting)	USFWS: CDFW:	BCC SSC	Open country with short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns, agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses, and cemeteries.	**Present.** There were 3 sightings of loggerhead shrike on Vega 2 (Study Areas 1 & 2). There is suitable habitat within the Project Areas. One CNDDB record (2007) occurs approximately 0.84 mile south of the Project Areas.
MIMIDAE (mockingbirds and thrashers)				
Toxostoma crissale Crissal thrasher	USFWS: CDFW:	none SSC	Desert scrub and riparian brush with dense mesquite thickets often near streams or washes.	**Moderate.** The bush seepweed scrub habitat provides suitable habitat for this species. No CNDDB records within 5 miles of the Project Areas.
PICIDAE (woodpeckers)				
Melanerpes uropygialis Gila woodpecker	USFWS: CDFW:	BCC **END**	Arid environments, especially deserts and dry forests of the southwestern U.S. and adjacent Mexico, usually below elevations of 3,300 feet. Most common in low swales and arroyos, including riparian corridors with cottonwood, willow, and mesquite. Nests in cacti and other tree species.	**Low.** Unlikely to occur within the Project Areas and buffer due to absence of suitable nesting cavity locations, i.e. large trees and/or large cacti. No recent CNDDB records within 5 miles of the Project Areas.
POLIOPTILIDAE (gnatcatchers)				
Polioptila melanura black-tailed gnatcatcher	USFWS: CDFW:	none WL	Semiarid and desert thorn scrub habitats. This species is well adapted to dry habitats and tend to be most common in areas with less than 8 inches of annual rainfall. They often live far from streams and other bodies of water.	**Present.** There were approximately 20 sightings of black-tailed gnatcatcher on Vega 2 and 3. They were often observed foraging in the tamarisk thickets. Desert scrub habitat within the Project Areas is also suitable for this species. No CNDDB records occur within 5 miles of the Project Areas.
RALLIDAE (rails)				
Laterallus jamaicensis **ssp.** ***coturniculus*** California black rail	USFWS: CDFW:	BCC **THR,** FP	Riparian marshes, coastal prairies, saltmarshes, and impounded wetlands. All of its habitats have stable shallow water, usually just 1.2 inches deep at most.	**Moderate.** The presence of riparian habitat provides suitable habitat. One recent CNDDB record occurs from 2015 approximately 4.8 miles west of the Project Areas. Four historic CNDDB records (1975–1989) occur with two located within the Project Areas.

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Rallus obsoletus* ssp. *yumanensis Yuma Ridgway's rail	USFWS: CDFW:	**END** **THR,** FP	Consistently found in freshwater marshes that are composed of cattail and bulrush. This emergent vegetation averages greater than 6 feet tall. Water depth tends to be around 3.5 inches deep. Range extends from Nevada, California, and Arizona to Baja California and Sonora Mexico.	**Low.** The presence of the canal and freshwater forested/shrub wetland habitat within the Project Areas and buffer could be suitable for this species. Overall, there is a lack of stable, shallow water as well as lack of cattails and bulrush within the Survey Area. No CNDDB records occur within 5 miles of the Project Areas.
STRIGIDAE (owls)				
Athene cunicularia burrowing owl	USFWS: CDFW:	BCC SSC	Open grasslands including prairies, plains, and savannah, or vacant lots and airports. Nests in abandoned dirt burrows.	**High.** The creosote bush scrub provides habitat and soils that are suitable for burrowing owl. There was one sighting of burrowing owl within the Vega 5 Project Area which is adjacent to Vega 2/Study Area 1. Twelve CNDDB records occur within 5 miles of the Project Areas with the closest overlapping the project boundary. Twelve owls were found in the area in 2007.
MAMMALS				
MOLOSSIDAE (free-tailed bats)				
Eumops perotis* ssp. *californicus western mastiff bat	USFWS: CDFW:	none SSC	Roosts high above ground in rock and cliff crevices, shallow caves, and rarely in buildings. Occurs in arid and semiarid regions including rocky canyon habitats.	**Presumed absent.** There is no suitable roosting habitat within the Project Areas or in the buffer. No CNDDB records occur within 5 miles of the Project Areas.
Nyctinomops femorosaccus pocketed free-tailed bat	USFWS: CDFW:	none SSC	Roosts in crevices of outcrops and cliffs, shallow caves, and buildings. Found along rugged canyons, high cliffs, and semiarid rock outcroppings.	**Presumed absent.** There is no suitable roosting habitat within the Project Areas or in the buffer. No CNDDB records occur within 5 miles of the Project Areas.
Nyctinomops macrotis big free-tailed bat	USFWS: CDFW:	none SSC	Roosts in cliff crevices, and less often in buildings, caves, and tree cavities. Occurs in rocky areas of rugged and hilly country including woodlands, evergreen forests, river floodplain-arroyo habitats, and desert scrub.	**Presumed absent.** There is no suitable roosting habitat within the Project Areas or in the buffer. No CNDDB records occur within 5 miles of the Project Areas.

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PHYLLOSTOMIDAE (leaf-nosed bats)				
Choeronycteris mexicana Mexican long-tongued bat	USFWS: CDFW:	none SSC	Roosts in caves, rock fissures, old mines, and rarely in buildings. Found in desert shrublands, tropical deciduous forests, deep mountain canyons with riparian vegetation, oak-conifer woodlands and forests.	**Presumed absent.** There is no suitable roosting habitat within the Project Areas or in the buffer; however, there is suitable foraging habitat. No CNDDB records occur within 5 miles of the Project Areas.
Macrotus californicus California leaf-nosed bat	USFWS: CDFW:	none SSC	Roosts in caves, abandoned mines, or natural rock fissures in canyons during the day. May roost in buildings, under bridges, or in porches during the night. Found in lowland desert scrub. Foraging usually takes place in dry desert washes.	**Low.** There is no suitable roosting habitat within the Project Areas or in the buffer; however, there is suitable foraging habitat. No CNDDB records occur within 5 miles of the Project Areas.
VESPERTILIONIDAE (evening bats)				
Antrozous pallidus pallid bat	USFWS: CDFW:	none SSC	Roosts in rock crevices, caves, mines, buildings, bridges, and in trees. Generally, in mountainous areas, lowland desert scrub, arid grasslands near water and rocky outcrops, and open woodlands.	**Low.** There is no suitable roosting habitat within the Project Areas or in the buffer; desert scrub provides suitable foraging habitat. No CNDDB records occur within 5 miles of the Project Areas.
Corynorhinus townsendii Townsend's big-eared bat	USFWS: CDFW:	none SSC	Roosts in mines, caves, buildings, or other crevices, sometimes trees. Usually requires large crevices. Most common in moist areas or those with access to water.	**Presumed absent.** There is no suitable roosting habitat within the Project Areas and buffer. No CNDDB records occur within 5 miles of the Project Areas.
Lasiurus xanthinus western yellow bat	USFWS: CDFW:	none SSC	Roosts in trees, particularly palms, in desert wash, desert riparian, valley foothill riparian, and palm oasis habitats.	**Low.** There is limited suitable roosting habitat within the Project Areas and buffer. No CNDDB records occur within 5 miles of the Project Areas.
BOVIDAE (sheep and relatives)				
Ovis canadensis* ssp. *nelsoni peninsular bighorn sheep	USFWS: CDFW:	**END** **END,** FP	Dry, rocky, low-elevation desert slopes, canyons, and washes from the San Jacinto and Santa Rosa mountains near Palm Springs, California south into Baja California, Mexico.	**Presumed absent.** There is no suitable habitat such as canyons and mountains within the Project Areas and buffer. No CNDDB records occur within 5 miles of the Project Areas.

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CRICETIDAE (New World rats and mice)				
Sigmodon hispidus* ssp. *eremicus Yuma hisbid cotton rat	USFWS: CDFW:	none SSC	Inhabits a variety of habitats, but generally associated with drainage ditches, canals, and seeps vegetated with plants such as arrow weed, saltgrass, common reed, cattails, sedges, tamarisk, heliotrope, and annual grasses. They utilize runways through dense herbaceous growth and nests are built of woven grass. Noted presence in moist agricultural fields.	**Moderate.** There is suitable habitat in and around Coachella Canal adjacent to the Project Areas. No CNDDB records occur within 5 miles of the Project Areas.
HETEROMYIDAE (kangaroo rats, pocket mice and kangaroo mice)				
Perognathus longimembris bangsi Palm Springs pocket mouse	USFWS: CDFW:	none SSC	Occurs in flat or gently sloping habitats of loose or sandy soils, with relatively sparse vegetation.	**Moderate.** There is suitable habitat for this species within the creosote bush scrub. No CNDDB records occur within 5 miles of the Project Areas.

Federal Designations:
(Federal Endangered Species Act, USFWS)

END: Federally-listed, Endangered
THR: Federally-listed, Threatened
CAN: Federal Candidate Species
FSC: Federal Species of Concern
FPD: Federal Proposed for Delisting
BCC: Bird of Conservation Concern

State Designations:
(California Endangered Species Act, CDFW)

END: State-listed, Endangered
THR: State-listed, Threatened
CAN: State Candidate Species
SSC: California Species of Special Concern
FP: Fully Protected Species
WL: Watch List

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Biological Technical Report

Vega SES 5 Solar Project

Imperial County, California

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ENVIRONMENTAL CONSULTANTS

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Attachment C - Special-Status Wildlife Potential for Occurrence Table

LIST OF ACRONYMS AND ABBREVIATIONS

CFR	Code of Federal Regulations
AOU	American Ornithologists' Union
BCC	Bird of Conservation Concern
BUOW	Burrowing owl

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CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CNPSEI	California Native Plant Society's Electronic Inventory
CRPR	California Rare Plant Rank
CWA	Clean Water Act
ESA	Endangered Species Act
gen-tie	generator intertie
GIS	Geographic Information System
GPS	global positioning system
HCP	habitat conservation plan
IID	Imperial Irrigation District
MBTA	Migratory Bird Treaty Act
MW	megawatt
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
Project	Vega SES 5 Solar Project
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SSAR	Society for the Study of Amphibians and Reptiles
SSC	Species of Special Concern
sUAS	small unmanned aircraft system
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey

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1.0 INTRODUCTION

The Vega SES 5 Solar Project (Project) is located on approximately 405 acres, consisting primarily of two parcels and a portion of a third parcel, in Imperial County, California. ECORP Consulting, Inc. conducted a literature review, small unmanned aircraft system (sUAS) survey, and biological reconnaissance survey of the Project to document the existing biological resources, to assess the habitat for its potential to support sensitive plant and wildlife species, and, as required under the California Environmental Quality Act (CEQA), to determine whether Project-related impacts could occur to sensitive biological resources.

1.1 Purpose of the Report

This report was prepared to describe biological resources in the Project Area and to support Project review under CEQA. Assessment of potential occurrences of special-status plants and animals is based on habitat, geographic and elevational range, and data from field surveys conducted by ECORP in 2020. For the purposes of this report, the term *Project Area* refers to the client supplied Project boundary. The term *Impact Area* refers to the areas proposed to be directly affected by implementation of the Project. The term *Survey Area* refers to the areas proposed to be directly impacted by the Project, the 500-foot buffer, and areas potentially subject to temporary impacts.

1.2 Project Location and Description

The proposed Project is a 50-megawatt (MW) alternating current solar photovoltaic energy project with an integrated 50 MW battery storage utility-scale solar project located on approximately 405 acres, including Imperial County Assessor's Parcel Number 025-260-022-000, 025-260-019-000, and a portion of 025-260-011-000. The Project is approximately 10 miles east of the Salton Sea and five miles west of the Chocolate Mountains (Figure 1). The Project Area is bisected by a railroad right-of-way in the northeastern portion of the site and the East Highline Canal intersects the southwest portion of the site (Figure 2). As depicted on the U.S. Geological Survey (USGS) 7.5-minute Iris topographic quadrangle, the Project is located in Sections 8, 16, 17, 18, 19, and 20 of Township 11 South, Range 15 East, San Bernardino Base and Meridian.

The proposed Project will connect to the closest Imperial Irrigation District (IID) substation through a previously established Imperial Irrigation District generator intertie line.

Topography is relatively flat with elevations ranging between -20 meters (-65 feet) and 22 meters (71 feet) above mean sea level. Adjacent land uses include active agricultural land to the west and Open Space/Bureau of Land Management land to the north, east, and south. The East Highline Canal travels through the Project Area from north to south, and a portion of Siphon Five travels through the northeast portion of the Project Area.

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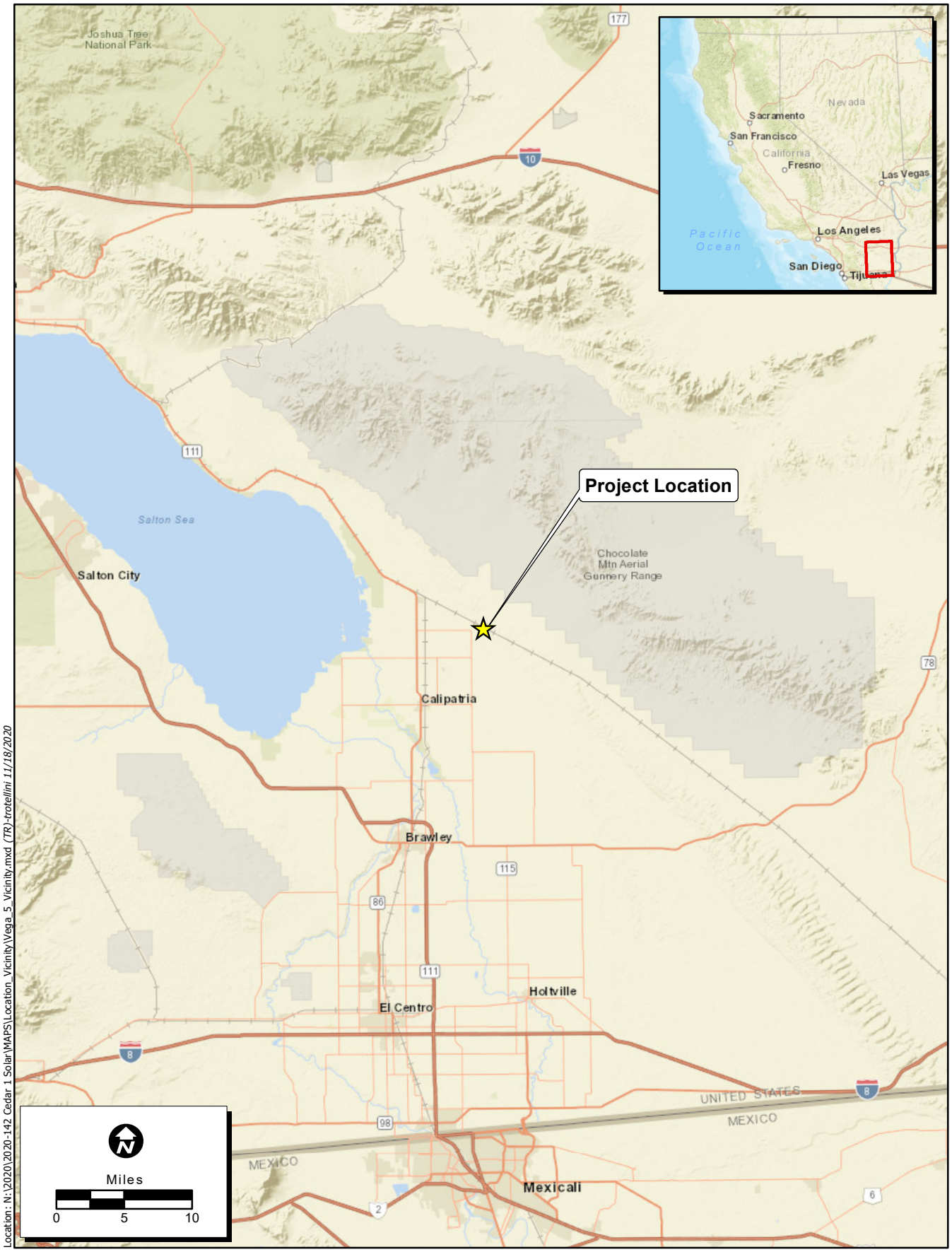

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Map Date: 11/18/2020

Sources:

Figure 1. Project Vicinity

2020-144 Vega SES 5

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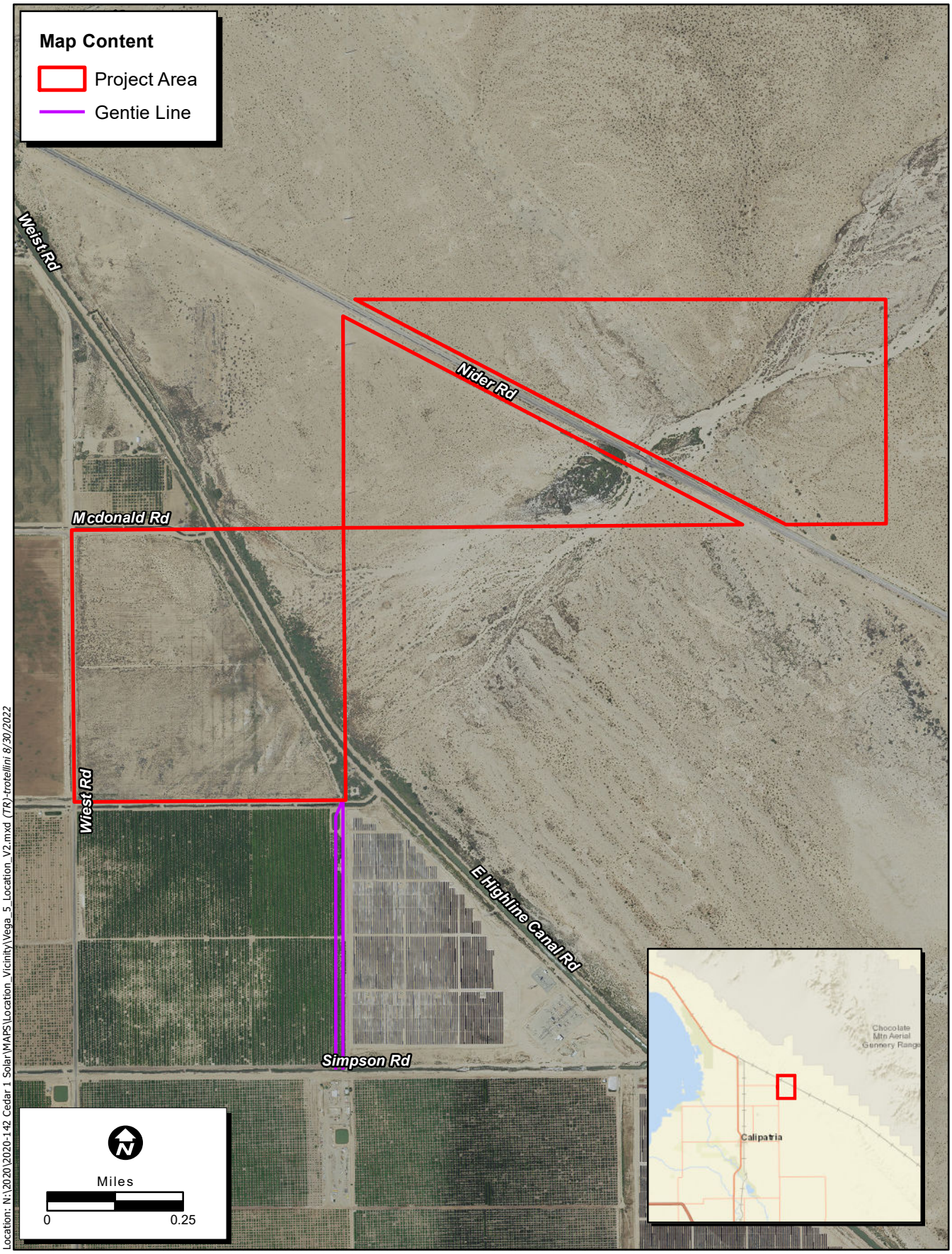

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Map Date: 8/30/2022

*Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community*Photo Source: NAIP

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Figure 2. Project Location

2020-144 Vega SES 5

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2.0 REGULATORY CONSIDERATIONS

The biological reconnaissance survey was conducted to identify potential constraints and to ensure compliance with state and federal regulations regarding listed, protected, and sensitive species could be achieved. The regulations are detailed below.

2.1 Federal Regulations

2.1.1 Endangered Species Act

The federal Endangered Species Act (ESA) protects plants and animals that are listed as endangered or threatened by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service. Section 9 of the ESA prohibits the taking of endangered wildlife, where taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 U.S. Code 1538). Under Section 7 of the ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan (HCP) is developed.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

2.1.3 Clean Water Act

The purpose of the Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into Waters of the U.S. without a permit from the U.S. Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and

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wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The U.S. Environmental Protection Agency (USEPA) acts as a cooperating agency to set policy, guidance and criteria for use in evaluation permit applications and also reviews USACE permit applications.

The USACE regulates "fill" or dredging of fill material within its jurisdictional features. "Fill material" means any material used for the primary purpose of replacing an aquatic area with dry land or changing the bottom elevation of a water body. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the State Water Quality Control Board, administered by each of nine California Regional Water Quality Control Boards (RWQCBs).

2.2 State and Local Regulations

2.2.1 California Endangered Species Act

The California ESA generally parallels the main provisions of the ESA but, unlike its federal counterpart, the California ESA applies the take prohibitions to species proposed for listing (called "candidates" by the State). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California ESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with California Department of Fish and Wildlife (CDFW) to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

2.2.2 Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under federal and/or California ESAs. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code § 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any state agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code §§ 1900-1913) was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW. The Fish and Wildlife Commission has the authority to designate native

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plants as "endangered" or "rare" and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code § 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

2.2.4 Porter Cologne Water Quality Control Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" [Water Code 13260(a)].

Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050[e]). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of Waste Discharge Requirements for these activities.

On April 2, 2019, the SWRCB adopted the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (referred to as the Procedures) for inclusion in the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (Resolution No. 2019-0015). The new Procedures include:

- definition of wetlands and aquatic resources that are Waters of the State,
- description of application requirements for individual orders (not general orders) for water quality certification, or waste discharge requirements,
- description of information required in compensatory mitigation plans, and
- definition of exemptions to application procedures.

The Office of Administrative Law approved the procedures on August 28, 2019, and the rule went into effect May 28, 2020.

2.2.5 Conservation and Open Space Element

Imperial County created the Conservation and Open Space Element plan to provide details and measures for management and preservation of biological resources as well as various other resources (i.e. cultural, soils, minerals). This plan focuses on protecting scarce resources and preventing wasteful exploitation, neglect, and destruction of California's natural resources. The plan outlines areas with sensitive habitat and sensitive species, also labelled "Resource Areas". Open space easements and protection of riparian habitat, rock outcrops, California fan palm oases, and wildlife corridors are also discussed in the plan. As it

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currently stands, the open space element follows CEQA guidelines with special focus on its scarce resources.

2.2.6 California Fish and Game Code

2.2.6.1 Streambed Alteration Agreement

Section 1602 of the California Fish and Game Code requires that a Notification of Lake or Streambed Alteration be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." The CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant is the Streambed Alteration Agreement (SAA). Often, projects that require an SAA also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the SAA may overlap.

2.2.6.2 Migratory Birds

The CDFW enforces the protection of nongame native birds in §§ 3503, 3503.5, and 3800 of the California Fish and Game Code. Section 3513 of the California Fish and Game Code prohibits the possession or take of birds listed under the MBTA. These sections mandate the protection of California nongame native birds' nests and also make it unlawful to take these birds. All raptor species are protected from "take" pursuant to California Fish and Game Code § 3503.5 and are also protected at the federal level by the MBTA of 1918 (USFWS 1918).

2.2.7 CEQA Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;

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- interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional or state HCP.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of an important resource on a population-wide or region-wide basis.

3.0 METHODS

3.1 Literature Review

Prior to conducting the biological reconnaissance survey, ECORP biologists performed a literature review using the CDFW's California Natural Diversity Data Base (CNDDB; CDFW 2020a) and the California Native Plant Society's (CNPS') Electronic Inventory (CNPSEI; CNPS 2020) to determine the special-status plant and wildlife species that have been documented in the vicinity of the Project. The CNDDB and CNPSEI database searches were conducted on September 24, 2020. ECORP searched CNDDB and CNPSEI records within the Project site as depicted on USGS 7.5-minute Iris topographic quadrangle, and the surrounding eight topographic quadrangles: Wister, Iris Wash, Lion Head Mountain, Niland, Tortuga, Westmorland East, Wiest, and Amos. The CNDDB and CNPSEI contain records of reported occurrences of federally or state-listed endangered, threatened, proposed endangered or threatened species, California Species of Special Concern (SSC), and/or other special-status species or habitat that may occur within or in the vicinity of the Project. Additional information was gathered from the following sources and includes, but is not limited to the following:

- U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2020a);
- Special Animals List (CDFW 2020b);
- State and Federally Listed Endangered and Threatened Animals of California (CDFW 2020c);
- The Jepson Manual: Vascular Plants of California (Baldwin et al. 2012);
- The Manual of California Vegetation, 2nd Edition (Sawyer et al. 2009); and

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- various online websites (e.g., CalFlora 2020).

A desktop review of the National Wetlands Inventory (USFWS 2020a) and the corresponding USGS topographic maps was also conducted to determine if there were any blue line streams or drainages that might potentially fall under the jurisdiction of either federal or state agencies were present in the Survey Area.

3.2 Field Survey

3.2.1 sUAS Survey and Vegetation Mapping

Due to the extensive size of the area and limited road access, an initial survey utilizing a small unmanned aircraft system sUAS was conducted to quickly assess current site conditions and gather high resolution imagery. Upon arrival at the site, an initial field reconnaissance was conducted by the drone pilot to obtain an understanding of the site topography, access, vegetation densities, and staging areas for controlling the aerial flights. The drone was programmed to do a systematic flight over the property to collect high-resolution aerial photographs of the entire property. The photos collected were then combined into a single orthomosaic image that was incorporated into mapping files in a Geographic Information System (GIS).

The information gathered from the sUAS/drone survey were then used to assist the biologists with accurate mapping of the vegetation communities. A botanist utilized the high-resolution drone imagery to map vegetation communities. Vegetation classifications were in accordance with *A Manual of California Vegetation* (Sawyer et al. 2009). Vegetation communities that did not fit within the Sawyer classification system were described following Holland or Cowardin (alternative methods). Areas of the site(s) that had already been graded, developed, and/or disturbed were mapped as such. Acreages of each vegetation community were calculated based on GIS data collected during the sUAS survey.

3.2.2 Biological Reconnaissance Survey

The biological reconnaissance survey was conducted by walking the entire Survey Area to determine the vegetation communities and wildlife habitats present within the Survey Area. Private property and inaccessible areas within the buffer were surveyed utilizing 8x42 binoculars. The biologists documented the plant and animal species present in the Survey Area and conditions within the Survey Area were assessed for their potential to provide habitat for special-status plant and wildlife species, including those from the literature review. Data were recorded on global positioning system (GPS) devices, data sheets, and maps. In instances where a special-status species was observed, the date, species, location and habitat, and GPS coordinates were recorded. The locations of special-status species observations were recorded using a handheld GPS in NAD 83, UTM coordinates, Zone 11S. Photographs were also taken during the survey to provide visual representation of the various vegetation communities within the Survey Area. The Survey Area was also examined to assess its potential to facilitate wildlife movement or function as a movement corridor for wildlife moving throughout the region.

Plant and wildlife species, including any special-status species that were observed during the survey, were recorded. Plant nomenclature follows that of *The Jepson Manual: Vascular Plants of California* (Baldwin et

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al. 2012). Wildlife nomenclature follows that of *The American Ornithologists' Union (AOU) Checklist of North American Birds* (AOU 2020), the Society for the Study of Amphibians and Reptiles (SSAR 2017), and the *Revised Checklist of North American Mammals North of Mexico* (Bradley et al. 2014).

3.2.3 Aquatic Resources Delineation

An aquatic resources delineation was conducted by ECORP biologists in conjunction with the biological reconnaissance survey, the results of which are presented under a separate cover (ECORP 2022).

3.3 Potential for Occurrence Determinations

Using information from the literature review and observations in the field, a list of special-status plant and animal species that have potential to occur within the Survey Area was generated. For the purposes of this assessment, special-status species are defined as plants or animals that:

- have been designated as either rare, threatened, or endangered by CDFW, CNPS, or the USFWS, and/or are protected under either the federal or California ESAs;
- are candidate species being considered or proposed for listing under these same acts;
- are fully protected by the California Fish and Game Code, §§ 3511, 4700, 5050, or 5515;
- are of expressed concern to resource and regulatory agencies or local jurisdictions.

Special-status species reported for the region in the literature review or for which suitable habitat occurs on the Survey Area were assessed for their potential to occur within the Survey Area based on the following guidelines:

Present: The species was observed on site during a site visit or focused survey.

High: Habitat (including soils and elevation factors) for the species occurs within the Survey Area and a known occurrence has recently been recorded (within the last 20 years) within five miles of the area.

Moderate: Habitat (including soils and elevation factors) for the species occurs within the Survey Area and a documented observation occurs within the database search, but not within five miles of the area; a historic documented observation (more than 20 years old) was recorded within five miles of the Survey Area; or a recently documented observation occurs within five miles of the area and marginal or limited amounts of habitat occurs in the Survey Area.

Low: Limited or marginal habitat for the species occurs within the Survey Area and a recently documented observation occurs within the database search, but not within five miles of the area; a historic documented observation (more than 20 years old) was recorded within five miles of the Survey Area; or suitable habitat strongly associated with the species occurs on site, but no records or only historic records were found within the database search.

Presumed Absent: Species was not observed during a site visit or focused surveys conducted in accordance with protocol guidelines at an appropriate time for identification; habitat (including soils and

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elevation factors) does not exist on site; or the known geographic range of the species does not include the Survey Area.

Note: Location information on some special-status species may be of questionable accuracy or unavailable. Therefore, for survey purposes, the environmental factors associated with a species' occurrence requirements may be considered sufficient reason to give a species a positive potential for occurrence. In addition, just because a record of a species does not exist in the databases does not mean it does not occur. In many cases, records may not be present in the databases because an area has not been surveyed for that particular species.

4.0 RESULTS

The results of the literature review and field surveys, including site characteristics, vegetation communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors) are summarized below.

4.1 Literature Review

4.1.1 Special-Status Plants and Wildlife

Special-status plants and wildlife species reported for the region in the literature review or for which suitable habitat occurs were evaluated for their potential to occur within the Project Area or in the buffer areas within the Survey Area where indirect impacts could occur. Of all available records, a total of 22 special-status plant species and 23 special-status wildlife species were identified as having the potential for occurrence in the vicinity of the Project site (Attachments B and C).

4.1.2 U.S. Fish and Wildlife Service Designated Critical Habitat

The Project site is not located within any USFWS-designated critical habitat. The closest designated critical habitat is for Peirson's milk-vetch (*Astragalus magdalenae* var. *peirsonii*) located approximately nine miles to the southeast of the Project site, and desert tortoise (*Gopherus agassizii*) critical habitat located approximately 10 miles east of the Project site.

4.2 Biological Reconnaissance Survey

The biological reconnaissance survey was conducted on September 29-30, 2020, by ECORP biologists Christina Congedo and Caroline Garcia. Summarized below are the results of the biological reconnaissance survey, including site characteristics, plants and plant communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors). Weather conditions during the survey are summarized in Table 2.

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Table 1. Weather Conditions During the Survey								
Date	Time		Temperature (˚F)		Cloud Cover (%)		Wind Speed (mph)	
	Start	End	Start	End	Start	End	Start	End
09/29/2020	0630	1400	67	105	0	0	4	3-6
09/30/2020	0640	1200	69	105	0	0	4-5	7

4.2.1 Property Characteristics

The southwestern portion of the Project Area is primarily composed of undeveloped land that was historically used for agriculture. The northeastern section is comprised of an ephemeral drainage and associated wetland and riparian habitats on undeveloped land. The northern border of the Project Area appears to have been graded and/or filled in at several areas near the railroad tracks. The ephemeral drainage system flows southwest under the railroad tracks via a concrete underpass. Riparian habitat lines the banks and bed of the ephemeral drainage system and portions directly north and east of the East Highland canal. Wetlands exist within the riparian habitat directly south of the railroad right-of-way, abutting the ephemeral drainages, connected with Siphon 5. The southwestern portion of the Project Area consists of a fallow agricultural field with ruderal vegetation. The fallow field is bordered to the north and south by two offshoot irrigation channels and a wetland associated with the East Highland canal to the northeast. The Project Area is surrounded to the west, south, and north by agricultural fields and undeveloped land to the east.

Topography throughout the Project Area is relatively flat, but gently slopes from northeast to southwest away from the railroad right-of-way. A soils analysis search was conducted using NRCS soil survey data (NRCS 2020a). Nine soil series occur within the Project Area (Figure 3). These include:

- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 115 - Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes
- 122 - Meloland very fine sandy loam, wet
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 141 - Torriorthents and Orthids, 5 to 30 percent slopes
- 142 - Vint loamy very fine sand, wet
- 144 - Vint and Indio very fine sandy loams, wet
- 145 - Water

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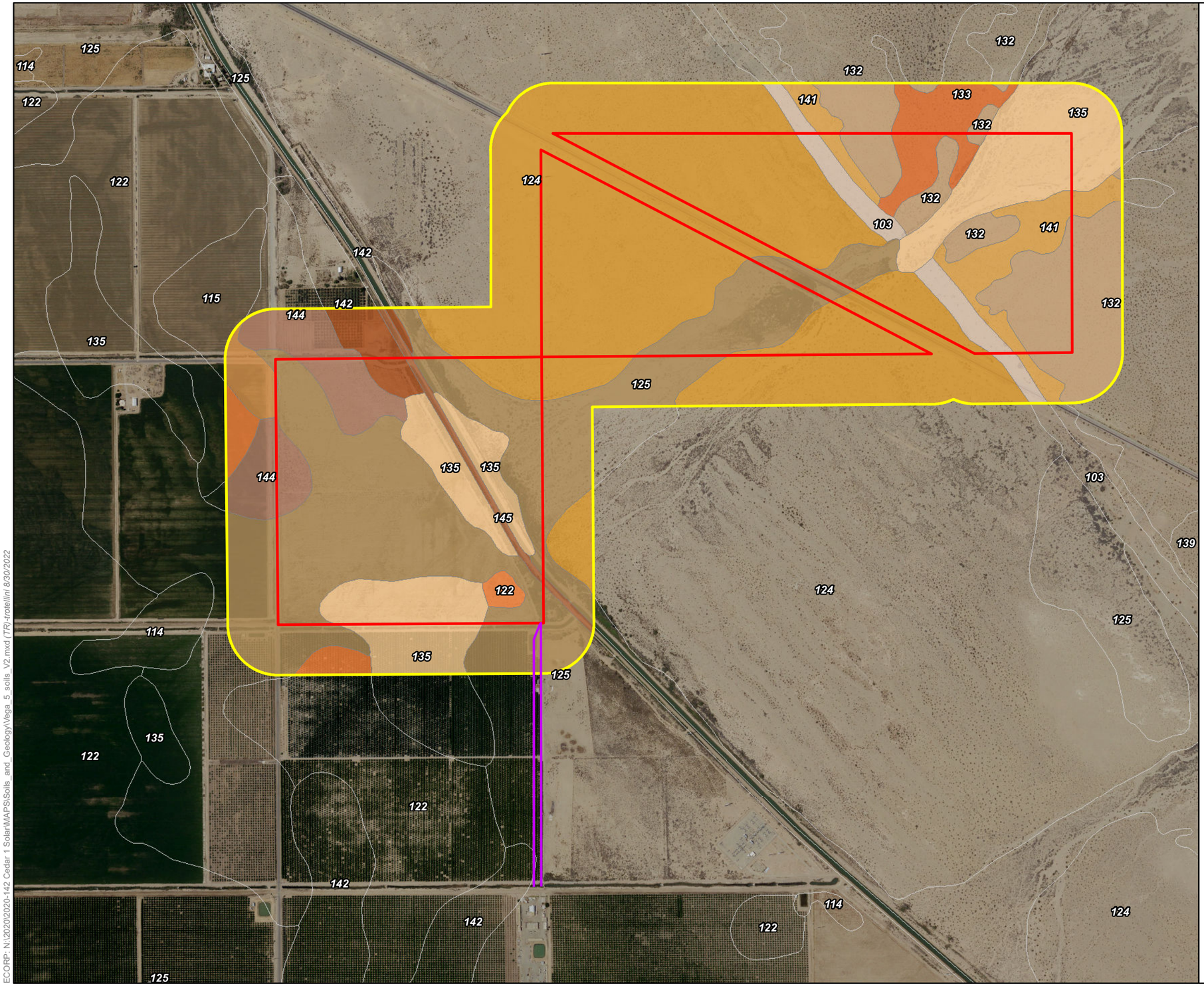


Map Features

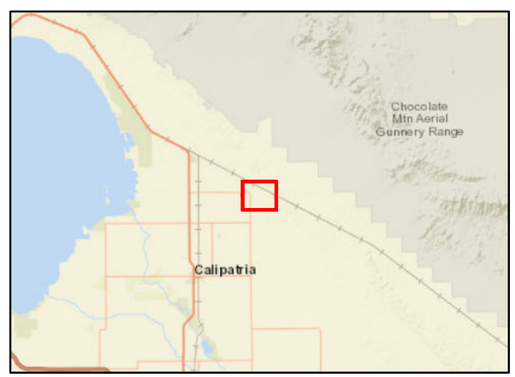
- Project Area
- 500-ft Buffer
- Gentie Line

Series Designation - Series Description

- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 115 - Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes
- 122 - Meloland very fine sandy loam, wet
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 141 - Torriorthents and Orthids, 5 to 30 percent slopes
- 142 - Vint loamy very fine sand, wet
- 144 - Vint and Indio very fine sandy loams, wet
- 145 - Water

Sources: NAIP (2018)

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



ECORP: N:\2020\2020-142 Cedar 1 Solar\MAPS\Soils_and_Geology\Vega_5_soils_V2.mxd (TR) -frotellini 8/30/2022

Map Date: 8/30/2022

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Scale in Feet
0 1,000

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Figure 3. Natural Resources Conservation Service Soil Types

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Both the Niland gravelly sand and Niland gravelly sand, wet soils contain hydric components (NRCS 2020b). The Niland series soils exist on the western and eastern portions of the site and are characterized as well- to moderately well-drained soils with low surface runoff. The Carsitas gravelly sand soil is restricted to the eastern corner of the Project Area and is characterized as deep, excessively drained soil. The Imperial-Glenbar silty clay loam soils are restricted to the northwestern edge of the site and are characterized as moderately well drained soils. The Meloland very fine sandy loam soils are restricted to the southwestern portion of the site and are characterized as moderately well drained with low surface runoff. Vint loamy very fine sand soils exist in the northwestern portion of the site and are characterized as having moderately well-drained soils with very low surface runoff. Vint and Indio very fine sandy loams exist in the northwestern portion of the site and are characterized as having moderately well-drained soils with low surface runoff. The Rositas fine sand soils exist in the western and eastern portions of the site and are characterized as having moderately well-drained with very low surface runoff. The Torriorthents and Orthids soils exist in the northeastern portion of the site and are characterized as having variable permeability and rapid surface runoff.

4.2.2 Vegetation Communities/Land Use

The majority of the Project Area consists of fallow agricultural land and creosote bush scrub. The location of each vegetation community in the Project Area and wider Survey Area are described in detail below and presented in Figure 4. Acreage of each habitat and vegetation community in the Impact Area are shown in Table 2. Representative photographs of the habitats within the Project Area are included within Attachment A.

Table 2. Vegetation Communities and Land Covers in the Impact Area

Vegetation Communities and Land Covers	Acres
Bush seepweed scrub	60.25
Creosote bush scrub	103.26
Fallow agricultural land	101.27
Tamarisk thickets	1.54
Urban/Developed	2.49
Urban/Developed (Roads)	0.30
Impact Area Total	269.11

4.2.2.1 Bush seepweed Scrub (*Suaeda [moquinii] nigra* Shrubland Alliance)

Bush sweepweed scrub is found on flat to gently sloping valley bottoms, bajadas, and toe slopes adjacent to alluvial fans. Bush seepweed scrub is dominated by bush sweepweed, a USFWS Wetland Inventory OBL species (USACE 1996),and can be co-dominant with four-wing saltbush (*Atriplex canescens*) and/or alkali goldenbush (*Isocoma acradenia*). This vegetation community typically has a sparse to intermittent herbaceous layer. On this Project, bush sweepweed dominated the shrub cover with occasional occurrences of four-wing saltbush, arrow weed (*Pluchea sercia*), big saltbush (*Atriplex lentiformis*), alkali goldenbush, and tamarisk (*Tamarix* sp.).

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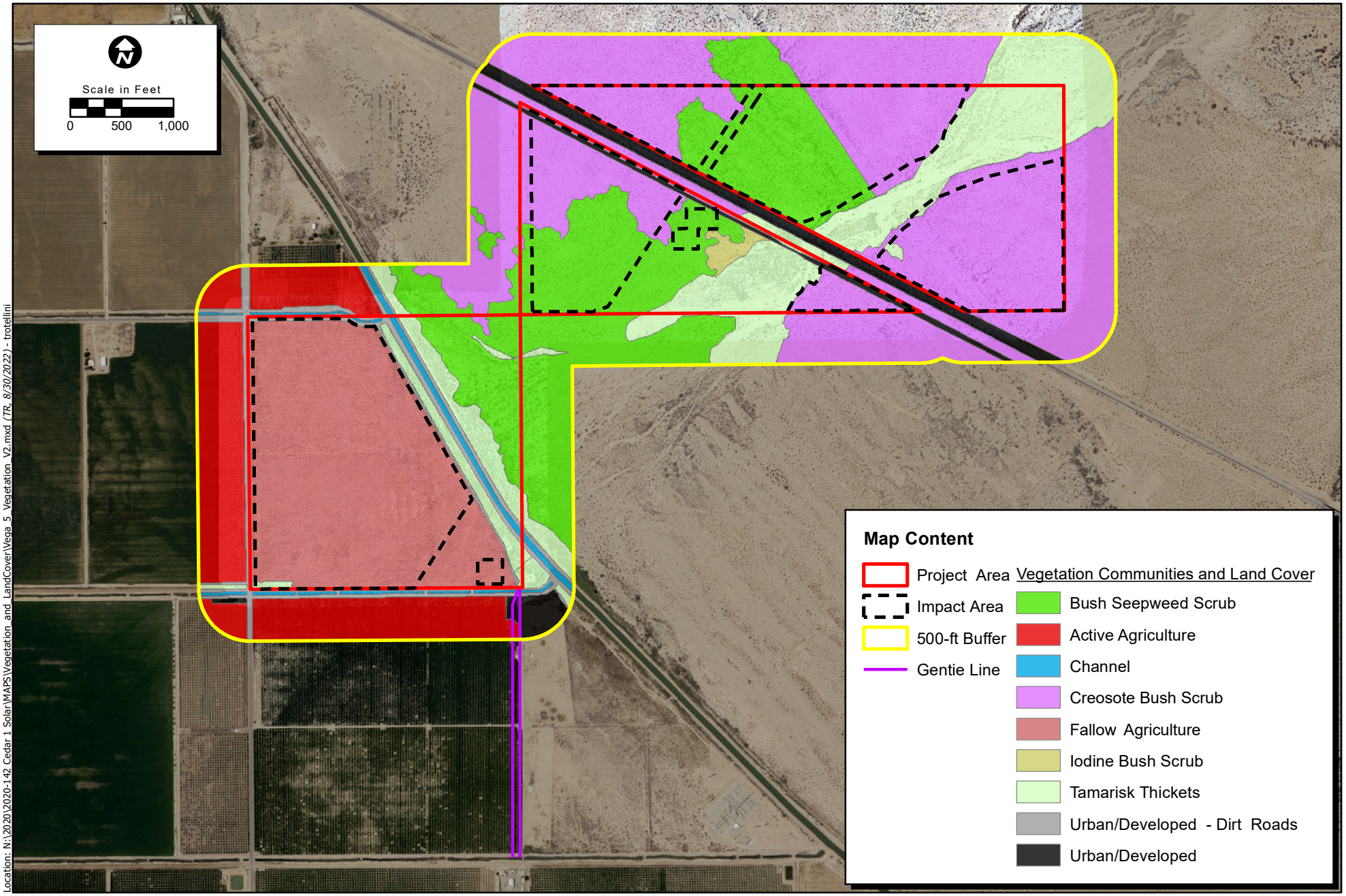

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Map Date: 8/18/2022
Photo Source: NAIP (2018), ECORP UAS Imagery (2020)

Figure 4. Vegetation Communities and Land Covers

4.2.2.2 Creosote Bush Scrub (Disturbed *Larrea tridentata* Shrubland Alliance)

Creosote bush scrub is found on alluvial fans, bajadas, upland slopes, mesas, erosional highlands, basins, and washes. Creosote was typically dominant in the shrub canopy, but occasionally was co-dominant with white bursage, with an absent to intermittent herbaceous layer of seasonal annuals. Other plant species include four-wing saltbush, big saltbush, Mediterranean grass (*Schismus barbatus*) and occasional bush seepweed on the banks of established drainages.

4.2.2.3 Tamarisk Thickets (*Tamarix* spp. Shrubland Semi-Natural Alliance)

Tamarisk thickets are characterized by a weedy monoculture of tamarisk. This habitat is typically in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. On the Project site, tamarisk and arrow weed were often co-dominant in this vegetation community. Other plant species observed include arrow weed, bush seepweed, four-wing saltbush, and big saltbush.

4.2.2.4 Other Land Cover Types

Fallow Agricultural Land

Fallow agricultural lands include remnant signs of row crops with open space between rows. Agricultural lands often occur in upland areas with high soil quality, or floodplains and are almost always artificially irrigated. This land cover was observed in the southern portion of the Project Area. On this Project, the areas consisted primarily of ruderal vegetation including bush seepweed, amaranth (*Amaranthus* sp.), and sudangrass (*Sorghum bicolor* ssp. *drummondii*) and occasional big saltbush.

Urban/Developed

Urban/Developed areas do not constitute a vegetation classification, but rather a land cover type. Areas mapped as developed have been constructed upon or otherwise physically altered to an extent that natural vegetation communities are no longer supported. There may be irrigated landscaped, ornamental species present between the hardscape. On the Project site, this land cover was dominant and consisted primarily of compacted dirt roads, structures, including utility towers.

4.2.2.5 Vegetation Communities and Land Covers within the Survey Area

One additional vegetation community and one additional land cover were observed within the buffer, but not within the Project Area. No impacts are expected as a result of Project-related activities.

Iodine bush scrub (Allenrolfea occidentalis Shrubland Alliance)

Iodine bush scrub is found on playas perched above drainages, seep, and dry lakebed margins. Iodine bush, a USFWS Wetland Inventory FACW+ species (USACE 1996), is dominant in the shrub and herbaceous layers in an open to continuous canopy. Other plant species observed within this community include four-wing saltbush, tamarisk, and bush seepweed.

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Active Agricultural Land

Active agricultural lands include planted, typically monotypic rows of crops of annual and perennial species with open space between rows. Species composition frequently changes by season and year. Agricultural lands often occur in upland areas with high soil quality, or floodplains and are almost always artificially irrigated. This land cover was observed in the southwestern portion of the 500-foot buffer.

4.2.3 Wildlife Observed

Wildlife species and sign observed included bobcat (*Lynx rufus*), burrowing owl (*Athene cunicularia*), American kestrel (*Falco sparverius*), Gambel's quail (*Callipepla gambelii*), turkey vulture (*Cathartes aura),* house finch (*Haemorhous mexicanus*), loggerhead shrike (*Lanius ludovicianus*), black-tailed gnatcatcher (*Polioptila melanura*), desert cottontail (*Sylvilagus audubonii*), black phoebe (*Sayornis nigricans*), white-crowned sparrow (*Zonotrichia leucophrys*), antelope ground squirrel (*Ammospermophilus* sp.*),* coyote (*Canis latrans*), and common side-blotched lizard (*Uta stansburiana*). In addition, potential kangaroo rat (*Dipodomys* sp.) burrows were observed throughout the Survey Area.

4.3 Special-Status Species Assessment

The literature review resulted in 22 special-status plant and 23 special-status wildlife species that historically have been recorded in the vicinity of the Project or that are highly associated with habitat that occurs on the Project site. Special-status plants were evaluated for their potential to occur within the Project limits where impacts could occur. Special-status wildlife were evaluated for their potential to occur within the Survey Area, a broader area which includes the Project Area and buffer, where direct or indirect impacts could occur. Potential for Occurrence tables are included in Attachments B and C.

4.3.1 Plants

Numerous special-status plant species have been recorded within five miles of the Project Area, according to the CNDDB (CDFW 2020a), IPaC (USFWS 2020b), and CNPSEI (CNPS 2020). Of all available records, a total of 22 species were identified as those with the potential for occurrence within the vicinity of the Project Area. Descriptions of the CNPS designations are found in Table 3 and a list of the special-status plant species identified in the literature review is presented following Table 3.

Table 3. CNPS Status Designations

List Designation	Meaning
1A	Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B	Plants Rare, Threatened, or Endangered in California and Elsewhere
2A	Plants Presumed Extirpated in California, But Common Elsewhere
2B	Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3	Plants about which we need more information; a review list
4	Plants of limited distribution; a watch list

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Table 3. CNPS Status Designations	
List Designation	**Meaning**
List 1B, 2, and 4 extension meanings:	
.1	Seriously threatened in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)
.2	Moderately threatened in California (20-80 percent occurrences threatened / moderate degree and immediacy of threat)
.3	Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Note: According to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code (California Department of Fish and Game [CDFG] 1984). This interpretation is inconsistent with other definitions.

4.3.1.1 Plant Species with a High Potential to Occur

Due to the presence of suitable habitat and several known recent occurrences within five miles of the Project Area, the following species were determined to have a high potential to occur:

- Gravel milk-vetch (*Astragalus sabulonum*) is a CNPS California Rare Plant Rank (CRPR) 2B.2 plant species. This species is known to occur at elevations between -60 and 930 meters (-197 and 3,051 feet) and blooms between February and June. Gravel milk-vetch is known to occur in creosote scrub habitat within sandy, sometimes gravelly flats, washes, and roadsides (CNPS 2020). One historic CNDDB record located approximately four miles northwest of the site near the City of Niland. Potential habitat occurs on site for this species in the form of creosote bush scrub habitat.
- Glandular ditaxis (*Ditaxis claryana*) is a CRPR 2B.2 plant species. This species is known to occur at elevations between sea level and 465 meters (sea level and 1,526 feet) and blooms between October and March. Glandular ditaxis is known to occur in creosote scrub habitat within sandy soils (CNPS 2020). One historic CNDDB record located approximately two miles northeast of the site. Potential habitat occurs onsite for this species in the creosote bush scrub habitat.

4.3.1.2 Plant Species with a Moderate Potential to Occur

The following species were found to have moderate potential to occur because habitat (including soils and elevation factors) for the species occurs in the Project Area and a known occurrence exists within the database search, but not within five miles of the Project; or a known occurrence exists within five miles of the site and marginal or limited amounts of habitat occurs in the Project Area:

- Salton milk-vetch (*Astragalus crotalariae*) is a CRPR 4.3 plant species. This species is known to occur at elevations between -60 and 250 meters (197 and 820 feet) and blooms between January and April. Salton milk-vetch is known to occur in creosote scrub habitat within sandy or gravelly soils. Potential habitat occurs onsite for this species in the disturbed creosote bush scrub habitat.
- Borrego milk-vetch (*Astragalus lentiginosus* var. *borreganus*) is a CRPR 4.3 plant species. This species is known to occur at elevations between 30 and 895 meters (98 and 2,936 feet) and

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blooms between February and May. Borrego milk-vetch is known to occur in creosote scrub habitat within sandy soils. Potential habitat occurs on site for this species in the disturbed creosote bush scrub habitat.

- Spiny abrojo (*Condalia globosa* var. *pubescens*) is a CRPR 4.2 plant species. This species is known to occur at elevations between 85 and 100 meters (164 and 279 feet) and blooms between March and May. Spiny abrojo is known to occur in creosote scrub habitat. Potential habitat occurs onsite for this species in the creosote bush scrub habitat.
- Abrams' spurge (*Euphorbia abramsiana*) is a CRPR 2B.2 plant species. This species is known to occur at elevations between -5 and 1,310 meters (16 and 4,298 feet) and blooms between September and November. Abrams' spurge is known to occur in creosote scrub habitat within sandy flats, including playas, fields, disturbed areas, and washes. Potential habitat occurs onsite for this species in the creosote bush scrub habitat.
- Ribbed cryptantha (*Johnstonella costata*) is a CRPR 4.3 plant species. This species is known to occur at elevations between -60 and 500 meters (197 and 1,640 feet) and blooms between February and May. Ribbed cryptantha is known to occur in desert dunes and creosote scrub habitat within sandy soils. Potential habitat occurs onsite for this species in the creosote bush scrub habitat.
- Slender-spined all thorn (*Koeberlinia spinosa* var. *tenuispina*) is a CRPR 2B.2 plant species. This species is known to occur at elevations between 150 and 510 meters (492 and 1,673 feet) and blooms between May and July. Slender-spined all thorn is known to occur in riparian woodland and creosote scrub habitats. Potential habitat occurs onsite for this species in the riparian and creosote bush scrub habitats.
- Slender cottonheads (*Nemacaulis denudata* var. *gracilis*) is a CRPR 2B.2 plant species. This species is known to occur at elevations between -50 and 400 meters (164 and 1,312 feet) and blooms between April and May. Slender cottonheads is known to occur in desert dunes and creosote scrub habitat. Potential habitat occurs onsite for this species in the disturbed creosote bush scrub habitat.
- Sand food (*Pholisma sonorae*) is CRPR 1B.2 plant species. This species is known to occur at elevations between sea level and 200 meters (sea level and 656 feet) and blooms between April and June. Sand food is known to occur in desert dunes and creosote scrub habitat within sandy soils. Potential habitat occurs onsite for this species in the creosote bush scrub habitat.
- Mecca-aster (*Xylorhiza cognata*) is a CRPR 1B.2 plant species. This species is known to occur at elevations between 20 and 400 meters (66 and 1,312 feet) and blooms between January and June. Mecca-aster is known to occur in creosote scrub habitat. Potential habitat occurs onsite for this species in the creosote bush scrub habitat.

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4.3.1.3 Plant Species with Low Potential to Occur

The following species were found to have a low potential to occur on the Project Area because limited habitat for the species occurs on the site and a known occurrence has been reported in the database, but not within five miles of the site, or suitable habitat strongly associated with the species occurs on the site, but no records were found in the database search:

- chaparral sand-verbena (*Abronia villosa* var. *aurita*), CRPR 1B.1
- Harwood's milk-vetch (*Astragalus insularis* var. *harwoodii*), CRPR 2B.2
- Peirson's milk-vetch (*Astragalus magdalenae* var. *peirsonii*), CRPR 1B.2
- pink fairy-duster (Calliandra eriophylla), CRPR 2B.3
- sand evening-primrose (*Chylismia arenaria*), CRPR 2B.2
- Wiggins' croton (*Croton wigginsii*), CRPR 2B.2
- Munz's cholla (Cylindropuntia munzii), CRPR 1B.3
- Algodones Dunes sunflower (*Helianthus niveus* var. *tephrodes*), CRPR 1B.2
- giant Spanish-needle (*Palafoxia arida* var. *gigantea*), CRPR 1B.3
- roughstalk witch grass (*Panicum hirticaule* var. *hirticaule*), CRPR 2B.1
- Coves' cassia (*Senna covesii*), CRPR 2B.1

4.3.2 Wildlife

The literature search documented 23 special-status wildlife species in the vicinity of the Project Area, six of which are federally and/or state listed. Of the 23 special-status wildlife species identified in the literature review, three were present within the Project Area, one was found to have a high potential to occur, three were found to have a moderate potential to occur, and seven were found to have a low potential to occur; the remaining nine species are presumed absent from the Project Area. Descriptions of the federal and state wildlife designations are found in Table 4, and a brief natural history and discussion of the special-status wildlife species found onsite that have a high or moderate potential to occur on the Project Area are provided below. Special-status wildlife species observed during the reconnaissance survey are depicted on Figure 5.

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Table 4. Wildlife Status Designations	
List Designation	**Meaning**
Federal Designation	**Jurisdiction under United States Fish and Wildlife Service (USFWS)**
END	Federally listed as Endangered
THR	Federally listed as Threatened
CAN	Federal Candidate Species
FSC	Federal Species of Concern
FPD	Federal Proposed for Delisting
BBC	Bird of Conservation Concern
State Designation	**Jurisdiction under California Fish and Wildlife Service (CDFW)**
END	State listed as Endangered
THR	State listed as Threatened
SSC	California Species of Special Concern
FP	Fully Protected Species
WL	Watch List

4.3.2.1 Special-Status Wildlife Species Present

The following species were either observed during the reconnaissance survey:

- Black-tailed gnatcatcher is a CDFW WL species. This species is remains in pairs all year, defending permanent territories. Black-tailed gnatcatchers prefer dry washes or desert brush with varied growth of mesquite, acacias, and paloverdes, but are also known to inhabit tamarisk scrub. One individual was observed foraging within the bush seepweed scrub along the railroad right-of-way and another individual was observed foraging within the tamarisk thickets of the Project Area (Figure 5).
- Loggerhead strike is a USFWS Bird of Conservation Concern (BCC) and a CDFW SSC. This species prefers open country with scattered shrubs and trees. They frequent agricultural fields, abandoned orchards, desert scrublands, and riparian areas. One individual was observed perched in the bush seepweed scrub in the center of the Project Area and another individual was observed foraging in the creosote bush scrub in the northwestern portion of the Project Area (Figure 5).

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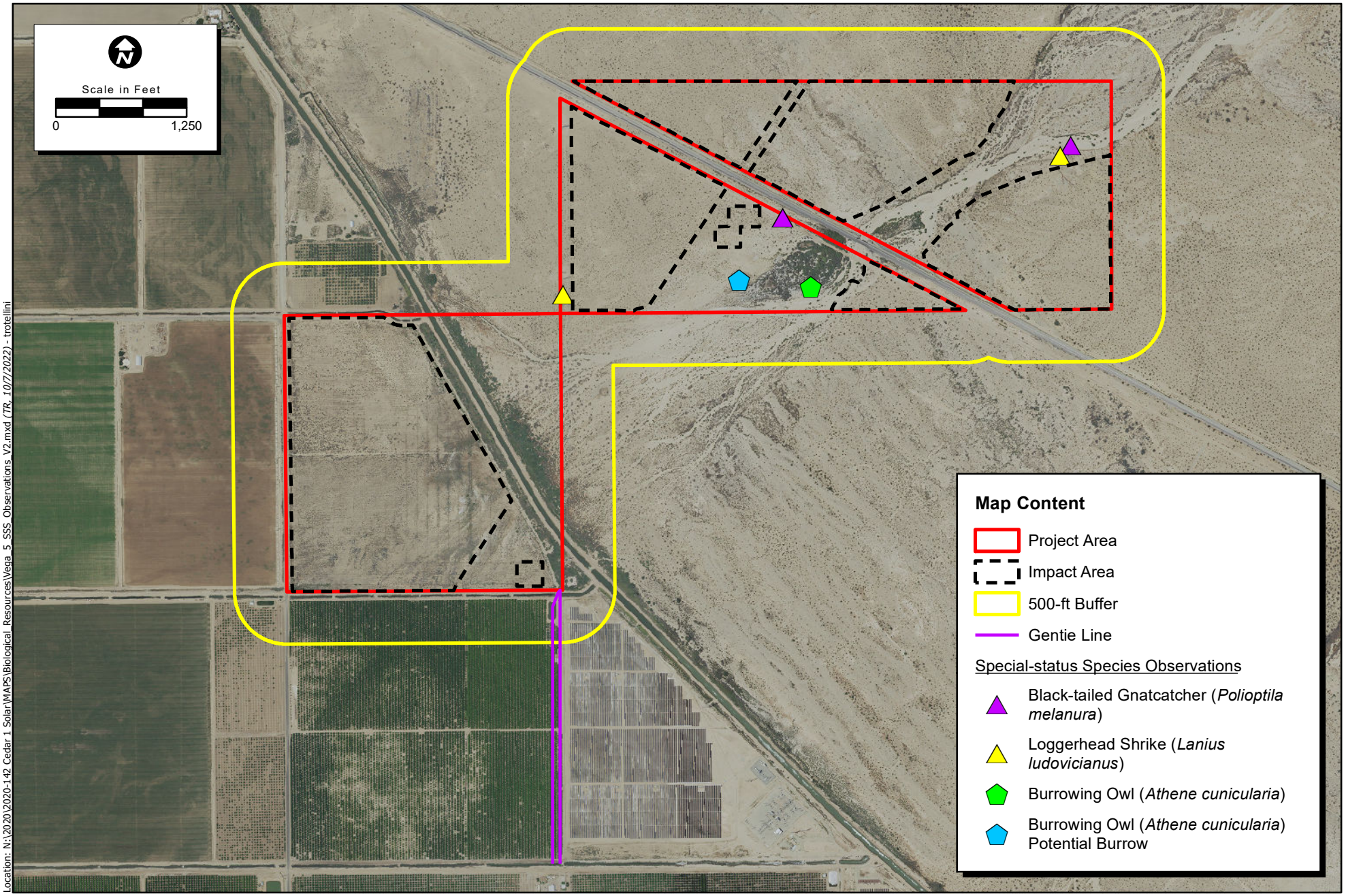

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Map Date: 10/7/2022
Photo Source: NAIP (2020), ECORP UAS Imagery (2020)

Figure 5. Special-status Species Observations

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- Burrowing owl (BUOW) is a USFWS BBC and CDFW SSC. It is typically found in dry open areas with few trees and short grasses; it is also found in vacant lots near human habitation. It uses uninhabited mammal burrows for roosts and nests, often times in close proximity to California ground squirrel colonies. It primarily feeds on large insects and small mammals but will also eat birds and amphibians. The creosote scrub and portions of the riparian habitats provides potential habitat throughout the Project Area and buffer. Ground squirrel burrows that could be utilized by owls were detected within the Project Area. One burrowing owl was observed during the survey and potential burrows were detected within the Project Area. Twelve CNDDB records (2007) occur within five miles of the Project Area, with the closest record overlapping the Project boundary.

4.3.2.2 Special-Status Wildlife Species with a High Potential to Occur

One species was found to have high potential to occur within the Project Area due to the presence of suitable habitat for the species occurring onsite and a known occurrence has been recorded within five miles of the Project Area:

- Mountain plover (*Charadrius montanus*) is a USFWS BCC and a CDFW SSC. This species is most commonly found in grassy semidesert with scattered saltbush, sage, prickly pear, and yucca. It is also found in fallow or recently plowed agricultural fields and in overgrazed landscapes that mimic their natural shortgrass habitat. Three recent CNDDB observations have been recorded within five miles of the Project, the closest observation being approximately two miles away. The old agricultural land west and south of the East Highline Canal provides suitable habitat for the mountain plover.

4.3.2.3 Special-Status Wildlife Species with a Moderate Potential to Occur

Three species were found to have moderate potential to occur within the Project Area because habitat (including soils and elevation factors) for the species occurs onsite and a known occurrence exists within the database search, but not within five miles of the Project Area; or a known occurrence exists within five miles of the site and marginal or limited amounts of habitat occurs within the Project Area:

- California black rail (*Laterallus jamaicensis* ssp. *coturniculus*) is a USFWS BBC, state threatened, and CDFW fully protected species. California black rail are typically found in marsh habitat, including riparian marshes, saltmarshes, and wetlands. This species prefers consistent shallow water within the habitats. There is suitable habitat during the rainy season and shortly after for the California black rail within the wetlands in the Survey Area. There is one recent CNNDB record from 2015 approximately three miles from the Project Area and four historic CNDDB records, two of which are located within the Project Area.

- Merlin (*Falco columbarius*) is a CDFW WL species. This species prefers open and semi-open areas within woodlands near water bodies including rivers, lakes, and wetlands. There are suitable open areas within the upland habitats adjacent to the tamarisk thickets that provide suitable habitat for the merlin. Therefore, wintering individuals have a moderate potential to occur within the Project Area. There is a CNDDB record from 2007 located approximately three miles from the Project Area.

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- Yuma hispid cotton rat (*Sigmodon hispidus eremicus*) is a CDFW SSC. This species occurs in open fields or on the borders of open fields where there is dense grass habitat and/or agricultural fields. There is potential for this species to occur near the East Highline Canal and creosote bush scrub habitat of the Survey Area.

4.3.2.4 Wildlife Species with Low Potential to Occur

Seven species were found to have a low potential to occur within the Project Area because limited habitat for the species occurs onsite and a known occurrence has been reported in the database, but not within five miles of the Project Area, or suitable habitat strongly associated with the species occurs onsite, but no records were found in the database search:

- desert tortoise, federally listed threatened and state listed threatened,
- flat-tailed horned lizard (*Phrynosoma mcallii*), CDFW SSC,
- northern harrier (*Circus hudsonius*), CDFW SSC,
- Yuma Ridgway's rail (*Rallus obsoletus* ssp. *yumanensis*), federally listed endangered, state listed threatened, and CDFW FP,
- California leaf-nosed bat (*Macrotus californicus*), CDFW SSC,
- pallid bat (*Antrozous pallidus*), CDFW SSC, and
- western yellow bat (*Lasiurus xanthinus*), CDFW SSC.

4.3.2.5 Wildlife Species Presumed Absent

The following nine species are presumed absent from the Project due to the lack of suitable habitat within the Project Area:

- razorback sucker (*Xyrauchen texanus*), federally listed endangered, state listed endangered, and CDFW FP,
- Sonoran desert toad (*Incilius alvarius*), CDFW SSC,
- barefoot gecko (*Coleonyx switaki*), state listed threatened,
- western mastiff bat (*Eumops perotis* ssp. *californicus*), CDFW SSC,
- pocketed free-tailed bat (*Nyctinomops femorosaccus*), CDFW SSC,
- Mexican long-tongued bat (*Choeronycteris mexicana*), CDFW SSC,
- big free-tailed bat (*Nyctinomops macrotis*), CDFW SSC,
- Townsend's big-eared bat (*Corynorhinus townsendii*), CDFW SSC, and
- peninsular bighorn sheep (*Ovis canadensis* ssp. *nelson*), federally listed endangered, state listed endangered, and CDFW FP.

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4.4 Wildlife Movement Corridors, Linkages, and Significant Ecological Areas

The concept of habitat corridors addresses the linkage between large blocks of habitat that allow the safe movement of mammals and other wildlife species from one habitat area to another. The definition of a corridor is varied, but corridors may include such areas as greenbelts, refuge systems, underpasses, and biogeographic land bridges, for example. In general, a corridor is described as a linear habitat, embedded in a dissimilar matrix, which connects two or more large blocks of habitat. Wildlife movement corridors are critical for the survivorship of ecological systems for several reasons. Corridors can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas provides for the potential of genetic exchange between wildlife species populations, thereby maintaining genetic variability and adaptability to maximize the success of wildlife responses to changing environmental conditions. This is especially critical for small populations subject to loss of variability from genetic drift and effects of inbreeding. Naturally, the nature of corridor use and wildlife movement patterns varies greatly among species.

The Project Area was assessed for its ability to function as a wildlife corridor. The Project Area has an ephemeral drainage braided system with an associated riparian corridor in the eastern section of the Project that provides cover for migrating and nesting birds. It also provides foraging habitat for raptors and small and large mammals, including rodents and canids. The tamarisk thicket-dominated wetlands located near the canal boundaries are likely utilized by wildlife moving through the area. Therefore, these features and associated riparian habitat would be considered necessary linkages between natural habitat areas to the north and east. The southwestern portion is restricted by the East Highland canal, off-shoot channels, roads, and agricultural fields. Although the canals, roads, and agricultural fields inhibit or deter large mammal movement, avian species and small mammals may forage and pass through these features.

The bush seepweed scrub, iodine scrub, and creosote bush scrub habitats offer little shelter, but moderate-quality foraging habitat. This natural pocket of habitat is semi-open with barriers to the north and south, leaving the terrain accessibility constrained for wildlife access. The eastern portion of the Project Area currently provides wildlife movement opportunities to the northwest and southeast because it consists of open and relatively unimpeded land. However, this portion of the Project would not be considered a wildlife movement corridor that would need to be preserved to allow wildlife to move between important natural habitat areas due to the lack of conserved natural lands in the immediate vicinity and the Project's proximity to farming lands. The Project is surrounded to the north, west, and south by agriculture. The scrub habitat within the Project boundaries is exposed and does not contain any major features that would be considered critical movement corridors for wildlife. Therefore, the scrub habitat acts as more of a buffer between agricultural lands and wildlands to the northeast, but not as a corridor for mammals.

5.0 PROJECT IMPACTS

Implementation of the Project has potential to impact creosote bush scrub habitat, bush seepweed scrub, and tamarisk thickets. These communities may provide suitable nesting and foraging habitat for passerines, including California black rail, BUOW, mountain plover, loggerhead strike, black-tailed

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gnatcatcher, raptor foraging habitat, and habitat for Salton milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster. The following recommendations would be required to determine if the Project would result in significant impacts to vegetation communities, special-status plant and wildlife species, jurisdictional waters, and wildlife movement corridors.

5.1.1 Special-Status Species

5.1.1.1 Special-Status Plants

The literature review identified 22 special-status plant species that have the potential to occur within the Project Area. However, 11 of these plant species have a low potential to occur due to limited suitable habitat. These species include chaparral sand-verbena, Hardwood's milk-vetch, Peirson's milk-vetch, Munz's cholla, pink fairy-duster, sand evening-primrose, Wiggins' croton, Algodones Dunes sunflower, giant Spanish-needle, roughstalk witch grass, and Coves' cassia.

There is moderate or high potential for 11 rare plant species (i.e. Salton's milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster) to be present within the Project Area. Suitable habitat for these species is present within the washes and creosote bush scrub habitats. Impacts that may occur to the species includes loss of individuals, habitat, and seedbank. Depending on the size of the population, this impact may be significant. Implementation of **BIO-1** and **BIO-2** is recommended to decrease the chances of a significant impact.

5.1.1.2 Special-Status Wildlife

The literature review identified 23 special-status wildlife species that have the potential to occur within the Project Area. However, 16 of these species have a low or no potential to occur due to the lack of suitable and limited habitat within the Project site. Wildlife species that are presumed absent from the Project Area include: Sonoran desert toad, barefoot gecko, western mastiff bat, pocketed free-tailed bat, Mexican long-tongued bat, Townsend's big-eared bat, big free-tailed bat, and peninsular bighorn sheep. Wildlife species with a low potential to occur include desert tortoise, razorback sucker, flat-tailed horned lizard, northern harrier, Yuma's ridgeway rail, California leaf-nosed bat, pallid bat, and western yellow bat.

Four species have a moderate or high potential to occur within the Project Area, these species are mountain plover, merlin, California black rail, and Yuma hispid cotton rat. Additionally, three special-status wildlife species were observed onsite during the habitat assessment. Black-tailed gnatcatchers, BUOW, and loggerhead strikes were observed in the tamarisk thickets and creosote bush scrub in the northern portion of the Project Site. Direct impacts to these species that could occur include injury, mortality, nest failures, and loss of young. Indirect impacts include loss of nesting and foraging habitat, increase in anthropogenic effects (i.e. noise levels, introduction of invasive/nonnative species, increase in human activity, increase in dust). Impacts to these species could be considered significant; therefore, implementation of **BIO-2**, **BIO-3**, **BIO-4**, **BIO-5**, and **BIO-7** is recommended.

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Foraging habitat for a number of raptor species and breeding habitat for numerous passerine species that are protected by the MBTA occurs throughout the Project Area. The site provides nesting habitat for ground-nesting species as well as species that nest in creosote scrub and riparian scrub habitats. Due to the lack of large trees within the Survey Area, there is no suitable nesting habitat for tree-nesting raptor species. Direct impacts to nesting avian species include injury, mortality, loss of young, and nest failure. Indirect impacts include loss of foraging and nesting habitat for passerine and raptors species, increase in noise and human activities, potential introduction of invasive/nonnative species. Implementation of **BIO-4**, **BIO-5**, and **BIO-7** are recommended to mitigate for potential impacts.

5.1.2 Sensitive Natural Communities

The approximately 405-acre site is comprised of fallow agricultural, creosote bush scrub, bush seepweed scrub, tamarisk thickets, and urban/developed land, that would be directly impacted by the Project. Active agricultural land, creosote bush scrub, iodine bush scrub, and tamarisk thickets occur within the Project buffer. In-kind mitigation, up to 3:1 ratio, may be required by CDFW to offset impacts to bush seepweed scrub and tamarisk thickets in order to reduce impacts to less than significant. Implementation of **BIO-7** and **BIO-8** is recommended to reduce potential impacts to a less than significant threshold.

5.1.3 State- and/or Federally Protected Wetlands and Waters

The results of the Aquatic Resources Delineation and discussion of potential impacts on state or federally protected wetlands or Waters of the U.S are discussed in the Aquatic Resources Delineation Report (ECORP 2020), prepared under a separate cover. Implementation of **BIO-6** and **BIO-8** is recommended to mitigate for potential significant impacts.

5.1.4 Wildlife Corridors and Nursery Sites

The Project Area is located adjacent to areas containing existing disturbances (i.e., roads, railroad tracks, and active agricultural land). The majority of the Project site does not contain suitable vegetation or cover to support wildlife movement and is nestled between agricultural and development; therefore, wildlife movement opportunities connecting the Project Site to large, undeveloped natural areas is limited. However, the riparian corridor could act as a potential corridor and nursey site for migrating wildlife species. Therefore, implementation of **BIO-2**, **BIO-4**, **BIO-5**, **BIO-6**, and **BIO-7** are recommended to mitigate for potential significant impacts.

5.1.5 Habitat and Conservation Plans and Natural Community Conservation

The Project will follow the guidelines in Imperial County's Conservation and Open Space Element and meet the requirements outlined in the plan. Consultation with County of Imperial - Department of Planning and Development, USFWS, and CDFW would be required should listed plant and/or wildlife species be found to occur.

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6.0 RECOMMENDATIONS AND MITIGATION MEASURES

The following recommendations have been developed in accordance with the CEQA impacts analysis for the Project (see Section 5) but should not be considered mitigation measures at this point in the Project planning process. These actions are recommended prior to Project implementation:

BIO-1 **Rare Plant Surveys:** Rare plant surveys should be conducted within suitable habitat on the Project Area during the appropriate blooming period for the Salton milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster. The surveys should be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If Project-related impacts to rare plants on the Project site are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements.

BIO-2 **Biological Monitoring:** A qualified biologist should be present to monitor all ground-disturbing and vegetation-clearing activities conducted for the Project. During each monitoring day, the biological monitor should perform clearance survey "sweeps" at the start of each work day that vegetation clearing takes place to minimize impacts on special-status species with potential to occur (including, but not limited to, special-status (i.e. Yuma hispid cotton rat and/or nesting bird species). The monitor will be responsible for ensuring that impacts to special-status species, nesting birds, and active nests will be avoided to the greatest extent possible. Biological monitoring should take place until the Project Site has been completely cleared of any vegetation. If an active nest is identified, the biological monitor should establish an appropriate disturbance limit buffer around the nest using flagging or staking. Construction activities should not occur within any disturbance limit buffer zones until the nest is deemed no longer active by the biologist. If special-status wildlife species are detected during biological monitoring activities, consultation with the USFWS and/or CDFW should be conducted and a mitigation plan should be developed to avoid and offset impacts to these species. Mitigation measures may consist of work restrictions or additional biological monitoring activities after ground-disturbing activities are complete.

BIO-3 **Pre-Construction Surveys for Burrowing Owl:** Pre-construction surveys for burrowing owl should be conducted within the Project Area and adjacent areas prior to the start of ground-

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disturbing activities. The surveys should follow the methods described in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). Two surveys should be conducted, with the first survey being conducted between 30 and 14 days before initial ground disturbance (grading, grubbing, and construction), and the second survey being conducted no more than 24 hours prior to initial ground disturbance. If burrowing owls and/or suitable burrowing owl burrows with sign (e.g., whitewash, pellets, feathers, prey remains) are identified on the Project site during the survey and impacts to those features are unavoidable, consultation with the CDFW should be conducted and the methods described in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFW 2012) for avoidance and/or passive relocation should be followed.

BIO-4 **Pre-Construction Nesting Bird Survey:** If construction or other project activities are scheduled to occur during the bird breeding season (Typically February 1 through August 31 for raptors and March 15 through August 31 for the majority of migratory bird species), a pre-construction nesting-bird survey should be conducted by a qualified avian biologist to ensure that active bird nests, including those for the black-tailed gnatcatcher, BUOW, and loggerhead strike, will not be disturbed or destroyed. The survey should be completed no more than three days prior to initial ground disturbance. The nesting-bird survey should include the Project Area and adjacent areas where Project activities have the potential to affect active nests, either directly or indirectly due to construction activity or noise. If an active nest is identified, the biologist should establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities should not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist.

BIO-5 **Pre-Construction Survey for Special-Status Species:** A pre-construction survey should be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey should take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys should take place regardless of breeding season timing and should focus on identifying the presence of special-status wildlife species present within the Project Area or that were identified as having a high potential to occur within the Project Area. These species include, but are not limited to, mountain plover, California black rail, merlin, Yuma hispid cotton rat, BUOW, black-tailed gnatcatcher, and loggerhead strike. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.

BIO-6 **Aquatic Resources Regulatory Permitting:** If Project-related impacts will occur to areas under the jurisdiction of the USACE, CDFW or RWRCB, a regulatory permit with those agencies is needed prior to the impact occurring. Permitting includes preparation and submittal of a Pre-Construction Notification under Section 404 of the federal Clean Water Act, an Application for Water Quality Certification under Section 401 of the federal Clean

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Water Act and a Notification of Lake or Streambed Alteration under Section 1600 of the California Fish and Game Code. Other items such as finalized project plans, quantities of fill material, supporting technical studies and so on are also submitted along with the applications. As a part of this process, the Project must also identify and approve mitigation through the respective agencies. Mitigation can include onsite or offsite options or could include payment of an in-lieu fee to a conservation organization. Types of mitigation can include restoration, creation, rehabilitation, enhancement or other types of habitat improvement. Typically, the type of mitigation and acreage of mitigation is negotiated with the regulatory agencies during the permitting process.

BIO-7 **Sensitive Habitat Avoidance:** To the greatest extent possible, plans should avoid impacts to bush seepweed scrub and tamarisk thicket habitats to minimize potential impacts to special-status species. Excluding these habitats from the Project should also minimize mitigation and permitting requirements to meet the less than significance threshold.

BIO-8 **Minimization of Impacts to Wetland/Riparian Habitat:** Solar panels, structures, and new access roads should not be placed within 50 feet of wetland and riparian habitat boundaries. A construction buffer of 300 feet should be established around the wetlands and riparian habitat during bird breading season (February 1 – August 31). Prior to construction, fencing should be installed approximately 10 feet from the wetland and riparian habitat boundaries within 50 feet of the Project. Fencing should be easily visible to construction. Plans should clearly delineate access roads and staging areas. The extensive alluvial fan system should not be used as an access road between Project Areas.

The following best management practices are not mitigation measures pursuant to CEQA but are recommended to further reduce impacts to special-status species that have potential to occur on the property:

- Confine all work activities to a pre-determined work area. Prior to the initiation of ground disturbing activities, the project footprint, including laydown and staging areas, will be clearly delineated using fencing. All equipment and materials shall use existing roads and parking areas for equipment staging and laydown.
- To prevent inadvertent entrapment of wildlife during the construction phase of the Project, all excavated, steep-walled holes or trenches more than two feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen fill or wooden planks should be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals.
- Wildlife are often attracted to burrow- or den-like structures, such as pipes and may enter stored pipes and become trapped or injured. To prevent wildlife use of these structures, all construction pipes, culverts, or similar structures with a diameter of four inches or greater should be capped while stored onsite.

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- All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or Project site.
- Use of rodenticides and herbicides on Project site should be restricted. This is necessary to prevent primary or secondary poisoning of wildlife, including burrowing owl and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and federal legislation. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to BUOW.

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LIST OF ATTACHMENTS

Attachment A - Representative Site Photographs

Attachment B - Special-Status Plant Potential for Occurrence Table

Attachment C - Special-Status Wildlife Potential for Occurrence Table

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ATTACHMENT A

Representative Site Photographs

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Photo 1. Cross-section of the ephemeral drainage braided system in the eastern section of the Survey Area, facing east.

Photo 2. Creosote bush scrub within the Project Area, facing east.

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Photo 3. One of the main channels of the ephemeral drainage system in the eastern section of the Project Area, surrounded by tamarisk thickets, with the bridge underpass in the background, facing north.

Photo 4. Bush seepweed scrub in the southwestern section of the Project Area with an ephemeral drainage in the center, facing north.

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Photo 5. Iodine bush scrub of the Project Area with tamarisk thickets in the background, facing southeast.

Photo 6. Fallow agricultural field in southwest section of Project Area, facing south.

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Photo 7. View of the East Highland canal within the Project Area lined with common reed and arrow weed, facing north.

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ATTACHMENT B

Special-Status Plant Potential for Occurrence Table

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Special-Status Plant Species with Potential to Occur within the Project site				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project**
Abronia villosa var. *aurita* chaparral sand-verbena	**USFWS**: None **CDFW**: None **CRPR**: 1B.1 **BLM**: Sensitive	Mar-Sep (75 - 1600)	Chaparral Coastal scrub Desert dunes	**Low:** Limited habitat occurs within the Project site; known occurrence exists within the CNPS nine quadrant search.
Astragalus crotalariae Salton milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 4.3 **BLM**: None	Jan-Apr (-60 - 250)	Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Astragalus insularis var. *harwoodii* Harwood's milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Jan-May (0 – 710)	Desert dunes Mojavean desert scrub	**Low:** Limited habitat occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Astragalus lentiginosus var. *borreganus* Borrego milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 4.3 **BLM**: None	Feb-May (30 – 895)	Mojavean desert scrub Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Astragalus magdalenae var. *peirsonii* Peirson's milk-vetch	**USFWS**: Threatened **CDFW**: Endangered **CRPR**: 1B.2 **BLM**: Federal Threatened	Dec-Apr (60 - 225)	Desert dunes	**Low:** Limited habitat occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Astragalus sabulonum gravel milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Feb-Jun (-60 - 930)	Desert dunes Mojavean desert scrub Sonoran desert scrub	**High:** Habitat for this species occurs within the Project site; historic CNNDB record (1906) approximately 3 miles from the Project.
Calliandra eriophylla pink fairy-duster	**USFWS**: None **CDFW**: None **CRPR**: 2B.3 **BLM**: None	Jan-Mar (120 – 1500)	Sonoran desert scrub	**Low:** Limited habitat occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Chylismia arenaria sand evening-primrose	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Nov-May (-70 – 915)	Sonoran desert scrub	**Low:** Limited habitat occurs within the Project site; known occurrence exists within database.

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Special-Status Plant Species with Potential to Occur within the Project site				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project**
Condalia globosa var. *pubescens* spiny abrojo	**USFWS**: None **CDFW**: None **CRPR**: 4.2 **BLM**: None	Mar-May (85 – 1000)	Sonoran desert scrub	**Moderate:** Habitat occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Croton wigginsii Wiggins' croton	**USFWS**: None **CDFW**: Rare **CRPR**: 2B.2 **BLM**: Sensitive	Mar-May (50 - 100)	Desert dunes Sonoran desert scrub	**Low:** Limited habitat for this species occurs within the Project site; known CNDDB occurrence (1986) approximately 4 miles from the Project.
Cylindropuntia munzii Munz's cholla	**USFWS**: None **CDFW**: None **CRPR**: 1B.3 **BLM**: Sensitive	May (150 – 600)	Sonoran desert scrub	**Low:** Limited habitat for this species occurs within the Project site; known CNDDB occurrence (2017) exists within 1 mile of the Project. This species was not observed during the reconnaissance survey.
Ditaxis claryana glandular ditaxis	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Oct, Dec, Jan, Feb, Mar (0 – 465)	Mojavean desert scrub Sonoran desert scrub	**High:** Habitat for the species occurs in the Project site and a known CNNDB occurrence (1978) has been recorded within one mile of the Project.
Euphorbia abramsiana Abrams' spurge	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Sep-Nov (-5 - 1310)	Mojavean desert scrub Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Helianthus niveus var. tephrodes Algodones Dunes sunflower	**USFWS**: None **CDFW**: Endangered **CRPR**: 1B.2 **BLM**: None	Sep-May (50 - 100)	Desert dunes	**Low:** Limited habitat occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Johnstonella costata ribbed cryptantha	**USFWS**: None **CDFW**: None **CRPR**: 4.3 **BLM**: None	Feb-May (-60 - 500)	Desert dunes Mojavean desert scrub Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Koeberlinia spinosa var. *tenuispina* slender-spined all thorn	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	May-Jul (150 - 510)	Riparian woodland Sonoran desert scrub	**Moderate:** Habitat occurs within the Project site; known occurrence exists within CNPS nine quadrat search.

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Special-Status Plant Species with Potential to Occur within the Project site				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project**
Nemacaulis denudata var. *gracilis* slender cottonheads	**USFWS**: None **CDFW**: None **CRPR**: 2B.2 **BLM**: None	Apr-May (-50 - 400)	Coastal dunes Desert dunes Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Palafoxia arida var. *gigantea* giant Spanish-needle	**USFWS**: None **CDFW**: None **CRPR**: 1B.3 **BLM**: Sensitive	Jan-May (15 - 100)	Desert dunes	**Low:** Limited habitat occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Panicum hirticaule var. *hirticaule* roughstalk witch grass	**USFWS**: None **CDFW**: None **CRPR**: 2B.1 **BLM**: None	Aug-Dec (45 – 315)	Desert dunes Joshua tree woodland Mojavean desert scrub Sonoran desert scrub	**Low:** Limited habitat occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Pholisma sonorae sand food	**USFWS**: None **CDFW**: None **CRPR**: 1B.2 **BLM**: Sensitive	Apr-Jun (0 - 200)	Desert dunes Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Senna covesii Coves' cassia	**USFWS**: None **CDFW**: None **CRPR**: 2B.1 **BLM**: None	Aug-Dec (45 – 1315)	Desert dunes Joshua tree woodland Mojavean desert scrub Sonoran desert scrub	**Low:** Limited habitat occurs within the Project site; known occurrence exists within CNPS nine quadrat search.
Xylorhiza cognata Mecca-aster	**USFWS**: None **CDFW**: None **CRPR**: 1B.2 **BLM**: Sensitive	Jan-Jun (20 – 400)	Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project site; known occurrence exists within CNPS nine quadrat search.

California Native Plant Society (CNPS) Rare Plant Ranks:
1B: Plants rare, threatened, and endangered in California and elsewhere.
2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
4: Plants of limited distribution; a watch list.

CNPS Threat Ranks:
0.1: Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2: Fairly threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat)
0.3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Sources:
California Natural Diversity Data Base (CNDDB) (CDFW 2020)
CNPS Rare and Endangered Plant Inventory (CNPS 2020)
Calflora Information on California Plants (Calflora 2020)
IPaC (USFWS 2020)
Special Status Plants (BLM 2015)

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ATTACHMENT C

Special-Status Wildlife Potential for Occurrence Table

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Special-Status Wildlife Species Potential For Occurrence				
Scientific Name Common Name	**Status**		**Habitat Requirements**	**Potential for Occurrence**
VERTEBRATES				
OSTEICHTHYES (BONY FISH)				
CATOSTOMIDAE (suckers)				
Xyrauchen texanus razorback sucker	USFWS: CDFW:	**END** **END,** FP	Rivers and lakes in the southwestern United States	**Presumed absent.** No suitable habitat on site. Perennial canal present in buffer. One historic (1974), but no recent CNDDB record within 5 miles of the site.
AMPHIBIANS				
BUFONIDAE (true toads)				
Incilius alvarius Sonoran Desert toad	USFWS: CDFW:	none SSC	Creosote bush desert scrub, grasslands up into oak-pine woodlands, thorn scrub and tropical deciduous forest in Mexico.	**Presumed absent.** Suitable habitat on site and within the buffer; however, population may be extirpated (Jennings and Hayes 1994). One historic (1916), but no recent CNDDB record within 5 miles of the site.
REPTILES				
GEKKONIDAE (geckos)				
Coleonyx switaki barefoot gecko	USFWS: CDFW:	none **THR**	Arid rocky areas on flatlands, canyons, thorn scrub, especially where there are large boulders and rock outcrops, and where vegetation is sparse.	**Presumed absent.** Habitat such as canyons, thorn scrub, large boulders, and rock outcrops not present on site. No CNDDB records occur within 5 miles of the site.
PHRYNOSOMATIDAE (spiny lizards)				
Phrynosoma mcallii flat-tailed horned lizard	USFWS: CDFW:	none SSC	Desert scrub on sandy flats and valleys with little or no windblown sand, salt flats, and areas with gravelly soils. There are three regional populations of flat-tailed horned lizard in California; two of these (representing the majority of the range in the State) occur in Imperial County. These are on the west side of the Salton Sea/Imperial Valley and on the east side of the Imperial Valley.	**Low.** Suitable habitat on site. No CNDDB records occur within 5 miles of the site.
TESTUDINDAE (land tortoises)				
Gopherus agassizii Mojave desert tortoise	USFWS: CDFW:	**THR** **THR**	Sandy flats to rocky foothills, including alluvial fans, washes and canyons where suitable soils for den construction might be found.	**Low.** Suitable habitat within the site and buffer. Desert tortoise critical habitat is approximately 10 miles northeast of the site. No CNDDB records occur within 5 miles of the site.

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BIRDS				
ACCIPITRIDAE (hawks, kites, harriers, and eagles)				
Circus hudsonius northern harrier	USFWS: CDFW:	none SSC	Undisturbed tracts of grasslands and wetlands with low, thick vegetation. Prefers to breed in dry upland habitats, old fields, grazed meadows, drained marshlands, and high-desert shrubsteppe. Also found in pasturelands, croplands, and open floodplains.	**Low.** Marginally suitable habitat onsite. No nesting habitat onsite. No CNDDB records occur within 5 miles of the site.
CHARADRIIAE (plovers and lapwings)				
Charadrius montanus mountain plover	USFWS: CDFW:	BCC SSC	Shortgrass prairie, especially where blue grama, buffalo grass, and western wheat grass are dominant; and in grassy semidesert with scattered saltbush, sage, prickly pear, and yucca, at elevations ranging from 2,100 to 10,663 feet. Also found in fallow or recently plowed agricultural fields and in overgrazed landscapes that mimic their natural shortgrass habitat.	**High**. Suitable habitat such as agricultural fields onsite. Three CNDDB records occur within 5 miles of the project site with the closest one being two miles away (2011).
FALCONIDAE (falcons and caracaras)				
Falco columbarius merlin	USFWS: CDFW:	none WL	Open and semi-open areas in fragmented woodlots, near rivers, lakes, or bogs, and on lake islands.	**Moderate.** Suitable river and wetland habitat within the site and buffer. One recent CNDDB record (2007) occurs within 3 miles of the site.
LANIIDAE (shrikes)				
Lanius ludovicianus loggerhead shrike (nesting)	USFWS: CDFW:	BCC SSC	Open country with short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns, agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses, and cemeteries.	**Present.** One adult was observed in the southwestern corner of the Project. Suitable habitat such as agricultural fields onsite. One CNDDB record (2007) within 1/10 of a mile of the site.

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POLIOPTILIDAE (gnatcatchers)				
Polioptila melanura black-tailed gnatcatcher	USFWS: CDFW:	none WL	Semiarid and desert thorn scrub habitats. This species is well adapted to dry habitats and tend to be most common in areas with less than 8 inches of annual rainfall. They often live far from streams and other bodies of water.	**Present.** A pair was observed foraging in the tamarisk thickets within the northeastern corner of the Project. Desert scrub habitat within the site is suitable for this species. No CNDDB records occur within 5 miles of the site.
RALLIDAE (rails)				
Laterallus jamaicensis* ssp. *coturniculus California black rail	USFWS: CDFW:	BCC **THR,** FP	Riparian marshes, coastal prairies, saltmarshes, and impounded wetlands. All of its habitats have stable shallow water, usually just 1.2 inches deep at most.	**Moderate.** The presence of riparian habitat and wetlands onsite provides suitable habitat. One recent CNDDB record occurs from 2015. Four historic CNDDB records occur with two being less than 1 mile from the site.
Rallus obsoletus* spp. *yumanensis Yuma Ridgway's rail	USFWS: CDFW:	**END THR,** FP	Consistently found in freshwater marshes that are composed of cattail and bulrush. This emergent vegetation averages greater than 6 feet tall. Water depth tends to be around 3.5 inches deep. Range extends from Nevada, California, and Arizona to Baja California and Sonora Mexico.	**Low.** Presence of the canal and freshwater forested/shrub wetland habitat within the site and buffer could be suitable. No CNDDB records within 5 miles of the site.
STRIGIDAE (owls)				
Athene cunicularia burrowing owl	USFWS: CDFW:	BCC SSC	Open grasslands including prairies, plains, and savannah, or vacant lots and airports. Nests in abandoned dirt burrows.	**Present.** An adult was observed perched on a mound on the border of the tamarisk thickets in the eastern portion of the Project. Twelve CNDDB records occur within 5 miles of the site with the closest overlapping the project boundary. Twelve owls were found in the area in 2007.
MAMMALS				
MOLOSSIDAE (free-tailed bats)				
Eumops perotis* ssp. *californicus western mastiff bat	USFWS: CDFW:	none SSC	Roosts high above ground in rock and cliff crevices, shallow caves, and rarely in buildings. Occurs in arid and semiarid regions including rocky canyon habitats.	**Presumed absent.** No suitable roosting habitat within site or in buffer. No CNDDB records within 5 miles of the site.

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Nyctinomops femorosaccus pocketed free-tailed bat	USFWS: CDFW:	none SSC	Roosts in crevices of outcrops and cliffs, shallow caves, and buildings. Found along rugged canyons, high cliffs, and semiarid rock outcroppings.	**Presumed absent.** No suitable roosting habitat within site or in buffer. No CNDDB records within 5 miles of the site.
Nyctinomops macrotis big free-tailed bat	USFWS: CDFW:	none SSC	Roosts in cliff crevices, and less often in buildings, caves, and tree cavities. Occurs in rocky areas of rugged and hilly country including woodlands, evergreen forests, river floodplain-arroyo habitats, and desert scrub.	**Presumed absent.** No suitable roosting habitat within site or in buffer. No CNDDB records within 5 miles of the site.
PHYLLOSTOMIDAE (leaf-nosed bats)				
Choeronycteris mexicana Mexican long-tongued bat	USFWS: CDFW:	none SSC	Roosts in caves, rock fissures, old mines, and rarely in buildings. Found in desert shrublands, tropical deciduous forests, deep mountain canyons with riparian vegetation, oak-conifer woodlands and forests.	**Presumed absent.** No suitable roosting habitat within site or in buffer; however, there is suitable foraging habitat. No CNDDB records within 5 miles of the site.
Macrotus californicus California leaf-nosed bat	USFWS: CDFW:	none SSC	Roosts in caves, abandoned mines, or natural rock fissures in canyons during the day. May roost in buildings, under bridges, or in porches during the night. Found in lowland desert scrub. Foraging usually takes place in dry desert washes.	**Low.** No suitable roosting habitat within site or in buffer; however, there is suitable foraging habitat. No CNDDB records within 5 miles of the site.
VESPERTILIONIDAE (evening bats)				
Antrozous pallidus pallid bat	USFWS: CDFW:	none SSC	Roosts in rock crevices, caves, mines, buildings, bridges, and in trees. Generally, in mountainous areas, lowland desert scrub, arid grasslands near water and rocky outcrops, and open woodlands.	**Low.** There is a bridge spanning the river in the northeast corner of the Project; however, there was no bat sign observed during the habitat assessment. Desert scrub provides suitable foraging habitat. No CNDDB records within 5 miles of the site.
Corynorhinus townsendii Townsend's big-eared bat	USFWS: CDFW:	none SSC	Roosts in mines, caves, buildings, or other crevices, sometimes trees. Usually requires large crevices. Most common in moist areas or those with access to water.	**Presumed absent.** There is no suitable roosting habitat within the site and buffer. No CNDDB records occur within 5 miles of the site.

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Lasiurus xanthinus western yellow bat	USFWS: CDFW:	none SSC	Roosts in trees, particularly palms, in desert wash, desert riparian, valley foothill riparian, and palm oasis habitats.	**Low.** There is limited suitable roosting habitat within the site and buffer. No CNDDB records occur within 5 miles of the site.
BOVIDAE (sheep and relatives)				
Ovis canadensis* ssp. *nelsoni peninsular bighorn sheep	USFWS: CDFW:	**END** **END,** FP	Dry, rocky, low-elevation desert slopes, canyons, and washes from the San Jacinto and Santa Rosa mountains near Palm Springs, California south into Baja California, Mexico.	**Presumed absent.** There is no suitable habitat such as canyons and mountains within the project site and buffer. No CNDDB records occur within 5 miles of the site.
CRICETIDAE (New World rats and mice)				
Sigmodon hispidus* ssp. *eremicus Yuma hisbid cotton rat	USFWS: CDFW:	none SSC	Inhabits a variety of habitats, but generally associated with drainage ditches, canals, and seeps vegetated with plants such as arrow weed, saltgrass, common reed, cattails, sedges, tamarisk, heliotrope, and annual grasses. They utilize runways through dense herbaceous growth and nests are built of woven grass. Noted presence in moist agricultural fields.	**Moderate.** There is marginally suitable habitat within the site and buffer. No CNDDB records within 5 miles of the Project.

Federal Designations:
(Federal Endangered Species Act, USFWS)

END: Federally-listed, Endangered
THR: Federally-listed, Threatened
CAN: Federal Candidate Species
FSC: Federal Species of Concern
FPD: Federal Proposed for Delisting
BCC: Bird of Conservation Concern

State Designations:
(California Endangered Species Act, CDFW)

END: State-listed, Endangered
THR: State-listed, Threatened
CAN: State Candidate Species
SSC: California Species of Special Concern
FP: Fully Protected Species
WL: Watch List

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Aquatic Resources Delineation

Vega SES 2 and 3 Solar Projects

Imperial County, California

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LIST OF ACRONYMS AND ABBREVIATIONS

°F	Degrees Fahrenheit
APN	Assessor's Parcel Number
APT	Antecedent Precipitation Tool
BLM	Bureau of Land Management
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CWA	Clean Water Act
FACW	Facultative wetland
Gen-tie	Generator inter-tie
GIS	Geographic Information System
GPS	Global Positioning System
MW	Megawatt
MWH	Megawatt hour
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NWPR	Navigable Waters Protection Rule
OHWM	Ordinary high-water mark
ORM	OMBIL Regulatory Module
Projects	Vega SES 2 and SES 3 Solar Projects
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
Study Area	Solar Field, Gen-tie lines, and Substations
sUAS	Small unmanned aircraft system
SWQB	Surface Water Quality Bureau
SWRCB	State Water Resources Control Board
TNW	Traditional navigable waters
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency

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LIST OF ACRONYMS AND ABBREVIATIONS

USGS	U.S. Geological Survey
WDR	Waste discharge regulation

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1.0 INTRODUCTION

This aquatic resources delineation report was prepared to describe the aquatic resources at the Vega SES 2 and SES 3 Solar Projects (Projects) in Imperial County, California. The proposed Projects are 100-Megawatt (MW) direct current and 400 MW-hour (MWH) battery storage utility-scale solar projects located on approximately 1,712 acres of vacant land on three parcels in Imperial County, California (Assessor Parcel Numbers [APNs] 025-260-011, 025-010-006, and 025-270-023). As depicted on the U.S. Geological Survey (USGS) 7.5-minute "Iris, California" topographic quadrangle (USGS 1992), the Projects are located within Sections 3, 4, 7, 8, 9, 10, 14, 15, 16, 17, and 18 of Township 11 South, Range 15 East, San Bernardino Base and Meridian.

For the purposes of this report, the Vega 2 and 3 Projects were divided into three Study Areas. The term *Study Area* refers to the Project footprint plus a 500-foot buffer. The term *Impact Area* refers to the areas proposed to be directly affected by implementation of the Projects and corresponds to the client-supplied Project impact boundary. A complete summary of geographic information for each Study Area is provided in Table 1.

The original areas surveyed in 2020 included a larger footprint. The Project Impact Areas were refined in 2022. Therefore, the original 2020 Study Area, including features mapped and sample points collected outside of the updated Impact Areas are shown on the figures to provide context. However, this report is intended to provide information to support USACE review and verification for features within the Impact Area only.

Table 1. Geographic Information Summary

Study Area	Project Name	Accessor's Parcel Number (APN)	Sections	Approximate Center of Study Area
1	SES 2	025-260-011	8, 16, 17	33.212810, -115.432084
2	SES 2 and 3	025-010-006	3, 4, 7, 8, 9, 10, 15, 16, 17, 18	33.224760, -115.414804
3	SES 2	025-270-023	10, 14, 15	33.211691, -115.395183

Study Area 1 includes a battery storage utility-scale solar project located on approximately 448 acres of vacant land within one private parcel in Imperial County.

Study Area 2, also known as the Mesa Grande parcel, includes a battery storage utility-scale solar project located on approximately 640 acres of vacant land within one private parcel in Imperial County. Study Area 3, also known as the Li Tong parcel, includes a battery storage utility-scale solar project located on approximately 624 acres of vacant land within one private parcel in Imperial County. The proposed Projects will connect to previously established Imperial Irrigation District generator intertie lines adjacent to Study Area 1 and 2.

All three Study Areas are approximately 10 miles east of the Salton Sea and four miles west of the Chocolate Mountains (Figure 1. *Project Location and Vicinity*). Driving directions to the Study Areas are included as Attachment A.

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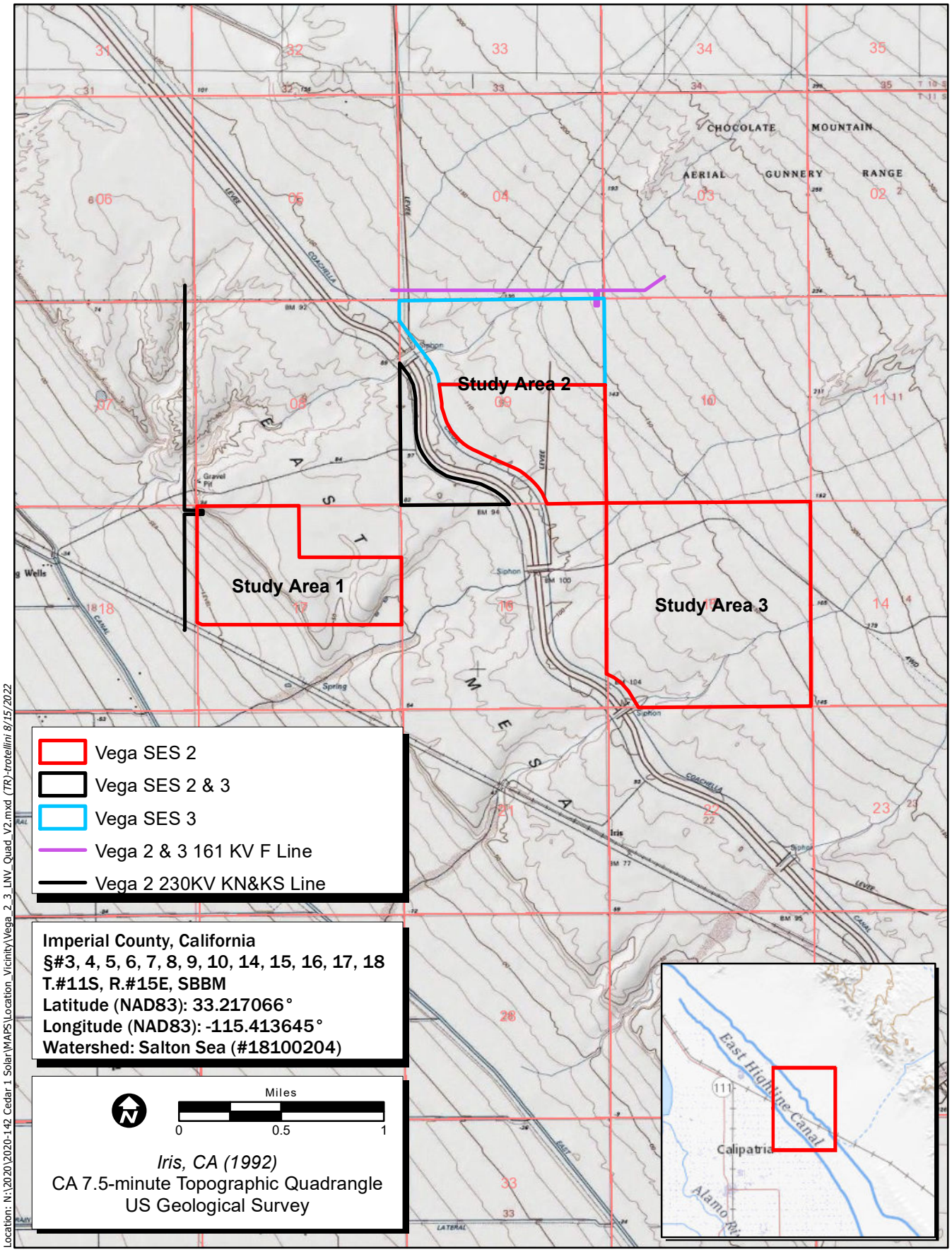

Location: N:\2020\2020-142 Cedar 1 Solar\MAPS\Location_Vicinity\Vega_2_3_LNV_Quad_V2.mxd (TR)-trotellini 8/15/2022

Map Date: 2/23/2021

Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed
Compiled by the Bureau of Land Management (BLM), National Operations Center (NOC), OC-530.

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Figure 1. Project Location and Vicinity

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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This report describes aquatic resources identified within the Impact Areas that may be regulated by the Porter-Cologne Water Quality Act, California Fish and Game Code Sections 1600 and 1602, and the U.S. Army Corps of Engineers (USACE) pursuant to Sections 401 and 404 of the federal Clean Water Act (CWA). The information presented in this report provides data required by the USACE Los Angeles District's *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (USACE 2016). The aquatic resource boundaries depicted in this report represent a calculated estimation of the potentially jurisdictional area within the Impact Areas and are subject to modification following a verification process by each regulating agency.

2.0 REGULATORY SETTING

2.1 Clean Water Act

The USACE regulates discharge of dredged or fill material into waters of the U.S. under Section 404 of the CWA. "Discharges of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to, the following: placement of fill necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes, and subaqueous utility lines [33 CFR § 328.2(f)]. In addition, Section 401 of the CWA (33 U.S. Code 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Substantial impacts to wetlands, over 0.5 acre of impact, may require an individual permit. Projects that only minimally affect wetlands, less than 0.5 acre of impact, may meet the conditions of one of the existing Nationwide Permits. A RWQCB Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for USACE Section 404 permit actions.

Pursuant to the USEPA and USACE memorandum regarding CWA jurisdiction, issued following the U.S. Supreme Court's decision in the consolidated cases Rapanos v. United States and Carabell v. United States (herein referred to as Rapanos), the agencies will assert jurisdiction over the following waters: "Traditional Navigable Waters" (TNW), all wetlands adjacent to TNWs, non-navigable tributaries of TNWs that are "relatively permanent" waters (RPW) (i.e., tributaries that typically flow year-round or have continuous flow at least seasonally), and wetlands that directly abut such tributaries (USEPA and USACE 2007).

Waters requiring a significant nexus determination by the USACE and USEPA to establish jurisdiction include non-navigable tributaries that are not relatively permanent, wetlands adjacent to non-navigable tributaries that are not relatively permanent, and wetlands adjacent to but do not directly abut a relatively permanent non-navigable tributary (USEPA and USACE 2007). The jurisdictional determination is a fact-based evaluation to establish whether a water has a significant nexus with a TNW. The significant nexus analysis will assess the flow characteristics and functions of the non-navigable tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream TNWs (USEPA and USACE 2007).

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2.2 Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Control Act (hereafter referred to as Porter-Cologne Act) provides a framework to protect water quality in California. The Porter-Cologne Act was enacted in 1969 as Division 7 of the Water Code and is the primary water quality law in California. The Porter-Cologne Act addresses two primary functions: water quality control planning and waste discharge regulation (WDR). The State Legislature, in adopting the Porter-Cologne Act, directed that California's waters "shall be regulated to attain the highest water quality which is reasonable" and charges the Water Boards with protecting all waters of California, defined as "any surface water or groundwater, including saline waters, within the boundaries of the State." This encompasses all Waters of the State, including those not under federal jurisdiction.

The Porter-Cologne Act regulates discharges that could affect the quality of water of surface or ground waters, wherever those discharges may occur. Under the Porter-Cologne Act, the Water Board regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" [Water Code 13260(a)]. Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" [Water Code 13050 (e)]. The Porter Cologne Act defines *Waters of the State* very broadly, with no physical descriptors, and no interstate commerce limitation.

The Porter-Cologne Act further requires that anyone who plans to discharge waste where it might affect Waters of the State must first notify the Water Boards. The Water Boards identify the sources of pollutants that threaten water quality under the Porter-Cologne Act and regulate waste discharges that could affect water quality by issuing WDRs. The State Water Resources Control Board (SWRCB) adopted the *State Wetland Definition and Procedures for Discharge of Dredged or Fill Material into Waters of the U.S.* in April 2019. The Water Board regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by USACE due to a lack of connectivity with a navigable water body. The Water Board may require issuance of a WDR for these activities. If a project impacts Waters of the State that do not fall under federal jurisdiction, the applicant need not obtain a section 404 permit or a 401 certification, but instead must receive approval from the Water Boards through the adoption of WDRs.

2.3 California Fish and Game Code Section 1602

Pursuant to Section 1602 of the California Fish and Game Code, a Streambed Alteration Agreement (SAA) application must be submitted for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake" (California Department of Fish and Wildlife [CDFW] 2020). In Title 14 of the California Code of Regulations, Section 1.72, the CDFW defines a *stream* (including creeks and rivers) as:

> "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

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The CDFW's jurisdiction includes drainages with a definable bed, bank, or channel with the jurisdictional limit being the top-of-bank. It also includes areas that support intermittent, perennial, or subsurface flows; supports fish or other aquatic life; or supports riparian or hydrophytic vegetation. It also includes areas that have a hydrologic source.

The CDFW will determine if the proposed actions will result in diversion, obstruction, or change of the natural flow, bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. The CDFW will submit an SAA that includes measures to protect affected fish and wildlife resources; this SAA is the final proposal agreed upon by the CDFW and the applicant.

A summary of federal, state, and local regulations and corresponding regulating agencies are summarized in Table 2.

Table 2. Summary of Federal, State, and Local Regulations

Regulation	Resource	Regulating Agency
Federal Regulations		
Federal Clean Water Act	Aquatic features meeting the definition of Waters of the US	USACE
State Regulations		
California Fish and Game Code Section 1602	River, stream, or lake and associated riparian habitat	CDFW
Porter-Cologne Water Quality Act	Aquatic features meeting the definition of Waters of the State	SWRCB/RWQCB

3.0 METHODS

3.1 Pre-Survey Investigation

Due to the size of the area and limited road access, an initial survey utilizing a small Unmanned Aircraft System (sUAS) was conducted to assess current site conditions and gather high-resolution imagery. The sUAS surveys were conducted on September 9, November 11, and November 17, 2020. Photos collected during the sUAS survey were then combined into a single orthomosaic image that was incorporated into mapping files in a Geographic Information System (GIS). Potential aquatic resources, specifically drainages, within the Impact Area were digitized prior to the field survey using the sUAS imagery. Prior to conducting the field delineations, the following resources were reviewed to identify potential aquatic resources: sUAS imagery, satellite aerial imagery (ESRI 2020; Google Earth 2015; U.S. Department of Agriculture [USDA] 2018), the National Wetlands Database, the online web soil survey (Natural Resources Conservation Service [NRCS] 2020a), and a hydric soils list for the area.

3.2 Field Survey Investigation

This aquatic resources delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a), *A Field Guide to the Identification of the*

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Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008b), the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2010), and the State of New Mexico's *Hydrology Protocol for the Determination of Ephemeral, Intermittent, and Perennial Waters* (Surface Water Quality Bureau [SWQB] 2010). Field data was recorded on Wetland Determination Data Forms - Arid West Region and Arid West OHWM Datasheets. ESRI© and sUAS aerial imagery were used to assist with mapping and ground-truthing. *Munsell Soil Color Charts* (Kollmorgen Instruments Co. 1990) and the Web Soil Survey (Natural Resources Conservation Service [NRCS] 2020a) were used to aid in identifying hydric soils in the field. The Jepson Manual, 2nd Edition (Baldwin et al. 2012) and the USACE National Wetland Plant List (USACE 2018) were used for plant nomenclature and identification.

Digitized feature boundaries identified during the pre-survey investigation were then verified in the field. Feature boundary modifications, if necessary, were made in the field using a post-processing capable global positioning system unit with sub-meter accuracy (EOS Arrow 100 GNSS). Where aquatic features were present, the extent of potential Waters of the U.S. and CDFW-regulated streambed and top-of-bank limits were determined using the OHWM in accordance with USACE requirements and guidelines, as well as SWRCB and CDFW delineation guidance. Streambed widths were based on evidence of OHWM as observed during the field survey, and streambed widths and other lateral limits of jurisdiction were calculated and recorded. Bank-to-bank width measures were also recorded and used as a measure of CDFW jurisdictional boundary where features lacked riparian vegetation. The extent of associated riparian habitat was based on the canopy of the riparian community within or directly adjacent to the streambed that is likely influenced by the hydrology of the streambed. In addition, stream conditions were assessed based on the SWQB protocol to classify features as ephemeral, intermittent, or perennial waters. A combination of hydrological, geomorphic and biological indicators was used to determine the hydrologic nature of each drainage. Each channel was also evaluated for the presence or absence of OHWM field indicators such as bed and bank, a natural line impressed in the bank, sediment deposits, changes in the character of soil, destruction of terrestrial vegetation, litter/debris, leaf litter disturbance, water stains, soil shelving, and exposed roots indicating active hydrology within the channel.

Due to the alluvial fan system within the Impact Areas, ephemeral channels identified during the pre-survey investigation were assessed in the field to determine if active hydrology occurred within the channel. Ephemeral features were assessed on a case-by-case basis and determined to be active or inactive based on the number of OHWM features present and the presence of riparian vegetation. In general, ephemeral features were considered active if the feature exhibited at least two OHWM indicators and supported riparian vegetation. These active ephemeral drainages were mapped upstream of existing riparian vegetation to the extent that two or more OHWM indicators were present. Whereas channels mapped during the pre-survey that only exhibited one OHWM indicator were classified as inactive erosional channels, or rills. Channels classified as active are those that are presumed to regularly transport water during rain events, and channels classified as inactive do not regularly transport water during rain events and are relic remains of large rain events.

The boundaries of the aquatic resources were delineated through standard field methods (e.g., paired sample set analyses) and aerial photograph interpretation. Paired locations were sampled to evaluate

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whether the vegetation, hydrology, and soils data supported an aquatic resource determination. At each paired location, one point was located such that it was within the estimated aquatic resource area, and the other point was situated outside the limits of the estimated aquatic resource area. Additional non-paired locations were sampled to confirm boundaries. All aquatic features observed within the Study Areas were recorded in the field using a post-processing capable Global Positioning System (GPS) unit with sub-meter accuracy (e.g., Juniper Geode™). Feature characteristics and measurements were recorded directly into the data dictionary in the GPS unit. Characteristics of mapped features were also documented in photographs.

Two separate field survey efforts were conducted for the Project by ECORP delineation specialists in 2020 and 2021; the first being a general field reconnaissance of the Study Areas to identify areas supporting potential state and federal jurisdictional waters. The subsequent field surveys and formal delineations were conducted to verify preliminary results observed in the initial survey and to collect additional data and photographs. The Study Areas were visually surveyed to determine the location and extent of aquatic resources, and special attention was given to the features identified during the preliminary survey described above. The initial survey for Study Area 1 was conducted in conjunction with the biological reconnaissance survey on September 29-30, 2020, by Christina Congedo and Caroline Garcia; the subsequent survey was conducted on January 25, 2021, by Christina Congedo and Jessie Beckman. The initial survey for Study Area 2 was conducted in conjunction with the biological reconnaissance survey on November 9-10, 2020 by Greg Hampton and Christina Torres; the subsequent survey was conducted on January 25-27, 2021 by Greg Hampton, Jessie Beckman, and Christina Torres. The initial survey for Study Area 3 was conducted in conjunction with the biological reconnaissance survey on November 11-13, 2020, by Greg Hampton, Caroline Garcia, Jennifer Kendrick, and Christina Torres; the subsequent survey was conducted on January 26-27, 2021, by Christina Congedo, Christina Torres, and Jessie Beckman.

3.3 Post-Processing

The data collected in the field utilized ArcGIS™ Collector on a device (smartphone or tablet) connected to a submeter external receiver. The submeter receiver applies differential correction instantaneously in the field using the Satellite Based Augmentation System. The data were then viewed and analyzed for verification, edited, and compiled in GIS format at the time of download. ArcGIS™ software was used to develop the geodatabase and the shapefiles depicted on the figures included in this report.

4.0 RESULTS

4.1 Existing Site Conditions

Topography for the Study Areas generally consists of gentle slopes with a gradual increase in elevation from the western extent to the eastern extent. The southwest portion of Study Area 1 is slightly below sea level at an elevation of -2 meters (-7 feet), and the eastern extent of Study Area 3 is at an elevation of 55 meters (182 feet) above mean sea level in the Sonoran Desert Region of the Desert Province (Baldwin et. al. 2012). The average winter low temperature in the vicinity of the three Study Areas is 41.7 degrees Fahrenheit (˚F) and the average summer high temperature is 104.7˚F. Average annual precipitation for Imperial, California is approximately 2.90 inches, which falls as rain (National Oceanic and Atmospheric

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Administration [NOAA] 2020a). During the 2019-2020 rain year prior to the field surveys, approximately 4.74 inches of precipitation were recorded at the Imperial, CA weather station located approximately 26 miles southwest of the Study Areas (NOAA 2020b). The most recent significant precipitation event prior to the surveys occurred April 8-11, 2020, with a total of 0.80 inch of rainfall accumulating over four days.

A typical year analysis of the Study Areas via a single point method was conducted using the USACE Antecedent Precipitation Tool (APT, USACE 2021). The APT is an automation tool that utilizes standardized methodology to calculate precipitation normalcy at a given location using publicly available data sources. The APT analysis determines whether precipitation, drought, and other climatic conditions from the previous three months are *wet*, *normal*, or *dry* for the geographic area based on a rolling 30-year period (USEPA 2021). The APT was run for the dates the wetland delineation data were collected between September 29, 2020 and January 27, 2021. The APT demonstrated the site conditions on these dates represent a time of year referenced as the dry season, that the general region and site were in a moderate to severe drought, and that site conditions were normal to drier than normal in climatic conditions.

Study Area 1 is primarily composed of undeveloped land. A railroad right-of-way borders the southwestern portion of the site, and an ephemeral drainage system flows southwest under the railroad via a concrete underpass. A ridgeline that runs northwest-southeast splits the Impact Area, with either side of the ridge descending into lowlands. There is a manmade berm on the north side of the railroad tracks that prevents flow from the western ridgeline from emptying into the ephemeral drainage to the east. The base of the southern side of the ridgeline appears to have been previously graded based on remnant machine tracks, flat terrain, and disconnected drainage features. The ephemeral drainage system (ED-3001) associated with Siphon Five runs northeast-southwest through the southeast corner of Study Area 1. A majority of ED-3001 is located outside of the Impact Area. The East Highline Canal is located approximately 1,070 feet southwest of the Impact Area. Study Area 1 is surrounded to the west by agricultural fields and undeveloped Bureau of Land Management (BLM) land to the north, east, and south.

Study Areas 2 and 3 are primarily composed of undeveloped land. Braided, ephemeral drainage systems associated with Siphon Five and Siphon Six run northeast-southwest through Study Area 2, and braided, ephemeral drainage systems associated with Siphon Four and Siphon Five run northeast-southwest through Study Area 3. An additional berm runs north-south within Study Area 2 and obstructs water flow from continuing southwest, eventually diverting flow into the Siphon Five system. The siphons allow the drainage systems to flow over the Coachella Canal and continue southwest of the Study Areas. The Coachella Canal bisects the western portion of Study Areas 2 and 3, and a manmade berm is situated along the entire east side of the canal. Unlined manmade retention basins are located directly west of and run parallel to the Coachella Canal, and a manmade berm lines the east side of the basins. The basins are enclosed on all sides and therefore have no connectivity to the canal or adjacent siphons. Study Areas 2 and 3 are surrounded by undeveloped BLM to the north, east, west, and south.

4.1.1 Vegetation Communities and Land Cover

The Project supports five vegetation communities: blue palo verde-ironwood (*Parkinsonia florida - Olneya tesota)* woodland, bush seepweed (*Suaeda nigra*) scrub, creosote bush

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(*Larrea tridentata)* scrub, disturbed creosote bush scrub, and tamarisk (*Tamarix* spp.) thickets. One land cover type also occurs within the Impact Area: urban/developed.

Vegetation Communities within the Impact Area

Blue palo verde-ironwood woodland is characterized by blue palo verde or ironwood as a dominant or co-dominant plant species in the tree or tall shrub canopy that is open to continuous. Blue palo verde-ironwood woodland is present throughout large portions of the Impact Area for Study Areas 2 and 3. Other plant species observed within this community included creosote bush, cheesebush (*Ambrosia salsola*), and burrobush (*Ambrosia dumosa*).

Bush seepweed scrub is found on flat to gently sloping valley bottoms, bajadas, and toe slopes adjacent to alluvial fans. Bush seepweed scrub is dominated by bush seepweed, a USFWS Wetland Inventory OBL species (USACE 2018), and can be co-dominant with fourwing saltbush and/or alkali goldenbush (*Isocoma acradenia*). This community was only observed in Study Area 1. Bush seepweed dominated the shrub cover with occasional occurrences of fourwing saltbush and creosote bush.

Creosote bush scrub is dominated by a nearly monotypic stand of creosote bush with an open canopy and an herbaceous layer of seasonal annuals and perennials. This community was dominant in all three Study Areas. Other species that were observed within this community included burrobush, narrow-leaved cryptantha (*Cryptantha angustifolia*), and desert plantain (*Plantago ovata*).

Disturbed creosote bush scrub consists of creosote bush that are co-dominant in the shrub canopy with an absent to intermittent herbaceous layer of seasonal annuals. Within Study Areas 2 and 3, this vegetation cover is characterized as sparser with a high percentage of nonnative plant species including common Mediterranean grass (*Schismus barbatus*) and Saharan mustard (*Brassica tournefortii*). Other plant species observed within this community include desert plantain and fanleaf crinklemat (*Tiquilia plicata*).

Tamarisk thickets are characterized by a weedy monoculture of tamarisk. This habitat is typically in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. Within the Study Areas, tamarisk was often the dominant, with arrow weed (*Pluchea sericea*) occasionally as a co-dominant plant species. Other species observed within this community included popcorn flowers (*Cryptantha* spp.), screw bean mesquite (*Prosopis pubescens*), and Mediterranean grass.

Land Cover Types within the Impact Area

Urban/Developed areas do not constitute a vegetation classification, but rather a land cover type. Areas mapped as developed have been constructed upon or otherwise physically altered to an extent that natural vegetation communities are no longer supported. In the Impact Areas, this land cover consisted primarily of compacted dirt roads and structures. In Study Area 1, an area consisting of bare ground surrounding native scrub was classified as "urban/developed – dirt roads" as this area functioned as a vehicle turnaround.

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4.1.2 Soils

A soils analysis search was conducted using the Web Soil Survey data (NRCS 2020a). The eastern portions of Study Areas 2 and 3 fall within the Colorado Desert Area soil survey; therefore, soil survey data was not available for these portions. According to the Web Soil Survey, 10 soil units, or types, have been mapped within the Study Areas (Figure 2. *Natural Resources Conservation Service Soil Types*). These include:

- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 129 – Pits
- 130 - Rositas sand, 0 to 2 percent slopes
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 139 - Superstition loamy fine sand
- 141 - Torriorthents and Orthids, 5 to 30 percent slopes

The Niland gravelly sand (124), Niland gravelly sand, wet (125), and Pits (129) map units contain hydric minor components (NRCS 2020b). Three water state classes (dry, moist, and wet) are used as soil moisture status entries for map unit components and designate a mean monthly soil water state at a specified depth. A summary of characteristics based on official series descriptions for each of the soil series mapped within the alignments are provided below (NRCS 2020c).

Carsitas Series

The Carsitas series consists of very deep, somewhat excessively drained soils that formed in alluvium from granitoid and/or gneissic rocks. The Carsitas soils are on alluvial fans, fan aprons, valley fills, dissected remnants of alluvial fans and in drainageways. Slopes range from 0 to 30 percent. The mean annual precipitation is about three inches and the mean annual air temperature is about 77°F.

Niland Series

The Niland series is a member of the sandy over clayey, mixed (calcareous), hyperthermic family of Typic Torrifluvents. These soils consist of well and moderately well-drained soils with slopes that formed in coarse mixed alluvium overlying fine alluvium at depths of less than 36 inches. Niland soils typically have stratified gravelly sand and sand overlying silty clay at a depth of 23 inches. Niland soils are on basin and floodplain edges and have slopes that are typically less than one percent, but can range up to five percent.

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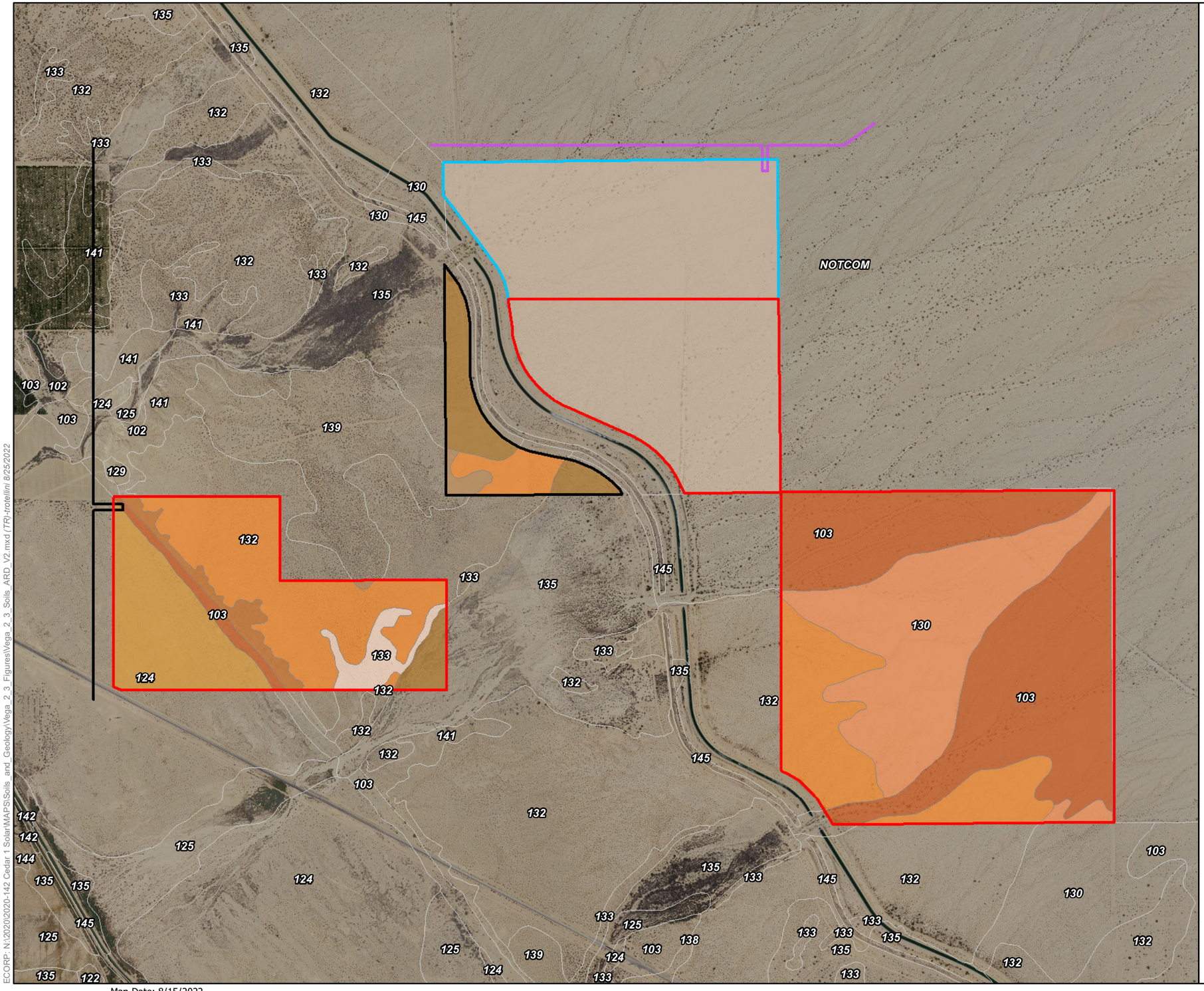


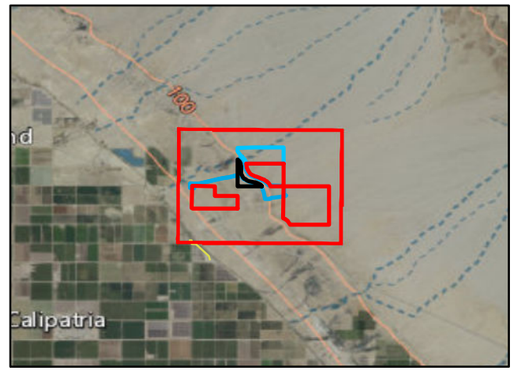
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

Series Designation - Series Description

- 102 - Badland
- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 129 - Pits
- 130 - Rositas sand, 0 to 2 percent slopes
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 139 - Superstition loamy fine sand
- 141 - Torriorthents and Orthids, 5 to 30 percent slopes
- 145 - Water
- NOTCOM - No Digital Data Available

Sources: NAIP (2018)
Other Related Info if Needed



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Map Date: 8/15/2022

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Scale in Feet
0 500 1,000 1,500

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Figure 2. Natural Resources Conservation Service Soil Types
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

Rositas Series

The Rositas series is a member of the mixed, hyperthermic family of Typic Torripsamments. These soils consist of very deep, somewhat excessively drained soils. These soils are formed in sandy eolian material and have less than 15 percent coarse and very coarse sand. Rositas soils are on dunes and sand sheets and have slopes that range from 0 to 30 percent. The mean annual precipitation is about four inches and the mean annual air temperature is about 72°F.

Superstition Series

The Superstition series consists of very deep, somewhat excessively drained soils with very low to low runoff and rapid permeability. Superstition soils have slopes of 0 to 10 percent; they are formed in sandy eolian deposits and exist on dunes. The mean annual precipitation is about three inches and the mean annual air temperature is about 74°F.

4.1.3 National Wetland Inventory

According to the National Wetland Inventory (USFWS 2020a), there are several Riverine features mapped within the Impact Areas (Figure 3. *National Wetland Inventory*).

4.1.4 Hydrology

All three Study Areas are within the Salton Sea Watershed (Hydrologic Unit Code #18100204, NRCS et al. 2016). The Study Areas and Chocolate Mountains are part of an alluvial fan drainage system. Alluvial fans occur when stream flow feeds into a system of distributary channels. Infrequent yet intense rainfall causes sheetflood across the fan surface, in which sediment-laden water overflows from the confines of its channel and eventually results in gravel deposits that have the appearance of a network of braided channels (Blatt et. al 1980). A number of these braided channels are fluid in nature and are relic scars that do not actively transport water during rain events. These relic channels would therefore be considered inactive, whereas channels that actively transport water during rain events would be considered active. The alluvial fan drainage system produces ephemeral conditions within the Study Areas following large rain events and contains a network of inactive and active braided channels. In addition, this interconnected drainage system has associated riparian corridors that occur throughout all three Study Areas.

Within the Study Areas, the alluvial fan system directs surface flow from the Chocolate Mountains through the Study Areas to the southwest. Surface flow eventually feeds into the ephemeral drainage features associated with Siphon Four, Siphon Five, and Siphon Six. The siphons direct flow over the Coachella Canal and eventually under the railroad right-of-way in Study Area 1 before ultimately draining into the East Highline Canal and/or associated wetlands. Both the Coachella Canal and East Highline Canal divert water from the All American Canal, which brings water from the Colorado River at the Imperial Dam. The Coachella Canal supplies water to the Coachella Valley north of the Salton Sea, and eventually drains into a manmade storage reservoir known as Lake Cahuilla. Lake Cahuilla is not traditional navigable waters (TNW) per Section 404 of the CWA. The East Highline Canal supplies water to the Imperial Valley via

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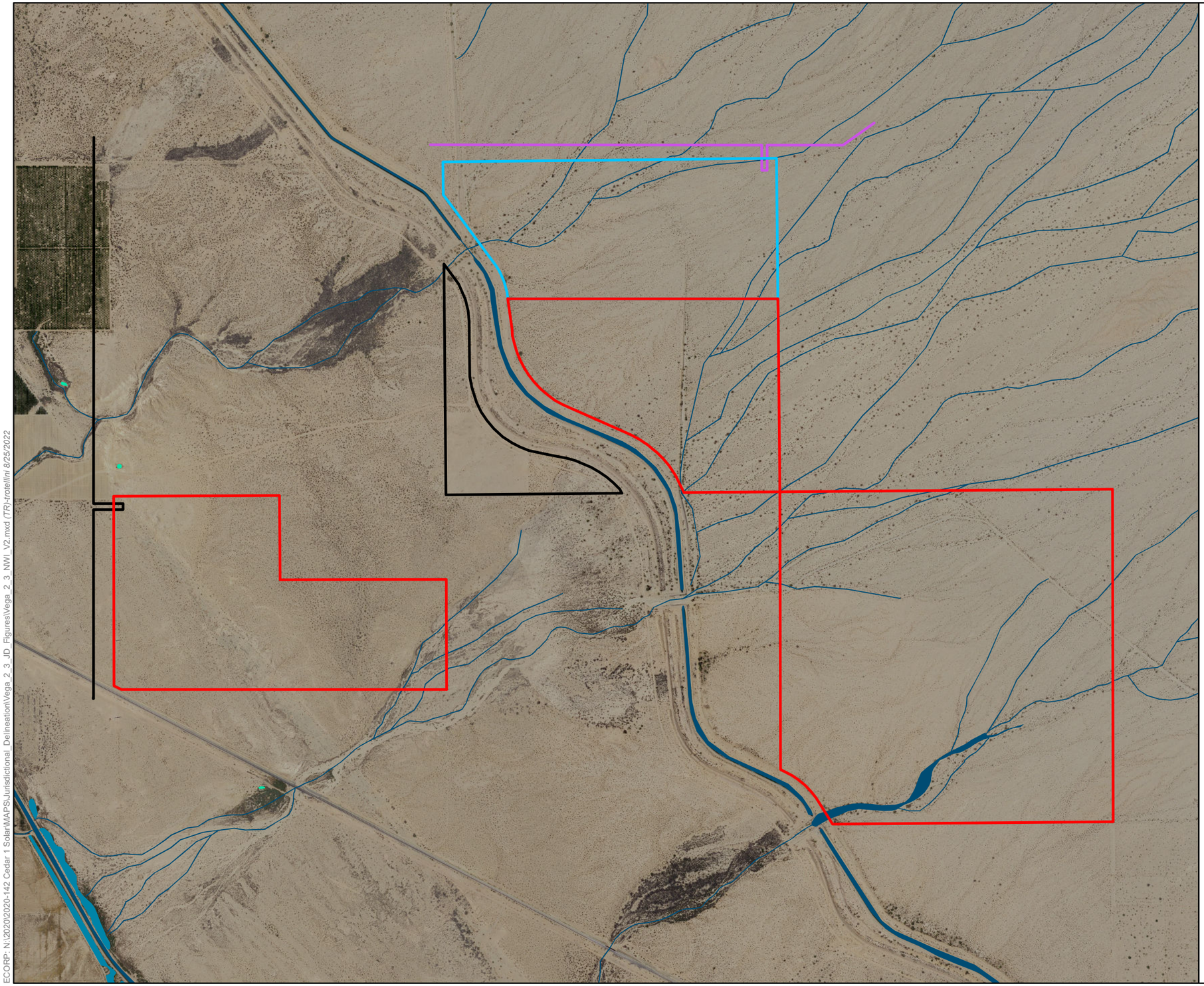


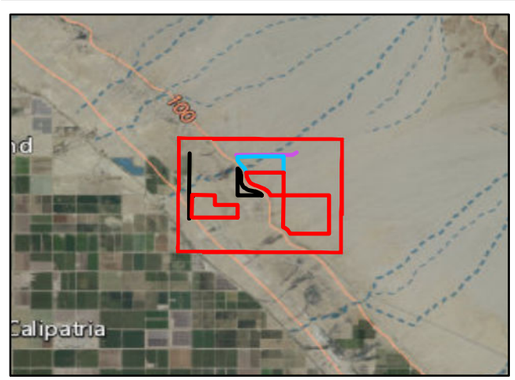
Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line

NWI Feature Type

- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

Sources: NAIP (2018)
Other Related Info if Needed



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Map Date: 8/15/2022

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Scale in Feet
0 500 1,000 1,500

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Figure 3. National Wetland Inventory

2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

smaller lateral canals and drains that ultimately drain to the Salton Sea. The Salton Sea is TNW per Section 404 of the CWA.

4.2 Aquatic Resources

Aquatic resources have been mapped within the Impact Areas; each resource is summarized by feature in Attachment B and depicted on Figure 4. *Aquatic Resources Delineation*. The regulated limits that are presented in Attachment B serve as an estimate and are subject to agency verification. Features identified as an aquatic resource had wetland indicators present and/or physical evidence of flow including OHWM, presence of riparian vegetation or direct surface connection into features with riparian vegetation, defined bed and bank, scour, presence of a clear and natural line impressed on the bank, disturbance of leaf litter, the presence or absence of sediment deposits, changes in the character of soil, destruction of terrestrial vegetation, and/or exposed roots indicating active hydrology within the channel.

Contiguous riparian habitat associated with nearby aquatic features was mapped, and the associated aquatic feature was also recorded. There were periodic mesquite and blue palo verde individuals scattered across Survey Areas 2 and 3. They were not mapped during this effort as they were part of contiguous riparian habitat. OHWM and Wetland Determination Data Forms are included as Attachment C, representative site photographs are included as Attachment D, the USACE OMBIL Regulatory Module (ORM) aquatic resources table is included as Attachment E, and digital data are provided as Attachment F.

4.2.1 Wetlands

No wetlands were delineated within the Impact Areas.

4.2.2 Other Aquatic Resources (Non-Wetland Waters)

Ephemeral Drainage

Ephemeral drainages are linear features that exhibit a bed and bank and an OHWM. These features typically convey runoff for short periods of time, during and immediately following rain events, and are not influenced by groundwater sources at any time during the year. As previously described, the Impact Areas and adjacent upslope areas are within an alluvial fan drainage system that produces ephemeral conditions with surface waters flowing in direct response to large rain events for short durations. Drainages determined to be active transport surface flow water from the direction of the Chocolate Mountains to the southwest and have connectivity to downstream ephemeral drainages within the Impact Areas. These ephemeral drainages follow the riparian vegetation within the landscape as discussed in Section 4.2.4.

Some of the ephemeral drainages are associated with the Siphons: Siphon 4 (ED-3005), Siphon 5 (ED-3001, ED-3003, ED-3004), and Siphon 6 (ED-3002). These features are documented by OHWM Transects 100, 101, 102, and 200 (Attachment C). These features contained no surface flow at the time of the field assessment and had sparse vegetation within the bed. The OHWM was delineated in the field primarily by changes in sediment texture, vegetation, a natural scour line, bank erosion, and the presence of litter and

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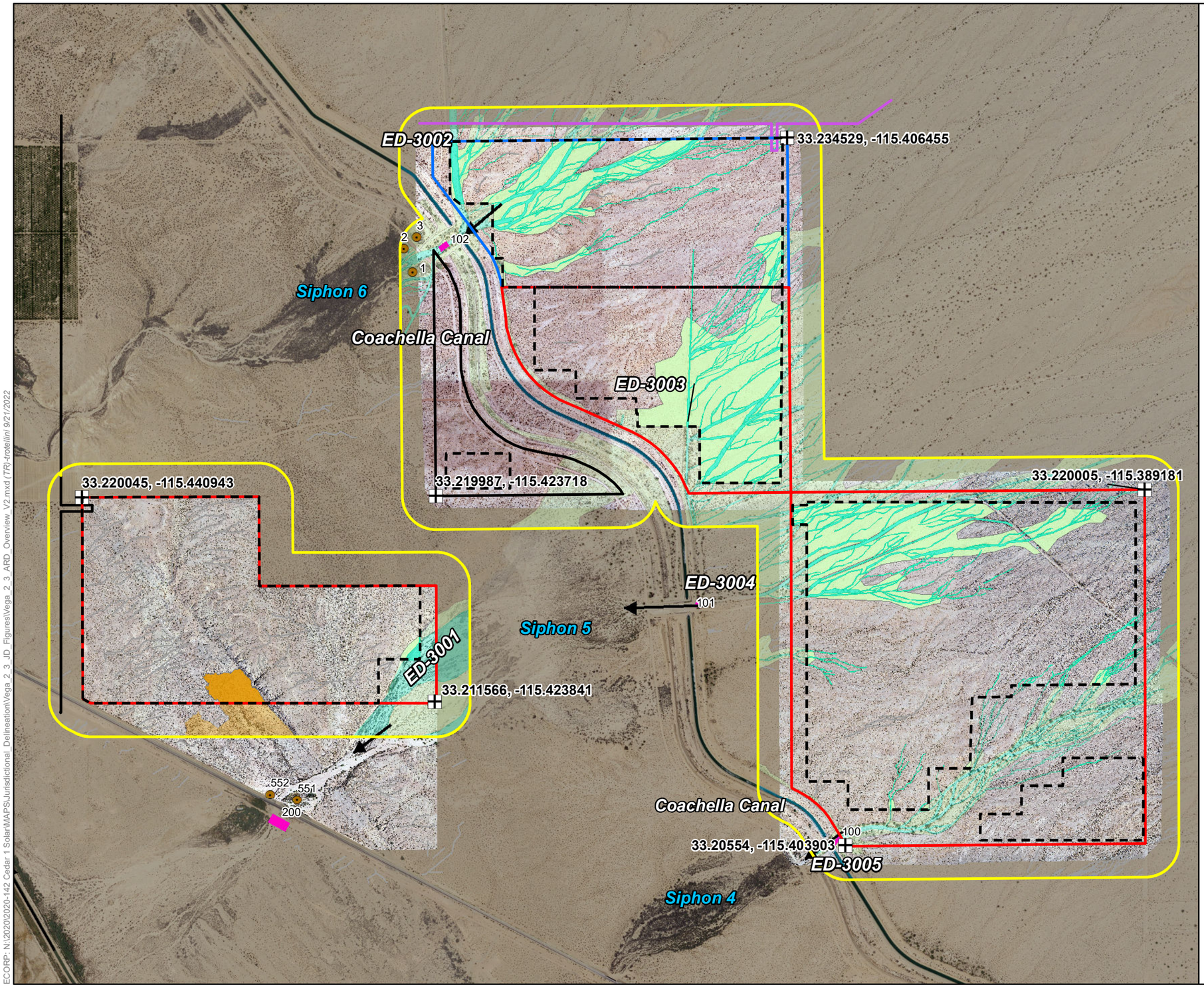


Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 2020 Survey Area
- Impact Area
- Vega 2 & 3 161 KV F Line Vega 2
- 230KV KN&KS Line
- Reference Point
- Flow to TNW
- OHWM Cross Section

Sampling Points

- Other
- Upland Point
- Waters Point

CDFW-Regulated Habitat

- Riparian Habitat
- Alkali Sink

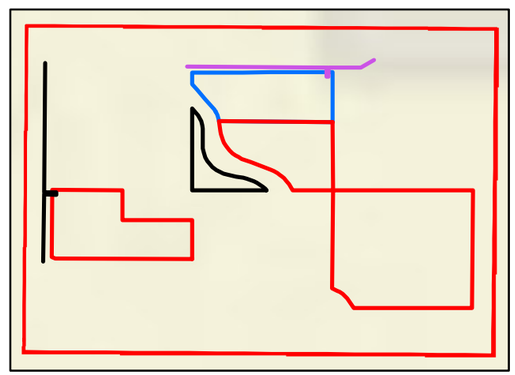
Aquatic Resources

- Ephemeral Drainage *
- Canal

*Ephemeral drainage features within the buffer are displayed to show connectivity; therefore not all features that exist within the buffer are displayed in the figure.

Sources: NAIP (2018), ECORP Dreone Imagery (2020)

Other Related Info if Needed



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Map Date: 9/21/2022

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ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 750 1,500

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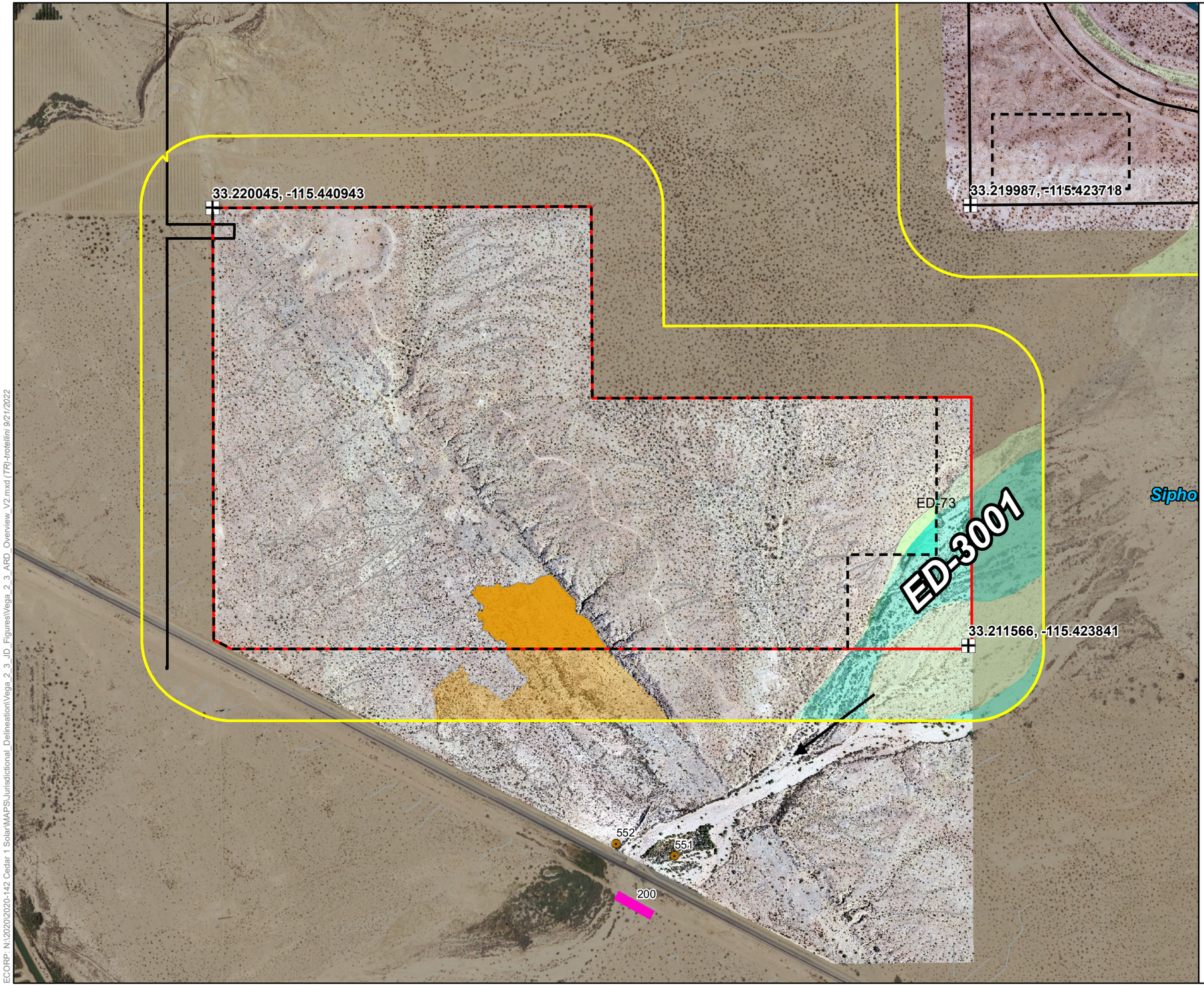
Figure 4. Aquatic Resources Delineation Overview

2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 2020 Survey Area
- Impact Area
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line
- Reference Point
- Flow to TNW
- OHWM Cross Section

Sampling Points

- Other
- Upland Point
- Waters Point

CDFW-Regulated Habitat

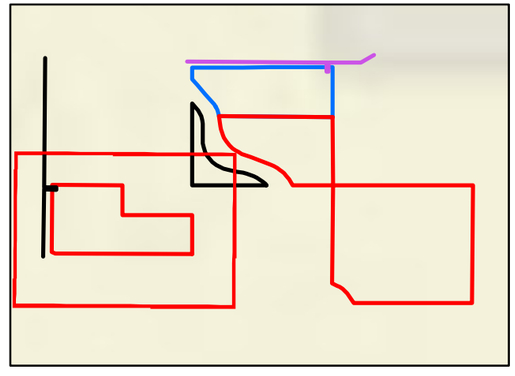
- Riparian Habitat
- Alkali Sink

Aquatic Resources

- Ephemeral Drainage *

*Ephemeral drainage features within the buffer are displayed to show connectivity; therefore not all features that exist within the buffer are displayed in the figure.

Sources: NAIP (2018), ECORP Dreone Imagery (2020)
Other Related Info if Needed



ECORP- N:\2020\2020-142 Cedar 1 Solar\MAPS\Junsdictional_Delineation\Vega_2_3_JD_Figures\Vega_2_3_ARD_Overview_V2.mxd (TR)-trotellini 9/21/2022

Map Date: 9/21/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 350 700

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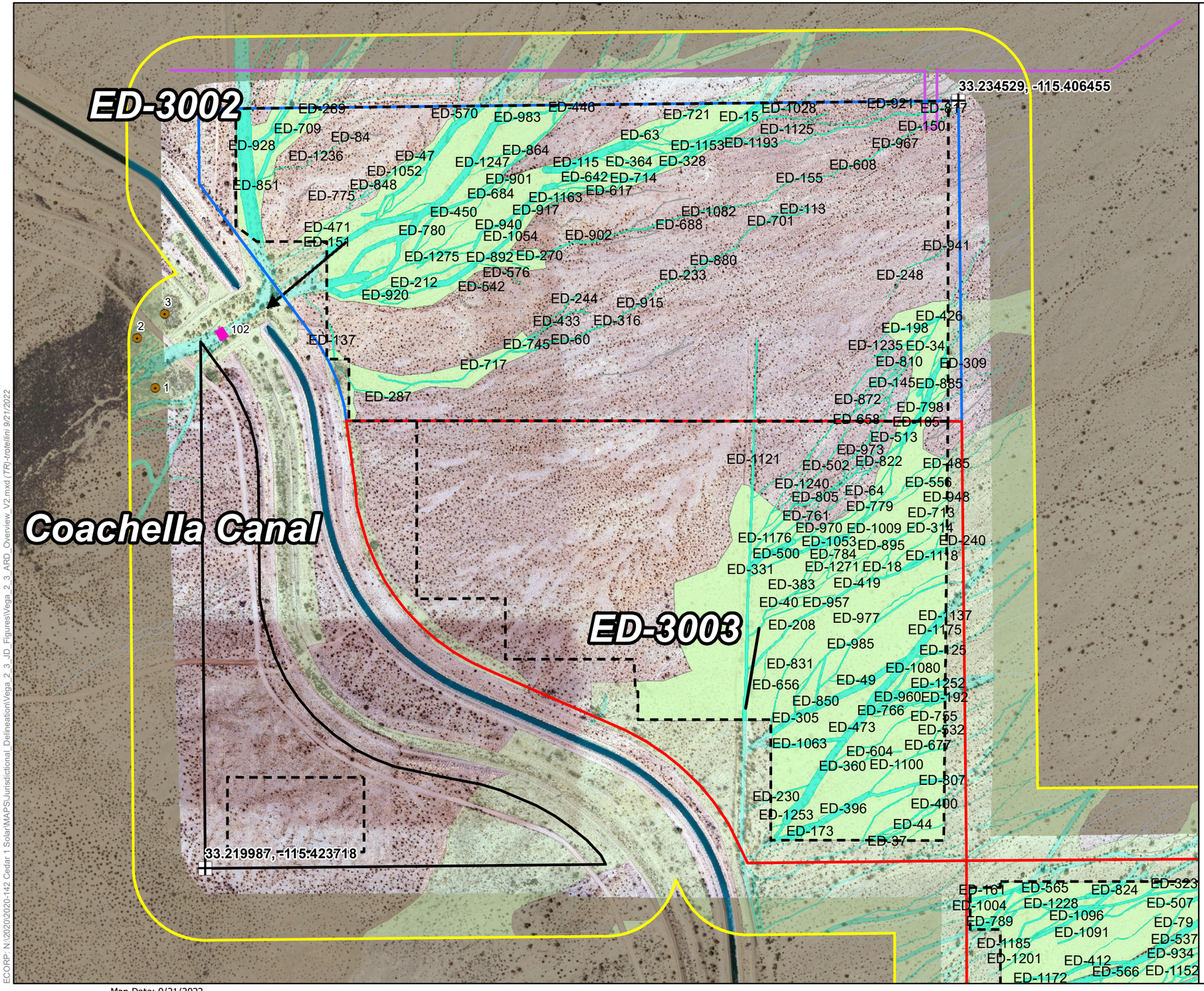
Figure 4. Aquatic Resources Delineation
Study Area 1
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



ECORP- N:\2020\2020-142 Cedar 1 Solar\MAPS\Jurisdictional_Delineation\Vega_2_3_JD_Figures\Vega_2_3_ARD_Overview_V2.mxd (TR)-trotellini 9/21/2022

Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 2020 Survey Area
- Impact Area
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line
- Reference Point
- Flow to TNW
- OHWM Cross Section

Sampling Points

- Other
- Upland Point
- Waters Point

CDFW-Regulated Habitat

- Riparian Habitat

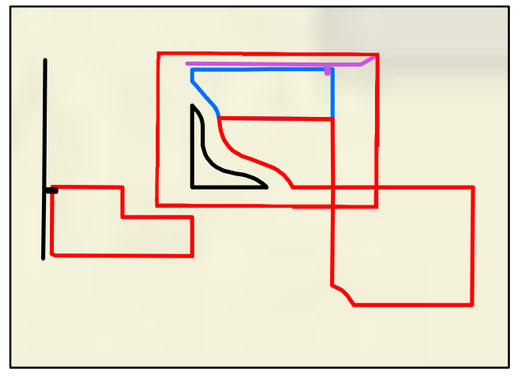
Aquatic Resources

- Ephemeral Drainage *
- Canal

*Ephemeral drainage features within the buffer are displayed to show connectivity; therefore not all features that exist within the buffer are displayed in the figure.

Sources: NAIP (2018), ECORP Dreone Imagery (2020)

Other Related Info if Needed



Map Date: 9/21/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 350 700

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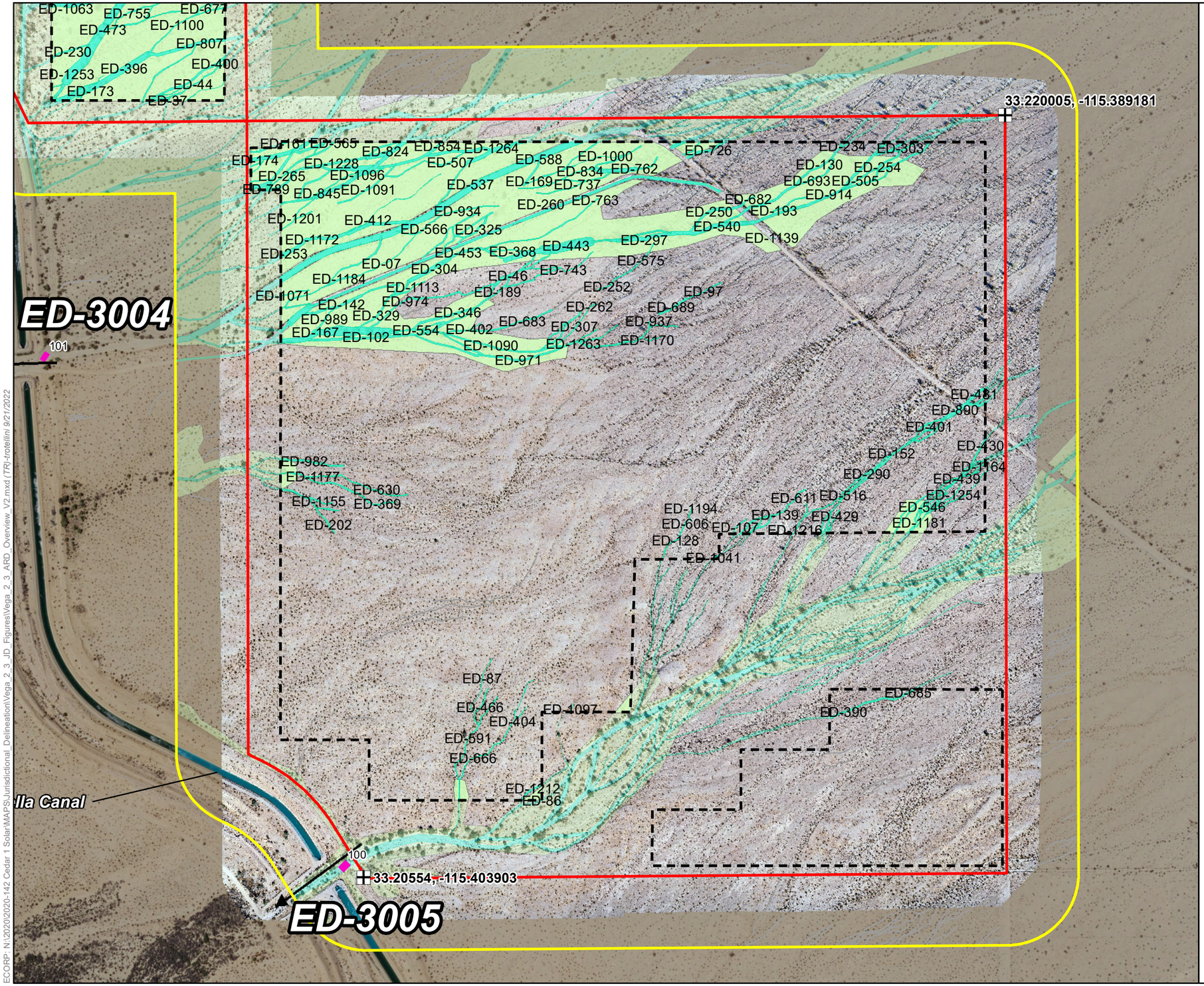
Figure 4. Aquatic Resources Delineation
Study Area 2
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3



Map Features

- Vega SES 2
- Vega SES 2 & 3
- Vega SES 3
- 2020 Survey Area
- Impact Area
- Vega 2 & 3 161 KV F Line
- Vega 2 230KV KN&KS Line
- Reference Point
- Flow to TNW
- OHWM Cross Section

Sampling Points

- Other
- Upland Point
- Waters Point

CDFW-Regulated Habitat

- Riparian Habitat

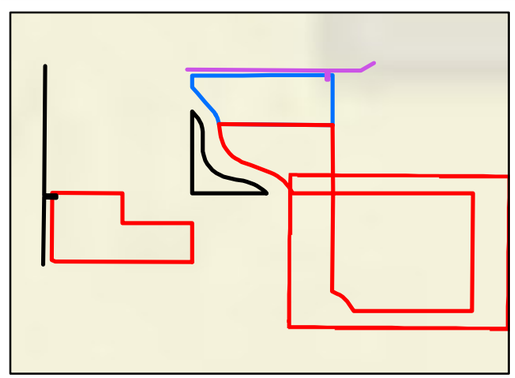
Aquatic Resources

- Ephemeral Drainage *
- Canal

*Ephemeral drainage features within the buffer are displayed to show connectivity; therefore not all features that exist within the buffer are displayed in the figure.

Sources: NAIP (2018), ECORP Dreone Imagery (2020)

Other Related Info if Needed



ECORP: N:\2020\2020-142 Cedar 1 Solar\MAPS\Jurisdictional_Delineation\Vega_2_3_JD_Figures\Vega_2_3_ARD_Overview_V2.mxd (TR)-trotellini 9/21/2022

Map Date: 9/21/2022

ECORP Consulting, Inc.
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Scale in Feet
0 350 700

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Figure 4. Aquatic Resources Delineation
Study Area 3
2020-144/2020-199/2020-209 Vega SES 2 and Vega Ses 3

debris. These ephemeral drainage systems divert surface flow from the direction of the Chocolate Mountains to the southwest, bypassing the Coachella Canal and railroad right-of-way and ultimately connecting to the East Highline Canal and/or associated wetlands. The East Highline Canal supplies water to the Imperial Valley via smaller lateral canals and drains that ultimately drain to the Salton Sea. At the time of the field delineation in 2020, these OHWM Transects were located inside the Project limits, as previously provided by the Applicant. The Impact Area limits were revised in 2022 and these OHWM Transects were no longer located within the revised Impact Area. However, these OHWM Transect data sheets have been included in this report because the field conditions documented are representative of the ephemeral drainages mapped within the revised Impact Area limits.

4.2.3 Manmade Features

Canal

The Coachella Canal is adjacent to and outside of the Impact Areas of Study Area 2 and 3. This concrete-lined canal is used for the purpose of year-round water transport throughout the Coachella Valley. It is maintained by the Coachella Valley Water District to be free of vegetation for water conveyance efficiency and ultimately flows into the Lake Cahuilla storage reservoir. Lake Cahuilla is an artificial soil-cement-lined temporal reservoir that is not connected to TNW.

4.2.4 Potential CDFW Regulated Habitats

The following describes vegetation communities or habitat features that could be regulated by CDFW but are not expected to be regulated by the USACE under Section 404 of the CWA because they do not appear to meet the current definition of waters of the U.S.

Alkali Sink

Alkali sinks are composed of poorly drained soils with high salinity and/or alkalinity from evaporation of water that accumulates in closed drainages. These sinks are often seasonally inundated and lose water through evaporation. Alkali sink habitat occurs within the southern portion of the Impact Area of Study Area 1.

Sampling Point 552 was collected within the alkali sink habitat south of Study Area 1. At the time of the aquatic resource delineation in 2020, this sampling point was inside the Impact Area limits. The Impact Area was revised in 2022 and it now no longer includes the location of Sampling Point 552. However, alkali sink habitat is still present within the revised Impact Area and is subject to direct impacts. Sampling Point 552 is representative of the alkali sink habitat of the Study Area as a whole. Plant species observed included bush seepweed. The soil matrix color at a depth of 0 to 4 inches was 7.5YR 4/4 with no redox features; at a depth of 4 to 7 inches the soil matrix color was 7.5YR 5/4 with no redox features; and at a depth of 7 to 10 inches the soil matrix color was 7.5YR 4/4 with 3 percent redox features colored 5YR 5/8. Hydric soil indicators were determined to be absent at this sampling point. Wetland hydrology indicators observed included the surface soil cracks (B6) primary indicator.

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Riparian Habitat

Riparian habitat associated with the drainage systems throughout the Impact Areas consists of blue palo verde-ironwood woodland and tamarisk thickets. Blue palo verde-ironwood woodland is characterized by blue palo verde or ironwood as a dominant or co-dominant plant species in the tree or tall shrub canopy that is open to continuous. Tamarisk thickets are characterized by a weedy, monoculture of tamarisk. This habitat is typically in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. There were scattered riparian trees associated with ephemeral drainages within the creosote scrub habitat due to the alluvial nature of the sites.

A total of three sampling points were collected within the riparian habitat in the northwestern portion of Study Area 2 and included Sampling Points 1, 2, and 3. At the time of the aquatic resource delineation in 2020, these sampling points were inside the Impact Area limits. The Impact Area was revised in 2022 and it now no longer includes the location of these Sampling Points. However, riparian habitat is still present within the revised Impact Area and is subject to direct impacts. Therefore, the data from Sampling Points 1, 2, and 3 have been included in this report because the field conditions documented are representative of the riparian habitat found within the revised Impact Area. Plant species observed within the riparian habitat at all three points included tamarisk, common Mediterranean grass, and narrow leaved cryptantha. Hydric soil and wetland hydrology indicators were determined to be absent at all but Sampling Point 1, which met the drift deposits (B3) primary indicator.

Sampling Point 551 was collected within the riparian habitat associated with ED-3001 south of Study Area 1. At the time of the aquatic resource delineation in 2020, this sampling point was inside the Project limits. The Impact Area was revised in 2022 and it now no longer includes the location of Sampling Point 551. Sampling Point 551 is representative of the riparian habitat of the Study Area as a whole. Plant species observed included tamarisk and bush seepweed. The soil matrix color at a depth of 0 to 6 inches was 10YR 5/4 with no redox features; and at a depth of 6 to 8 inches the soil matrix color was 10YR 5/4 with 3 percent gley features colored 2.5/N. Hydric soil indicators were determined to be absent at this sampling point. Wetland hydrology indicators observed included the surface soil cracks (B6) primary indicator and the sediment deposits (B2), drift deposits (B3), and drainage patterns (B10) secondary indicators.

5.0 JURISDICTIONAL ASSESSMENT

Aquatic resources that are potentially regulated under the CWA, the Porter-Cologne Act, and California Fish and Game Code Section 1602 are summarized below. These results are subject to modification following agency verification.

5.1 Clean Water Act

Per Regulatory Guidance Letter 16-01, an applicant may request a PJD "in order to move ahead expeditiously to obtain a Corps permit authorization where the requestor determin*es that it is in his or her best interest to do so … even where initial indications are that the aquatic resources on a parcel may not be jurisdictional*" (USACE 2016b). The following information on connectivity of wetlands and other waters in the Survey Area to TNW is provided should an Approved Jurisdictional Determination (AJD) be necessary.

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The ephemeral drainages within the Impact Area are tributary to the Salton Sea, which is a TNW. Under the current definition of waters of the U.S., the *Rapanos* guidance, the ephemeral drainages onsite would be considered non-navigable tributaries that are not relatively permanent. In which, case, a significant nexus evaluation of the ephemeral drainages would be necessary to determine jurisdiction if seeking an AJD.

5.2 Porter-Cologne Water Quality Control Act

The following categories meet the definition of Waters of the State and are regulated pursuant to the Porter-Cologne Act. The Porter-Cologne Act defines Waters of the State as "any surface water or groundwater, including saline waters, within the boundaries of the state" [Water Code 13050 (e)]. The Porter Cologne Act defines "Waters of the State" very broadly, with no physical descriptors, and no interstate commerce limitation. The categories are:

- Ephemeral Drainages

The remaining features are excluded from the definition of Waters of the State pursuant to current guidance from the SWRCB. Impacts to features that fall under the definition of Waters of the State would trigger the need for permits through the WDR process.

5.3 California Fish and Game Code Section 1600-1602

The following categories meet the criteria for resources that are regulated under section 1600 of the California Fish and Game Code. This includes all resources with surface or subsurface flow, and a body of water that "flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life." Areas with associated riparian vegetation that is supported by the surface and subsurface flow through these streambeds are also added to CDFW's jurisdiction under 1600. The categories are:

- Ephemeral Drainages
- Riparian Habitat
- Alkali Sinks

The remaining features are excluded from Section 1600-1602 pursuant to current guidance from CDFW. Impacts to features that fall under the definition of streambed and associated riparian habitat would trigger the need for Streambed Alteration Notification and the Project may need to enter into formal Agreements with CDFW.

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LIST OF ATTACHMENTS

Attachment A – Driving Directions to the Study Area

Attachment B – Aquatic Resources within the Project Impact Areas

Attachment C – OHWM and Wetland Determination Data Forms - Arid West

Attachment D – Representative Site Photographs

Attachment E – USACE ORM Aquatic Resources Table

Attachment F – Digital Data

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ATTACHMENT A

Driving Directions to the Study Area

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Google Maps San Diego, CA to Calipatria, CA (33.220933, -115.440940) Drive 146 miles, 2 hr 20 min

San Diego
San Diego, CA 92108

Take I-8 E to CA-78 E in Imperial County
1 hr 51 min (125 mi)

1. Head east on I-8 E
9.8 mi
2. Keep left to stay on I-8 E
101 mi
3. Take exit 118B for CA-111 N toward Brawley
0.2 mi
4. Continue onto CA-111 N
14.4 mi

Follow CA-78 E, CA-115 N and Wiest Rd to Flowing Wells Rd
29 min (20.7 mi)

5. Turn right onto CA-78 E
3.1 mi
6. Turn left onto CA-115 N
10.3 mi
7. Turn right onto Wiest Rd
5.7 mi
8. Continue onto Weist Rd
0.5 mi
9. Turn left to stay on Weist Rd
0.3 mi
10. Turn right onto Noffsinger Rd
135 ft
11. Turn left onto Weist Rd
299 ft
12. Turn right onto Flowing Wells Rd
Destination will be on the right
0.8 mi

33.220933, -115.440940
1101-1175 Flowing Wells Rd, Calipatria, CA 92233

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

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ATTACHMENT B

Aquatic Resources within the Project Impact Areas

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-3001	R6	33.21068479, -115.42657864	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.761	197.039	300	9.014
ED-3002	R6	33.23209453, -115.42095459	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	6.404	6957.086	90	55.408
ED-3003	R6	33.2239284, -115.41138649	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.921	2625.091	20	126.726
ED-3004[5]	R6	33.21570012, -115.41058806	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	N/A	N/A	N/A	46.665
ED-3005[5]	R6	33.2082725, -115.39774861	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	N/A	N/A	N/A	1.935
ED-02	R6	33.23296261, -115.41577415	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.092	97.329	40	N/A
ED-03	R6	33.21946702, -115.40611243	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	11.138	8	N/A
ED-07	R6	33.21738955, -115.40319783	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.047	506.125	4	N/A
ED-15	R6	33.23404969, -115.41195268	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.225	639.673	15	N/A
ED-16	R6	33.2331326, -115.41424492	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.062	172.362	15	N/A
ED-18	R6	33.22573947, -115.40827081	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.053	375.613	6	N/A
ED-20	R6	33.23293777, -115.41733943	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	216.802	5	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-22	R6	33.23122452, -115.41658744	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.0055	117.512	2	N/A
ED-25	R6	33.21929067, -115.39668177	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.380	574.459	30	N/A
ED-28	R6	33.23112609, -115.41927782	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	247.341	1	N/A
ED-32	R6	33.21222482, -115.39510645	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.012	53.774	9	N/A
ED-34	R6	33.22964229, -115.40702573	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.012	265.092	2	N/A
ED-37	R6	33.22016266, -115.40833876	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.005	24.904	6	N/A
ED-40	R6	33.22480534, -115.41081603	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.114	482.009	10	N/A
ED-41	R6	33.21478555, -115.38967864	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	28.677	10	N/A
ED-44	R6	33.22083808, -115.40750889	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.119	571.605	9	N/A
ED-45	R6	33.21319291, -115.39016463	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.022	89.676	10	N/A
ED-46	R6	33.2169882, -115.40056944	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.084	173.632	20	N/A
ED-47	R6	33.2335412, -115.41883457	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	227.864	3	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-49	R6	33.2235069, -115.40897534	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.050	352.559	6	N/A
ED-60	R6	33.23013521, -115.41513576	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.077	472.775	7	N/A
ED-61	R6	33.21482134, -115.38955099	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.028	112.529	10	N/A
ED-63	R6	33.23394408, -115.41367106	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.043	183.667	10	N/A
ED-64	R6	33.22686025, -115.40941772	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	763.281	2	N/A
ED-68	R6	33.22553014, -115.40953001	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	81.954	3	N/A
ED-73	R6	33.21427455, -115.42455028	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.024	98.902	10	N/A
ED-74	R6	33.23078385, -115.41928227	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.024	202.181	5	N/A
ED-75	R6	33.23451303, -115.40708376	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	18.354	3	N/A
ED-76	R6	33.21767352, -115.4020727	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.059	312.784	8	N/A
ED-79	R6	33.2187328, -115.4018099	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.100	423.075	10	N/A
ED-81	R6	33.21599118, -115.40361445	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.318	263.113	50	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-84	R6	33.23385571, -115.4204747	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	175.026	1	N/A
ED-85	R6	33.21604257, -115.39699721	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.019	204.987	4	N/A
ED-86	R6	33.20703737, -115.39984438	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	16.647	10	N/A
ED-87	R6	33.20918838, -115.4012214	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	431.057	2	N/A
ED-89	R6	33.23443728, -115.41572912	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.037	111.775	15	N/A
ED-94	R6	33.21225561, -115.39471511	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.024	143.293	7	N/A
ED-95	R6	33.21910964, -115.40387004	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.165	226.825	30	N/A
ED-97	R6	33.21670002, -115.39607173	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	270.836	4	N/A
ED-100	R6	33.21290258, -115.39061847	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	107.738	6	N/A
ED-101	R6	33.21607967, -115.40210628	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.058	145.462	15	N/A
ED-102	R6	33.2158706, -115.40345272	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.096	342.436	12	N/A
ED-105	R6	33.22855355, -115.40743905	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.444	470.088	40	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-107	R6	33.21225796, -115.39528812	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.017	95.754	7	N/A
ED-113	R6	33.23244031, -115.41037491	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.032	338.790	4	N/A
ED-115	R6	33.23350753, -115.41489818	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.753	644.688	50	N/A
ED-125	R6	33.22403551, -115.40703382	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.088	257.342	15	N/A
ED-124	R6	33.23321453, -115.41760717	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.000	6.316	50	N/A
ED-128	R6	33.2117248, -115.39693349	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.037	316.126	5	N/A
ED-130	R6	33.21928522, -115.39318101	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.126	453.273	12	N/A
ED-137	R6	33.23026618, -115.4208946	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.061	254.070	10	N/A
ED-139	R6	33.21243329, -115.39442618	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.009	53.611	7	N/A
ED-140	R6	33.2271996, -115.40838369	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.029	307.127	4	N/A
ED-142	R6	33.21645224, -115.40455225	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.164	455.284	15	N/A
ED-144	R6	33.22970483, -115.40828105	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.005	107.967	2	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-145	R6	33.22900378, -115.40830172	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.053	457.312	5	N/A
ED-146	R6	33.22766263, -115.40849572	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	95.891	3	N/A
ED-150	R6	33.23409624, -115.40714207	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.045	389.582	5	N/A
ED-151	R6	33.23178466, -115.42130152	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	119.249	7	N/A
ED-152	R6	33.2136404, -115.39166265	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.029	121.143	10	N/A
ED-155	R6	33.23293565, -115.41045004	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.044	320.151	6	N/A
ED-157	R6	33.23269218, -115.41776498	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.218	447.117	20	N/A
ED-158	R6	33.23393532, -115.4133222	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	164.248	5	N/A
ED-160	R6	33.23163526, -115.41542086	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	66.509	2	N/A
ED-161	R6	33.21950501, -115.40593977	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.030	137.728	8	N/A
ED-163	R6	33.2158751, -115.39873938	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	161.053	4	N/A
ED-164	R6	33.21394515, -115.39125961	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.038	232.515	7	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-167	R6	33.21598858, -115.40440854	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.396	299.492	40	N/A
ED-168	R6	33.23292949, -115.41548751	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	120.806	2	N/A
ED-169	R6	33.21894757, -115.39956587	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.072	389.461	8	N/A
ED-170	R6	33.2232665, -115.40719179	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.038	226.906	7	N/A
ED-171	R6	33.23359053, -115.41631714	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	169.166	4	N/A
ED-173	R6	33.22044013, -115.41035656	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.049	504.710	4	N/A
ED-174	R6	33.21937788, -115.40589825	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.243	389.061	25	N/A
ED-178	R6	33.23361942, -115.41286686	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.028	166.324	7	N/A
ED-185	R6	33.21390314, -115.38961991	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	21.466	10	N/A
ED-186	R6	33.23084118, -115.41979985	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	126.191	5	N/A
ED-187	R6	33.21292867, -115.40409178	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.034	180.774	8	N/A
ED-189	R6	33.21669254, -115.40083181	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.077	321.786	10	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-192	R6	33.22318187, -115.4068546	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.158	124.625	50	N/A
ED-193	R6	33.21834209, -115.39414056	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.054	283.929	8	N/A
ED-195	R6	33.22759267, -115.40987781	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	320.856	1	N/A
ED-198	R6	33.23019757, -115.40770158	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.072	208.718	15	N/A
ED-201	R6	33.22920752, -115.40792848	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.030	80.527	15	N/A
ED-202	R6	33.2124755, -115.40479601	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.042	298.271	6	N/A
ED-204	R6	33.22561288, -115.40876071	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.005	202.654	1	N/A
ED-207	R6	33.22849304, -115.40826701	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.057	493.023	5	N/A
ED-208	R6	33.22508136, -115.40903133	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.572	1655.130	15	N/A
ED-211	R6	33.22738534, -115.40807818	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	126.937	5	N/A
ED-212	R6	33.23113226, -115.41902106	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.133	715.282	8	N/A
ED-214	R6	33.2163067, -115.40527782	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.188	185.567	40	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-215	R6	33.2124975, -115.39109023	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.011	93.845	5	N/A
ED-219	R6	33.21235878, -115.39478676	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.034	179.471	8	N/A
ED-221	R6	33.21347311, -115.39197531	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	106.891	6	N/A
ED-222	R6	33.23066349, -115.40658211	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.000	0.947	15	N/A
ED-223	R6	33.22581936, -115.40976981	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	302.052	5	N/A
ED-226	R6	33.22671006, -115.40987441	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	354.570	1	N/A
ED-227	R6	33.21937915, -115.39110525	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.048	198.505	10	N/A
ED-228	R6	33.21777478, -115.40163268	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	60.902	4	N/A
ED-229	R6	33.22337983, -115.4101718	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.012	172.120	3	N/A
ED-230	R6	33.22128416, -115.41069794	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.072	298.782	10	N/A
ED-233	R6	33.23128522, -115.41276926	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.029	310.840	4	N/A
ED-234	R6	33.21964424, -115.39251601	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	77.308	8	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-237	R6	33.22883018, -115.40686254	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	171.330	4	N/A
ED-238	R6	33.21244235, -115.39144406	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.021	175.086	5	N/A
ED-240	R6	33.22647391, -115.40678156	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.014	198.054	3	N/A
ED-242	R6	33.22913498, -115.40727541	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.138	187.654	30	N/A
ED-244	R6	33.23062958, -115.41550807	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	302.305	5	N/A
ED-248	R6	33.23131523, -115.4075313	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.026	552.100	2	N/A
ED-250	R6	33.2181379, -115.39589365	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.150	429.257	15	N/A
ED-251	R6	33.23172613, -115.41768759	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.021	139.283	6	N/A
ED-252	R6	33.21685331, -115.39821666	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.017	182.368	4	N/A
ED-253	R6	33.21751703, -115.40549715	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.125	200.605	25	N/A
ED-254	R6	33.21892587, -115.39221536	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.127	548.890	10	N/A
ED-256	R6	33.21570041, -115.39811313	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.034	202.796	7	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-260	R6	33.21790925, -115.40041399	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	1.052	3029.445	15	N/A
ED-262	R6	33.21643241, -115.39862666	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.011	69.640	6	N/A
ED-265	R6	33.21892072, -115.40563739	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.056	296.797	8	N/A
ED-268	R6	33.22319686, -115.40816533	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.115	225.942	20	N/A
ED-269	R6	33.21209362, -115.3952571	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.011	64.956	7	N/A
ED-270	R6	33.23166781, -115.4164782	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.137	381.338	15	N/A
ED-271	R6	33.22278753, -115.41082669	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.028	138.780	8	N/A
ED-274	R6	33.23031918, -115.40716035	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.097	157.479	25	N/A
ED-276	R6	33.22975406, -115.40821334	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.021	175.197	5	N/A
ED-278	R6	33.21219184, -115.39496062	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	176.372	5	N/A
ED-283	R6	33.22938161, -115.40800311	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	127.653	2	N/A
ED-286	R6	33.21402496, -115.39090548	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	88.802	7	N/A

PC ORIGINAL PKG

Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-287	R6	33.22915027, -115.4198217	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.059	514.377	5	N/A
ED-289	R6	33.23449166, -115.42092556	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	2.286	10	N/A
ED-290	R6	33.21327883, -115.39225669	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	116.064	9	N/A
ED-294	R6	33.23359458, -115.41849041	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.000	0.113	50	N/A
ED-297	R6	33.2177463, -115.39727719	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.287	487.312	25	N/A
ED-303	R6	33.21935943, -115.39173153	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.069	295.416	10	N/A
ED-304	R6	33.21714592, -115.40230027	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.198	329.800	25	N/A
ED-305	R6	33.22307354, -115.40956716	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	1.017	1104.062	30	N/A
ED-306	R6	33.21240875, -115.39147968	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.056	410.974	6	N/A
ED-307	R6	33.21600089, -115.39906018	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.038	320.309	5	N/A
ED-309	R6	33.2295793, -115.40699242	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	111.359	3	N/A
ED-313	R6	33.22680128, -115.40941029	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	86.505	2	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-314	R6	33.22649266, -115.40697029	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.022	309.600	3	N/A
ED-316	R6	33.23037684, -115.41431684	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.005	71.000	3	N/A
ED-322	R6	33.22534831, -115.41013683	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	102.533	3	N/A
ED-323	R6	33.21940372, -115.40161248	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.166	464.172	15	N/A
ED-325	R6	33.21787877, -115.40128957	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.080	280.286	12	N/A
ED-327	R6	33.2132268, -115.39018748	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.013	140.382	4	N/A
ED-328	R6	33.23348727, -115.41273712	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.090	261.766	14	N/A
ED-329	R6	33.21630728, -115.40354956	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.085	363.428	10	N/A
ED-331	R6	33.22594479, -115.41079161	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.338	377.991	40	N/A
ED-346	R6	33.21624527, -115.40200691	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.129	466.762	12	N/A
ED-352	R6	33.21735651, -115.39995182	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.017	97.397	7	N/A
ED-354	R6	33.22509481, -115.41017365	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.022	467.985	2	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-360	R6	33.22186211, -115.40917166	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	164.882	9	N/A
ED-363	R6	33.21197237, -115.39157088	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.021	49.153	15	N/A
ED-364	R6	33.23350544, -115.41380937	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.050	424.521	5	N/A
ED-368	R6	33.21751031, -115.40053921	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.034	241.888	6	N/A
ED-369	R6	33.2127104, -115.4034897	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.034	236.898	6	N/A
ED-371	R6	33.23005738, -115.40754204	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.060	168.797	15	N/A
ED-379	R6	33.21843911, -115.39455265	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.145	411.973	15	N/A
ED-383	R6	33.22524619, -115.40992429	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.011	231.591	2	N/A
ED-390	R6	33.20875572, -115.39252009	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.124	592.211	9	N/A
ED-394	R6	33.23264009, -115.41569525	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.030	211.849	6	N/A
ED-395	R6	33.23160712, -115.41882764	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	96.959	1	N/A
ED-396	R6	33.22079602, -115.40977849	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.669	764.850	40	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-398	R6	33.22027534, -115.41110516	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.010	38.228	10	N/A
ED-400	R6	33.22041859, -115.40894971	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.171	610.860	12	N/A
ED-401	R6	33.21405076, -115.39098197	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.051	316.919	7	N/A
ED-402	R6	33.21605707, -115.40128443	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.005	103.416	2	N/A
ED-404	R6	33.20849641, -115.40046305	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.026	275.572	4	N/A
ED-405	R6	33.22965565, -115.40665678	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	44.354	3	N/A
ED-406	R6	33.23194043, -115.41747453	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	42.534	3	N/A
ED-408	R6	33.21399857, -115.39088075	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.045	280.823	7	N/A
ED-411	R6	33.21955666, -115.4002461	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.028	63.376	12	N/A
ED-412	R6	33.21842842, -115.4030915	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.054	781.275	3	N/A
ED-415	R6	33.22735112, -115.40904823	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.061	326.491	8	N/A
ED-419	R6	33.22560498, -115.40854689	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	329.881	1	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-420	R6	33.2327383, -115.40759803	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	215.075	4	N/A
ED-422	R6	33.23085413, -115.41934588	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	187.393	1	N/A
ED-424	R6	33.21807972, -115.39541938	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.055	191.034	12	N/A
ED-426	R6	33.23040491, -115.40692629	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	167.382	5	N/A
ED-427	R6	33.20872573, -115.40106761	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.023	242.275	4	N/A
ED-428	R6	33.2296259, -115.40755651	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.023	198.249	5	N/A
ED-429	R6	33.21223197, -115.39322523	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.023	190.364	5	N/A
ED-430	R6	33.21356398, -115.3898884	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.033	172.572	8	N/A
ED-432	R6	33.21378005, -115.39137505	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	100.043	7	N/A
ED-433	R6	33.23046687, -115.41544832	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.049	297.601	7	N/A
ED-435	R6	33.21850246, -115.4052222	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.062	221.553	12	N/A
ED-437	R6	33.23264355, -115.41102226	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	107.471	3	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-439	R6	33.21297391, -115.39062199	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.036	216.748	7	N/A
ED-440	R6	33.21196807, -115.39516845	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	24.001	4	N/A
ED-441	R6	33.21557725, -115.40001417	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.036	151.665	10	N/A
ED-443	R6	33.21758204, -115.3991817	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.526	351.147	60	N/A
ED-446	R6	33.23425722, -115.41553996	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.037	269.613	6	N/A
ED-448	R6	33.22738698, -115.40683387	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.010	141.177	3	N/A
ED-450	R6	33.23269162, -115.4174553	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.054	578.203	4	N/A
ED-451	R6	33.23218648, -115.41812277	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	327.573	1	N/A
ED-453	R6	33.21748839, -115.40135622	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.114	314.558	15	N/A
ED-466	R6	33.20878370, -115.40123181	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.028	296.794	4	N/A
ED-471	R6	33.23248041, -115.42047828	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.052	756.235	3	N/A
ED-472	R6	33.21296092, -115.38995081	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.017	179.364	4	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-473	R6	33.22288082, -115.40869738	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	1.155	992.787	30	N/A
ED-475	R6	33.22599469, -115.41021811	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.117	218.786	20	N/A
ED-478	R6	33.22663457, -115.40926043	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	170.550	1	N/A
ED-479	R6	33.23433642, -115.41563842	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.031	131.352	10	N/A
ED-481	R6	33.21465851, -115.38995131	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.071	158.079	20	N/A
ED-483	R6	33.23309806, -115.40966148	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	214.862	4	N/A
ED-485	R6	33.2277435, -115.40664272	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	21.896	3	N/A
ED-491	R6	33.22566134, -115.4090268	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.017	368.661	2	N/A
ED-492	R6	33.22778809, -115.4079126	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.045	188.133	10	N/A
ED-494	R6	33.21635316, -115.4058554	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	31.763	4	N/A
ED-500	R6	33.22590363, -115.41046037	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.052	206.593	10	N/A
ED-502	R6	33.22762953, -115.40959469	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.066	711.570	4	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-504	R6	33.23179837, -115.4187545	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.011	158.555	3	N/A
ED-505	R6	33.21881975, -115.39254268	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.071	305.251	10	N/A
ED-507	R6	33.21914145, -115.40237719	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.100	614.755	7	N/A
ED-510	R6	33.23102745, -115.41947769	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.005	219.311	1	N/A
ED-513	R6	33.22784029, -115.40847199	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.062	530.845	5	N/A
ED-516	R6	33.21310239, -115.39242347	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.115	495.318	10	N/A
ED-518	R6	33.21886626, -115.39869295	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.066	351.776	8	N/A
ED-519	R6	33.21199259, -115.39343098	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.001	2.555	7	N/A
ED-524	R6	33.23161556, -115.41837808	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.083	288.688	12	N/A
ED-528	R6	33.21299936, -115.40574765	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	146.312	10	N/A
ED-530	R6	33.21800336, -115.40129588	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.074	311.739	10	N/A
ED-532	R6	33.22253579, -115.40690528	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	210.236	7	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-533	R6	33.23434739, -115.41678089	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	140.959	10	N/A
ED-535	R6	33.23257897, -115.41131506	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	88.473	1.5	N/A
ED-537	R6	33.21843666, -115.40191123	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	2.087	2333.797	40	N/A
ED-538	R6	33.2286758, -115.40803511	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	440.584	2	N/A
ED-540	R6	33.21791934, -115.39571849	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.296	498.662	25	N/A
ED-542	R6	33.23109496, -115.41743899	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	263.752	4	N/A
ED-544	R6	33.21595540, -115.39930731	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.073	387.942	8	N/A
ED-546	R6	33.21251012, -115.39108518	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.043	311.160	6	N/A
ED-548	R6	33.22597917, -115.40765017	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.013	184.849	3	N/A
ED-554	R6	33.21599674, -115.40268053	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.065	280.731	10	N/A
ED-556	R6	33.22735396, -115.40719019	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.030	426.352	3	N/A
ED-557	R6	33.21334225, -115.38989648	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.013	108.890	5	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-559	R6	33.2207062, -115.41006806	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	315.131	2	N/A
ED-560	R6	33.21958517, -115.39124311	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.031	135.736	10	N/A
ED-563	R6	33.22696045, -115.40782212	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	339.319	2	N/A
ED-565	R6	33.21939440, -115.40488684	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.097	412.205	10	N/A
ED-568	R6	33.22627707, -115.40779931	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.048	202.226	10	N/A
ED-570	R6	33.23436599, -115.41792708	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.012	101.915	5	N/A
ED-572	R6	33.23404775, -115.42174133	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	129.960	2	N/A
ED-575	R6	33.21727227, -115.39754322	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.032	339.051	4	N/A
ED-576	R6	33.23143911, -115.41706544	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.022	228.083	4	N/A
ED-578	R6	33.23155331, -115.41212903	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	132.855	8	N/A
ED-581	R6	33.21216487, -115.39494033	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.009	72.182	5	N/A
ED-583	R6	33.22788194, -115.40803013	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.061	164.592	15	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-588	R6	33.21901428, -115.39993318	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.067	228.015	12	N/A
ED-591	R6	33.2074041, -115.40168216	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.068	588.434	5	N/A
ED-593	R6	33.21595155, -115.39941082	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.043	231.248	8	N/A
ED-598	R6	33.23101528, -115.41870191	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.051	130.682	15	N/A
ED-599	R6	33.21948263, -115.40334984	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.052	269.705	8	N/A
ED-600	R6	33.23034587, -115.40921323	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.065	947.139	3	N/A
ED-602	R6	33.21338014, -115.38990671	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	83.120	4	N/A
ED-604	R6	33.22211534, -115.40860944	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.018	109.952	7	N/A
ED-606	R6	33.21227426, -115.39653106	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.001	11.092	3	N/A
ED-607	R6	33.22878018, -115.41009189	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.068	729.987	4	N/A
ED-608	R6	33.23341324, -115.40869769	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.044	471.226	4	N/A
ED-609	R6	33.21262145, -115.39323093	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	172.619	5	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-611	R6	33.21269108, -115.39408033	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.033	236.740	6	N/A
ED-612	R6	33.21767718, -115.39833887	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.050	171.865	12	N/A
ED-614	R6	33.21316163, -115.39004456	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.018	123.968	6	N/A
ED-617	R6	33.23290547, -115.4144761	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	247.597	6	N/A
ED-626	R6	33.22095983, -115.40825275	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.090	553.644	7	N/A
ED-628	R6	33.21206809, -115.39544538	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	40.063	6	N/A
ED-630	R6	33.21297564, -115.40359159	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.056	479.203	5	N/A
ED-631	R6	33.22059702, -115.40805862	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	221.477	3	N/A
ED-635	R6	33.21779239, -115.39742774	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.090	381.624	10	N/A
ED-637	R6	33.21501561, -115.38946769	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	14.277	10	N/A
ED-640	R6	33.21879673, -115.4063567	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.014	143.762	4	N/A
ED-642	R6	33.23312731, -115.415006	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.042	302.991	6	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-649	R6	33.23281543, -115.41527127	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.014	101.474	6	N/A
ED-655	R6	33.227361288, -115.407339658	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.021	307.882	8	N/A
ED-656	R6	33.22368805, -115.41101315	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	292.274	1	N/A
ED-657	R6	33.22999813, -115.40734768	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	129.099	5	N/A
ED-658	R6	33.22868451, -115.40851949	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.045	323.353	6	N/A
ED-659	R6	33.22972102, -115.40768594	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.041	167.192	10	N/A
ED-664	R6	33.23367731, -115.41373911	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.091	386.411	10	N/A
ED-665	R6	33.23434674, -115.42110313	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	172.349	2	N/A
ED-666	R6	33.20782649, -115.40126172	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.053	451.347	5	N/A
ED-669	R6	33.23330758, -115.41715183	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	304.086	1	N/A
ED-672	R6	33.2194086, -115.39631231	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	154.516	7	N/A
ED-677	R6	33.22218706, -115.40739403	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.021	147.817	6	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-678	R6	33.21624633, -115.40159849	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.051	235.826	9	N/A
ED-682	R6	33.21841053, -115.39509222	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.029	134.462	9	N/A
ED-683	R6	33.21608126, -115.4007214	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.142	758.621	8	N/A
ED-684	R6	33.23289364, -115.41699637	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.048	285.411	7	N/A
ED-685	R6	33.20910323, -115.39127528	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	27.531	8	N/A
ED-688	R6	33.23246131, -115.41224714	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.058	499.156	5	N/A
ED-689	R6	33.21639549, -115.3967876	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.060	214.456	12	N/A
ED-693	R6	33.21889962, -115.39347609	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.081	179.355	10	N/A
ED-694	R6	33.21225422, -115.39338544	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	179.355	6	N/A
ED-695	R6	33.22568768, -115.40971029	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.017	359.695	2	N/A
ED-698	R6	33.22725573, -115.41034694	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.036	512.121	3	N/A
ED-701	R6	33.23221437, -115.41079203	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.072	624.466	5	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-702	R6	33.21819769, -115.40516265	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	137.354	6	N/A
ED-705	R6	33.21729163, -115.39983465	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.052	275.734	8	N/A
ED-708	R6	33.21867388, -115.40454552	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.132	223.865	25	N/A
ED-709	R6	33.23411574, -115.42154967	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.130	360.553	15	N/A
ED-710	R6	33.23217693, -115.41785952	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	437.866	2	N/A
ED-713	R6	33.22675294, -115.40701401	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.027	296.126	4	N/A
ED-714	R6	33.23319968, -115.4135393	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.214	310.020	30	N/A
ED-715	R6	33.21901514, -115.40362684	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.044	187.191	10	N/A
ED-717	R6	33.22949216, -115.41775973	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.288	1250.082	10	N/A
ED-718	R6	33.21619236, -115.39251661	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	1.695	2440.638	30	N/A
ED-721	R6	33.23427131, -115.41274726	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.097	406.181	10	N/A
ED-722	R6	33.23342301, -115.41438426	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.049	253.763	8	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-723	R6	33.21464223, -115.38963717	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.050	136.546	15	N/A
ED-726	R6	33.21941224, -115.39594497	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.090	289.374	14	N/A
ED-731	R6	33.21676746, -115.4029419	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.049	166.564	12	N/A
ED-733	R6	33.21968431, -115.39608941	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.040	60.781	20	N/A
ED-734	R6	33.22938487, -115.40700775	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.164	218.575	30	N/A
ED-735	R6	33.21738215, -115.40070908	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.013	89.948	6	N/A
ED-737	R6	33.21867393, -115.39928022	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.042	359.787	5	N/A
ED-740	R6	33.2206619, -115.41063387	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.071	128.865	20	N/A
ED-741	R6	33.21957208, -115.39105077	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	23.576	12	N/A
ED-743	R6	33.21720507, -115.39923637	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.045	484.837	4	N/A
ED-744	R6	33.22566542, -115.41090997	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.049	257.277	8	N/A
ED-745	R6	33.23002223, -115.41627768	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.038	320.825	5	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-748	R6	33.21277215, -115.3906986	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	60.380	6	N/A
ED-753	R6	33.21304242, -115.39037957	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.026	90.976	12	N/A
ED-755	R6	33.22237251, -115.40844644	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.129	922.438	6	N/A
ED-756	R6	33.22786434, -115.40663554	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.001	21.793	2	N/A
ED-759	R6	33.21260399, -115.39082735	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.030	212.012	6	N/A
ED-761	R6	33.22646303, -115.41030564	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.042	613.446	3	N/A
ED-762	R6	33.21903137, -115.398068	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.184	313.970	25	N/A
ED-763	R6	33.21790061, -115.39969384	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.144	886.836	7	N/A
ED-766	R6	33.22297454, -115.40798073	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.221	453.421	20	N/A
ED-768	R6	33.21203431, -115.39331225	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	48.884	6	N/A
ED-772	R6	33.21246649, -115.39366476	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.012	132.449	4	N/A
ED-775	R6	33.23299955, -115.41994125	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.014	298.704	2	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-777	R6	33.21597351, -115.40572952	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.032	78.557	15	N/A
ED-779	R6	33.22672643, -115.40860361	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.115	494.685	10	N/A
ED-780	R6	33.23214631, -115.41861869	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.113	325.961	15	N/A
ED-781	R6	33.21257848, -115.39311129	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.010	78.946	5	N/A
ED-784	R6	33.2259214, -115.40937082	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.010	222.910	2	N/A
ED-786	R6	33.22925071, -115.40816053	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.043	260.674	7	N/A
ED-787	R6	33.23002018, -115.40670091	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	129.293	5	N/A
ED-788	R6	33.21568724, -115.40188926	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.119	514.056	10	N/A
ED-789	R6	33.2190629, -115.40570263	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.120	347.444	15	N/A
ED-790	R6	33.21959618, -115.39188783	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	101.691	8	N/A
ED-792	R6	33.21262093, -115.39088411	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.019	132.722	6	N/A
ED-794	R6	33.2297728, -115.4079939	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.037	191.569	8	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-798	R6	33.22880673, -115.40737351	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	179.432	8	N/A
ED-805	R6	33.22704802, -115.40967025	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.092	397.641	10	N/A
ED-807	R6	33.2214809, -115.40753789	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.253	535.269	20	N/A
ED-808	R6	33.22012652, -115.410466	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	62.453	2	N/A
ED-810	R6	33.22937522, -115.40816506	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.043	308.596	6	N/A
ED-812	R6	33.21745471, -115.4036635	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.076	319.631	10	N/A
ED-813	R6	33.23171107, -115.41854462	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.024	198.773	5	N/A
ED-814	R6	33.22735466, -115.41058803	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.022	473.557	2	N/A
ED-817	R6	33.23436781, -115.40697397	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.046	251.071	8	N/A
ED-822	R6	33.22754568, -115.40856577	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.029	242.713	5	N/A
ED-824	R6	33.21956823, -115.40301662	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.207	269.927	30	N/A
ED-825	R6	33.23168189, -115.41174598	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	123.050	5	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-826	R6	33.23031699, -115.41591847	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	44.527	4	N/A
ED-829	R6	33.23275919, -115.41579848	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.011	245.630	2	N/A
ED-830	R6	33.2190763, -115.39177897	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.054	230.383	10	N/A
ED-831	R6	33.22382266, -115.41035598	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.063	541.409	5	N/A
ED-834	R6	33.21884616, -115.3994056	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.063	542.517	5	N/A
ED-836	R6	33.21352298, -115.38951945	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	13.870	8	N/A
ED-841	R6	33.23307252, -115.41682315	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	56.169	2	N/A
ED-843	R6	33.21595176, -115.39822848	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.013	140.784	4	N/A
ED-845	R6	33.21880797, -115.40444738	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.051	365.452	6	N/A
ED-848	R6	33.23302058, -115.41973794	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.020	280.490	3	N/A
ED-850	R6	33.22345549, -115.4097374	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.099	344.874	12	N/A
ED-851	R6	33.23360382, -115.4221469	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.284	505.686	25	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-854	R6	33.21931411, -115.40263509	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.177	488.574	15	N/A
ED-858	R6	33.21708011, -115.40437923	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	208.735	7	N/A
ED-859	R6	33.23392296, -115.4115964	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.181	785.560	10	N/A
ED-860	R6	33.21331336, -115.39003692	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	32.051	7	N/A
ED-862	R6	33.23308748, -115.4147235	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.023	163.800	6	N/A
ED-864	R6	33.23349672, -115.41650543	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.190	546.009	15	N/A
ED-865	R6	33.2196205, -115.40017543	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	35.877	8	N/A
ED-872	R6	33.22842769, -115.40925189	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.080	693.408	5	N/A
ED-879	R6	33.21926045, -115.39800954	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.070	370.635	8	N/A
ED-880	R6	33.23140711, -115.41232101	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.024	252.270	4	N/A
ED-882	R6	33.23151527, -115.4177394	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	126.353	5	N/A
ED-885	R6	33.22924768, -115.40682286	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.0043	184.394	1	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-888	R6	33.22203815, -115.408418	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.046	326.243	6	N/A
ED-890	R6	33.21436218, -115.39035839	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.096	168.175	25	N/A
ED-892	R6	33.23153109, -115.41672722	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.037	308.891	5	N/A
ED-895	R6	33.22604998, -115.40831712	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.041	171.986	10	N/A
ED-898	R6	33.21947714, -115.40480655	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.019	132.542	6	N/A
ED-900	R6	33.23351283, -115.41289332	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.078	205.465	15	N/A
ED-901	R6	33.23312247, -115.41675568	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	110.127	6	N/A
ED-902	R6	33.23201107, -115.41444979	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.149	919.459	7	N/A
ED-903	R6	33.22845973, -115.40835692	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.003	55.350	2	N/A
ED-905	R6	33.23424897, -115.40991315	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.022	308.046	3	N/A
ED-910	R6	33.22565777, -115.40807026	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.012	168.959	3	N/A
ED-912	R6	33.21194379, -115.39529161	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.000	0.414	6	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-913	R6	33.2320219, -115.42047867	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	7.205	5	N/A
ED-914	R6	33.21851912, -115.39345208	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.338	979.491	15	N/A
ED-915	R6	33.23075454, -115.41370836	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.047	407.122	5	N/A
ED-916	R6	33.21910182, -115.40452978	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.050	168.643	12	N/A
ED-917	R6	33.23253734, -115.4161131	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.019	156.068	5	N/A
ED-920	R6	33.23093827, -115.41933895	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.049	252.996	8	N/A
ED-921	R6	33.23450324, -115.407486	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	203.797	5	N/A
ED-928	R6	33.2340982, -115.4220864	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.213	361.378	25	N/A
ED-929	R6	33.22226183, -115.40687502	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	74.674	2	N/A
ED-930	R6	33.21742231, -115.40015126	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.205	265.625	30	N/A
ED-934	R6	33.21827628, -115.4014715	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.054	465.453	5	N/A
ED-936	R6	33.22622459, -115.40987916	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.059	245.618	10	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-937	R6	33.21588569, -115.39748447	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.032	221.658	6	N/A
ED-938	R6	33.22666689, -115.4085055	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.117	411.306	12	N/A
ED-940	R6	33.23228165, -115.41688086	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.255	546.953	20	N/A
ED-941	R6	33.23179676, -115.40664096	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.001	35.660	1	N/A
ED-944	R6	33.2292689, -115.40867267	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.052	368.933	6	N/A
ED-945	R6	33.23328011, -115.41364632	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.051	208.709	10	N/A
ED-946	R6	33.21914582, -115.40656334	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.018	88.866	8	N/A
ED-948	R6	33.22701243, -115.40678412	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	31.196	2	N/A
ED-949	R6	33.21298095, -115.39269154	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.073	440.290	7	N/A
ED-950	R6	33.21570381, -115.40153732	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.072	303.076	10	N/A
ED-954	R6	33.21310875, -115.40475835	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.042	257.625	7	N/A
ED-955	R6	33.21292024, -115.39053872	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.009	57.798	6	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-957	R6	33.22491863, -115.41017263	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.037	526.842	3	N/A
ED-960	R6	33.22305149, -115.40824734	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.216	308.646	30	N/A
ED-965	R6	33.2171635, -115.4001925	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	100.293	10	N/A
ED-967	R6	33.23373753, -115.40791936	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.011	77.438	6	N/A
ED-968	R6	33.21283089, -115.39061704	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	47.713	2	N/A
ED-969	R6	33.23427866, -115.42199492	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.013	180.572	3	N/A
ED-970	R6	33.22655134, -115.4092513	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.045	483.979	4	N/A
ED-971	R6	33.21546344, -115.40039095	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.118	419.853	12	N/A
ED-972	R6	33.21405043, -115.39106601	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.009	57.657	6	N/A
ED-973	R6	33.22797858, -115.40869084	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.044	236.836	8	N/A
ED-974	R6	33.2166366, -115.40206624	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.153	822.739	8	N/A
ED-977	R6	33.22516989, -115.40757348	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.061	663.671	4	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-980	R6	33.23281578, -115.4151258	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	209.642	3	N/A
ED-982	R6	33.21349553, -115.40539288	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.082	433.261	8	N/A
ED-983	R6	33.23429988, -115.41640457	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.120	338.292	15	N/A
ED-984	R6	33.23376638, -115.41321633	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	176.746	6	N/A
ED-985	R6	33.22434886, -115.40866927	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.343	1483.622	10	N/A
ED-987	R6	33.21680637, -115.40342369	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.064	270.409	10	N/A
ED-989	R6	33.21621457, -115.40468798	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.053	216.961	10	N/A
ED-999	R6	33.22756902, -115.40909902	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.017	175.651	4	N/A
ED-1000	R6	33.21925087, -115.39842328	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	350.293	3	N/A
ED-1004	R6	33.21897678, -115.40651219	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.010	139.274	3	N/A
ED-1005	R6	33.21335242, -115.38951879	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	23.650	6	N/A
ED-1007	R6	33.21674768, -115.40089049	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.026	107.100	10	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-1009	R6	33.22611175, -115.40881085	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.0094	407.667	1	N/A
ED-1015	R6	33.21565291, -115.39951697	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.039	165.356	10	N/A
ED-1020	R6	33.21253963, -115.39115439	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	253.390	6	N/A
ED-1022	R6	33.23055739, -115.41500653	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.005	65.975	3	N/A
ED-1023	R6	33.22885565, -115.40816359	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	29.572	3	N/A
ED-1028	R6	33.23435742, -115.41066126	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.071	377.143	8	N/A
ED-1038	R6	33.21954855, -115.39174556	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.014	84.749	7	N/A
ED-1041	R6	33.2116365, -115.3958341	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	62.685	5	N/A
ED-1045	R6	33.21865406, -115.40647608	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.086	144.706	25	N/A
ED-1050	R6	33.22991749, -115.40664718	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.026	55.055	15	N/A
ED-1052	R6	33.23342293, -115.41892324	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.070	304.563	10	N/A
ED-1053	R6	33.22614559, -115.40948794	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.311	250.910	50	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-1054	R6	33.23217002, -115.4166409	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.348	734.377	20	N/A
ED-1063	R6	33.22229832, -115.41019034	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.298	485.865	25	N/A
ED-1065	R6	33.21677263, -115.40306703	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.022	88.385	10	N/A
ED-1071	R6	33.21671403, -115.40557944	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.028	193.655	6	N/A
ED-1076	R6	33.22746011, -115.40738306	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.039	419.588	4	N/A
ED-1077	R6	33.21957584, -115.40481958	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.081	229.555	15	N/A
ED-1080	R6	33.2235811, -115.40775866	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.100	350.778	12	N/A
ED-1082	R6	33.23247165, -115.41192982	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.016	168.626	4	N/A
ED-1083	R6	33.23153452, -115.41871448	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.019	69.213	10	N/A
ED-1084	R6	33.21415488, -115.39093118	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	38.676	8	N/A
ED-1085	R6	33.21227274, -115.39329858	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.025	176.566	6	N/A
ED-1088	R6	33.21886095, -115.39204895	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.045	212.538	9	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-1090	R6	33.21579300, -115.40146188	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.176	764.493	10	N/A
ED-1091	R6	33.21874757, -115.40366998	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.114	485.292	10	N/A
ED-1095	R6	33.2316261, -115.41896959	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	123.530	2	N/A
ED-1096	R6	33.21908254, -115.40366838	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.233	396.137	25	N/A
ED-1097	R6	33.20827055, -115.39934655	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	75.216	2	N/A
ED-1100	R6	33.22193366, -115.40761211	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.118	637.313	8	N/A
ED-1103	R6	33.23449202, -115.42170061	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.000	0.463	5	N/A
ED-1104	R6	33.2169737, -115.39995194	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.076	400.409	8	N/A
ED-1107	R6	33.23093071, -115.42015237	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.000	6.634	40	N/A
ED-1113	R6	33.21680831, -115.40269529	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.028	196.791	6	N/A
ED-1117	R6	33.21606549, -115.40235345	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	126.089	5	N/A
ED-1118	R6	33.22580178, -115.40728469	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.157	335.106	20	N/A

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Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-1121	R6	33.2277448, -115.41118109	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.000	1.830	15	N/A
ED-1125	R6	33.23408874, -115.40985789	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.083	1197.912	3	N/A
ED-1128	R6	33.21568961, -115.39871266	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.040	171.073	10	N/A
ED-1130	R6	33.20895309, -115.40028201	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	312.619	2	N/A
ED-1133	R6	33.23302219, -115.41530811	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.042	204.003	9	N/A
ED-1137	R6	33.22483874, -115.40664709	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.004	10.446	15	N/A
ED-1139	R6	33.21770515, -115.39450317	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.001	18.556	3	N/A
ED-1143	R6	33.2312474, -115.41797898	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.342	343.659	40	N/A
ED-1152	R6	33.21789564, -115.40166744	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.076	399.344	8	N/A
ED-1153	R6	33.23402118, -115.41171099	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.511	599.651	35	N/A
ED-1155	R6	33.21276802, -115.4049186	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.045	230.595	8	N/A
ED-1157	R6	33.22902642, -115.40679729	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	170.515	2	N/A

PC ORIGINAL PKG

Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-1158	R6	33.21614335, -115.40350849	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.043	180.817	10	N/A
ED-1159	R6	33.22373263, -115.40934634	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.074	398.867	8	N/A
ED-1163	R6	33.23290660, -115.41493744	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.087	618.095	6	N/A
ED-1164	R6	33.21330650, -115.38981267	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.017	120.153	6	N/A
ED-1165	R6	33.21880124, -115.40498489	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.089	311.382	12	N/A
ED-1167	R6	33.2338001, -115.41373832	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.039	127.944	12	N/A
ED-1170	R6	33.21580050, -115.39725411	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.011	152.419	3	N/A
ED-1172	R6	33.21778367, -115.40462546	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.144	295.559	20	N/A
ED-1175	R6	33.22452651, -115.40708709	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.499	411.714	40	N/A
ED-1176	R6	33.22640015, -115.410748	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.110	462.832	10	N/A
ED-1177	R6	33.21326909, -115.40536324	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.070	426.097	7	N/A
ED-1180	R6	33.23003934, -115.40718359	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	142.259	10	N/A

PC ORIGINAL PKG

Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-1181	R6	33.21251159, -115.39075892	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.059	427.324	6	N/A
ED-1184	R6	33.21680919, -115.40476937	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.106	573.135	8	N/A
ED-1185	R6	33.21835881, -115.40576588	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.007	21.075	10	N/A
ED-1189	R6	33.23383546, -115.41313501	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.010	136.341	3	N/A
ED-1190	R6	33.22052980, -115.40747607	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	313.215	2	N/A
ED-1193	R6	33.23394638, -115.40970336	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.233	1443.014	7	N/A
ED-1194	R6	33.21242461, -115.39643895	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.015	120.320	5	N/A
ED-1195	R6	33.21592671, -115.40294676	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.049	167.281	12	N/A
ED-1196	R6	33.22290426, -115.40794331	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.029	418.336	3	N/A
ED-1201	R6	33.2181672, -115.40538005	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.048	340.207	6	N/A
ED-1205	R6	33.22769174, -115.40864925	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.002	37.092	2	N/A
ED-1207	R6	33.21938859, -115.39872402	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.049	294.387	7	N/A

PC ORIGINAL PKG

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	Cowardin[2]	Location (lat/long)						
ED-1208	R6	33.21911691, -115.39730335	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.031	177.350	7	N/A
ED-1210	R6	33.23086055, -115.41950899	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	88.307	4	N/A
ED-1212	R6	33.20731892, -115.39982708	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.035	182.446	8	N/A
ED-1213	R6	33.21930268, -115.40112195	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.117	192.742	25	N/A
ED-1214	R6	33.21259495, -115.40466098	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.026	152.454	7	N/A
ED-1216	R6	33.21227739, -115.39393888	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.029	240.977	5	N/A
ED-1219	R6	33.23317367, -115.41535919	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.041	216.890	8	N/A
ED-1221	R6	33.21584132, -115.40539248	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.178	231.832	30	N/A
ED-1228	R6	33.21920242, -115.40446699	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.158	447.602	15	N/A
ED-1233	R6	33.21583859, -115.40456634	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.117	329.915	15	N/A
ED-1234	R6	33.21800411, -115.40347425	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.207	442.258	20	N/A
ED-1235	R6	33.22999379, -115.40826992	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.014	195.611	3	N/A

PC ORIGINAL PKG

Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-1236	R6	33.23341735, -115.4215397	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.041	584.247	3	N/A
ED-1240	R6	33.22677324, -115.41062416	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.055	596.706	4	N/A
ED-1242	R6	33.21881572, -115.40565367	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.085	266.710	15	N/A
ED-1243	R6	33.22658843, -115.41071543	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.011	233.883	2	N/A
ED-1247	R6	33.23355737, -115.41692563	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.068	362.186	8	N/A
ED-1249	R6	33.22059676, -115.41086866	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	109.085	3	N/A
ED-1252	R6	33.22339229, -115.40714051	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.214	296.442	20	N/A
ED-1253	R6	33.22130874, -115.41006355	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.694	501.450	20	N/A
ED-1254	R6	33.21273796, -115.39052594	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.029	251.908	5	N/A
ED-1259	R6	33.21631181, -115.39214891	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.048	204.366	10	N/A
ED-1260	R6	33.21602391, -115.40581328	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.001	8.076	10	N/A
ED-1263	R6	33.21570182, -115.39907588	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.098	422.342	10	N/A

PC ORIGINAL PKG

Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-1264	R6	33.21946410, -115.40065208	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.104	145.686	30	N/A
ED-1266	R6	33.21963600, -115.39552288	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.000	6.492	10	N/A
ED-1268	R6	33.23370969, -115.41293937	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.006	119.605	2	N/A
ED-1269	R6	33.23003383, -115.41635205	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.0219	151.832	6	N/A
ED-1270	R6	33.21648831, -115.40524908	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.0335	195.832	7	N/A
ED-1275	R6	33.23164159, -115.41850193	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.144	618.105	10	N/A
Total	N/A	N/A	N/A	N/A	50.830	166085.900	N/A	239.749

[1]ED= Ephemeral Drainage
[2] Cowardin Codes: (R6) Riverine, Ephemeral (USFWS 2020b).
[3]Bank-to-bank width.
[4]Includes Alkali Sink and Riparian Habitat acreages.
[5]Drainage has been removed from Impact Area, but associated riparian habitat is included.

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OHWM and Wetland Determination Data Forms – Arid West Region

PC ORIGINAL PKG

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Vega SES 2/3
Project Number:
Stream: ED-3005 (Cross section #100)
Investigator(s): C. Torres, G. Hampton

Date: 11/12/2020
Town: Calipatria
Photo begin file#:

Time: 9:20 AM
State: CA
Photo end file#:

Y [X] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [X] Is the site significantly disturbed?

Location Details: Cross section taken at Siphon 4 where the associated drainage system crosses Coachella Canal.

Projection: **Datum:** NAD83
Coordinates:

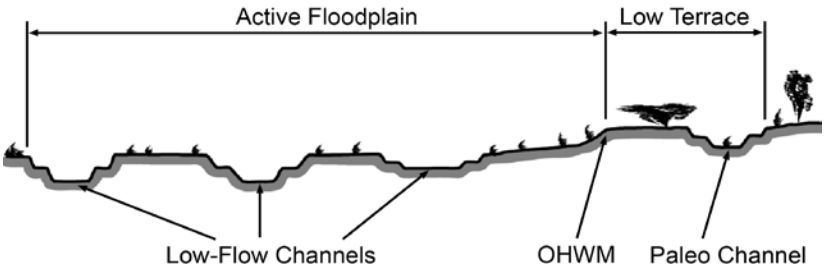
Potential anthropogenic influences on the channel system: Drainage system is diverted to cross over the Coachella Canal via a series of Siphons: Siphon 4, Siphon 5, and Siphon 6. Manmade berms that serve to divert surface flow are present along the railroad, canal, and other areas within the Study Areas. Active agriculture is adjacent to the northwest portion of the Study Areas. Area is actively used for offroad vehicles, including some of the larger drainages that double as roads.

Brief site description: The Study Areas and adjacent Chocolate Mountains are part of an alluvial fan drainage system. The Coachella Canal bisects Study Areas 2 and 3. Unlined, manmade retention basins are located directly west of and run parallel to the Coachella Canal. A railroad right-of-way borders the southwestern portion of the site, and a drainage system flows southwest under the railroad via a concrete underpass. Drainages flow southwest in direction of the East Highline Canal.

Checklist of resources (if available):

- [X] Aerial photography
  Dates: 1953-2015
- [X] Topographic maps
- [ ] Geologic maps
- [X] Vegetation maps
- [X] Soils maps
- [X] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [X] Global positioning system (GPS)
- [ ] Other studies
- [ ] Stream gage data
  Gage number:
  Period of record:
- [ ] History of recent effective discharges
- [ ] Results of flood frequency analysis
- [ ] Most recent shift-adjusted rating
- [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



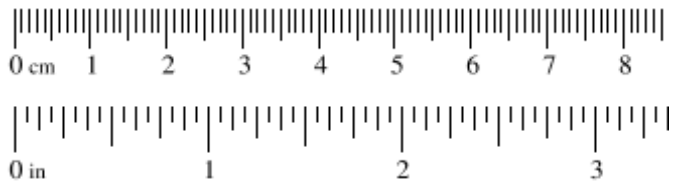
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - [ ] Mapping on aerial photograph
   - [X] GPS
   - [ ] Digitized on computer
   - [ ] Other:

PC ORIGINAL PKG

Wentworth Size Classes

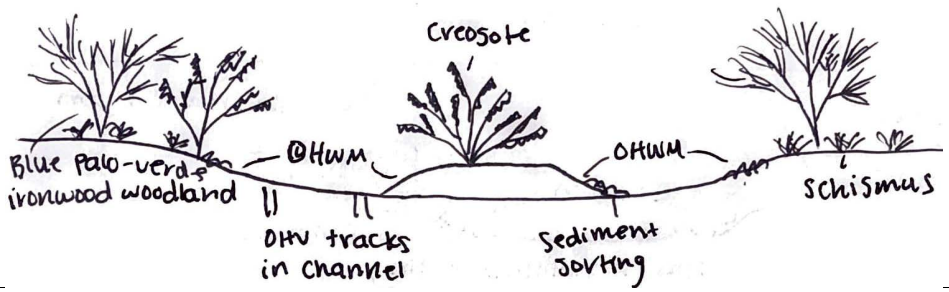
Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	
		Cobble	Gravel
2.56	64	Pebble	
0.157	4	Granule	
0.079	2.00	Very coarse sand	
0.039	1.00	Coarse sand	
0.020	0.50	Medium sand	Sand
1/2 0.0098	0.25	Fine sand	
1/4 0.005	0.125	Very fine sand	
1/8 0.0025	0.0625	Coarse silt	
1/16 0.0012	0.031	Medium silt	
1/32 0.00061	0.0156	Fine silt	Silt
1/64 0.00031	0.0078	Very fine silt	
1/128 0.00015	0.0039	Clay	Mud



PC ORIGINAL PKG

Project ID: Vega SES 2/3 **Cross section ID:** ED-3005 (#100) **Date:** 11/12/2020 **Time:** 9:20 AM

Cross section drawing:



OHWM

GPS point: 33.205770, -115.404347

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Large drainage also being used as a road for OHV. Riparian habitat associated with drainage system. Slight break in bed and bank.
OHWM: 15' width, 5" depth
B2B: 50' width, 1' depth

Floodplain unit:

- [x] Low-Flow Channel
- [ ] Active Floodplain
- [ ] Low Terrace

GPS point: 33.205770, -115.404347

Characteristics of the floodplain unit:

Average sediment texture: Medium sand
Total veg cover: 15 % Tree: 10 % Shrub: 5 % Herb: _____%
Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [x] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [x] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Channel itself is unvegetated with some vegetated islands. Blue palo-verde and ironwood woodland line the banks, with occasional creosote bush. A number of channels branch off the main drainage that flows into Siphon Four.

PC ORIGINAL PKG

Project ID: **Cross section ID:** **Date:** **Time:**

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

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- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
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Indicators:

- ☐ Mudcracks
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- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

PC ORIGINAL PKG

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Vega SES 2/3
Project Number:
Stream: ED-3004 (Cross section #101)
Investigator(s): C. Torres, G. Hampton

Date: 11/11/2020
Town: Calipatria
Photo begin file#:

Time: 10:00 AM
State: CA
Photo end file#:

Y [x] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [x] Is the site significantly disturbed?

Location Details: Cross section taken at Siphon 5 where the associated drainage system crosses Coachella Canal.

Projection:
Datum: NAD83
Coordinates:

Potential anthropogenic influences on the channel system: Drainage system is diverted to cross over the Coachella Canal via a series of Siphons: Siphon 4, Siphon 5, and Siphon 6. Manmade berms that serve to divert surface flow are present along the railroad, canal, and other areas within the Study Areas. Active agriculture is adjacent to the northwest portion of the Study Areas. Area is actively used for offroad vehicles, including some of the larger drainages that double as roads.

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Checklist of resources (if available):

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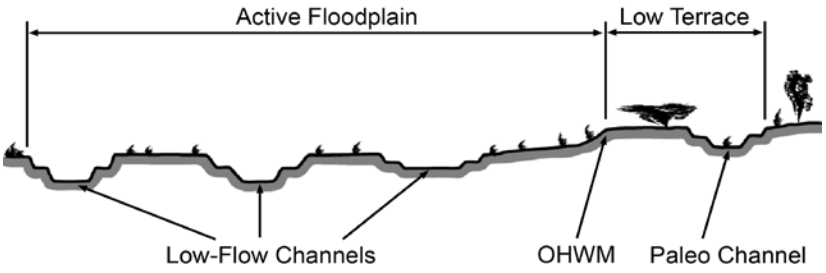
  Dates: 1953-2015
- [x] Topographic maps
- [ ] Geologic maps
- [x] Vegetation maps
- [x] Soils maps
- [x] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [x] Global positioning system (GPS)
- [ ] Other studies
- [ ] Stream gage data
  Gage number:
  Period of record:
- [ ] History of recent effective discharges
- [ ] Results of flood frequency analysis
- [ ] Most recent shift-adjusted rating
- [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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   - [ ] Digitized on computer
   - [ ] Other:

PC ORIGINAL PKG

Wentworth Size Classes

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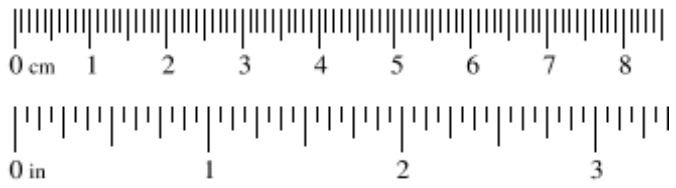
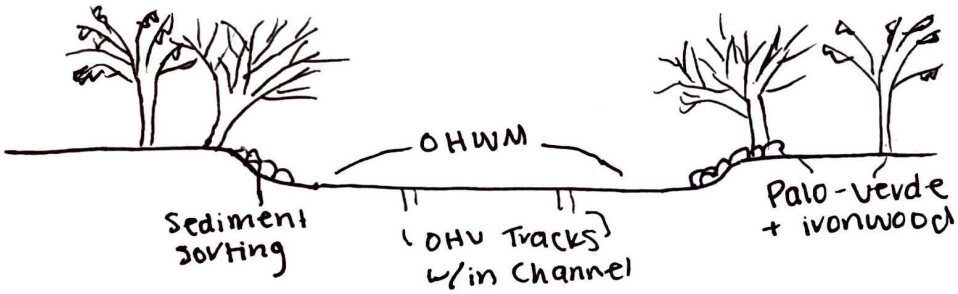
10.08	256	Boulder	
		Cobble	Gravel
2.56	64	Pebble	
0.157	4	Granule	
0.079	2.00	Very coarse sand	
0.039	1.00	Coarse sand	
0.020	0.50	Medium sand	Sand
1/2 0.0098	0.25	Fine sand	
1/4 0.005	0.125	Very fine sand	
1/8 0.0025	0.0625	Coarse silt	
1/16 0.0012	0.031	Medium silt	
1/32 0.00061	0.0156	Fine silt	Silt
1/64 0.00031	0.0078	Very fine silt	
1/128 0.00015	0.0039	Clay	Mud



PC ORIGINAL PKG

Project ID: Vega SES 2/3 **Cross section ID:** ED-3004 (#101) **Date:** 11/11/2020 **Time:** 10:00 AM

Cross section drawing:



OHWM

GPS point: 32.215538, -115.411027

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Large drainage also being used as a road for OHV. Riparian habitat associated with drainage system.
OHWM: 10' width, 2" depth
B2B: 45' width, 2' depth

Floodplain unit:

[x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: 32.215538, -115.411027

Characteristics of the floodplain unit:

Average sediment texture: Medium Sand
Total veg cover: 10 % Tree: 10 % Shrub: 0 % Herb: 0 %
Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [x] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [x] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Channel itself is unvegetated. Blue palo-verde and ironwood line the banks, with occasional creosote bush further downstream. A number of channels branch off the main drainage that flows into Siphon Five.

PC ORIGINAL PKG

Project ID: **Cross section ID:** **Date:** **Time:**

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

PC ORIGINAL PKG

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Vega SES 2/3
Project Number:
Stream: ED-3002 (Cross section #102)
Investigator(s): C. Torres, G. Hampton

Date: 11/9/2020 **Time:** 1:20 PM
Town: Calipatria **State:** CA
Photo begin file#: **Photo end file#:**

Y [X] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [X] Is the site significantly disturbed?

Location Details: Cross section taken at Siphon 6 where the associated drainage system crosses Coachella Canal.

Projection: **Datum:** NAD83
Coordinates:

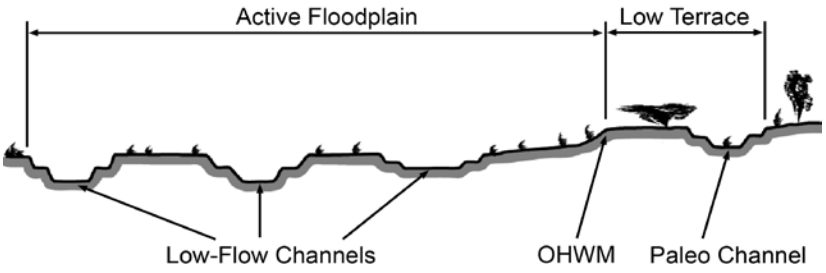
Potential anthropogenic influences on the channel system: Drainage system is diverted over the Coachella Canal via a series of Siphons: Siphon 4, Siphon 5, and Siphon 6. Manmade berms that serve to divert surface flow are present along the railroad, canal, and other areas within the Study Areas. Active agriculture is adjacent to the northwest portion of the Study Areas. Area is actively used for offroad vehicles, including some of the larger drainages that double as roads.

Brief site description: The Study Areas and adjacent Chocolate Mountains are part of an alluvial fan drainage system. The Coachella Canal bisects Study Areas 2 and 3. Unlined, manmade retention basins are located directly west of and run parallel to the Coachella Canal. A railroad right-of-way borders the southwestern portion of the site, and a drainage system flows southwest under the railroad via a concrete underpass. Drainages flow southwest in direction of the East Highline Canal.

Checklist of resources (if available):

- [X] Aerial photography
  Dates: 1953-2015
- [X] Topographic maps
- [ ] Geologic maps
- [X] Vegetation maps
- [X] Soils maps
- [X] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [X] Global positioning system (GPS)
- [ ] Other studies
- [ ] Stream gage data
  Gage number:
  Period of record:
- [ ] History of recent effective discharges
- [ ] Results of flood frequency analysis
- [ ] Most recent shift-adjusted rating
- [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



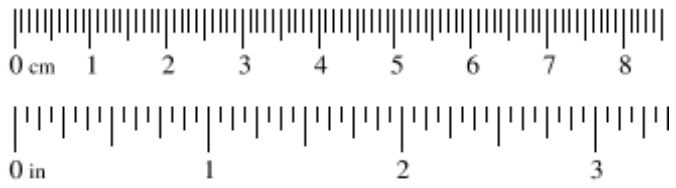
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - [ ] Mapping on aerial photograph
   - [X] GPS
   - [ ] Digitized on computer
   - [ ] Other:

PC ORIGINAL PKG

Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	
		Cobble	Gravel
2.56	64	Pebble	
0.157	4	Granule	
0.079	2.00	Very coarse sand	
0.039	1.00	Coarse sand	
0.020	0.50	Medium sand	Sand
1/2 0.0098	0.25	Fine sand	
1/4 0.005	0.125	Very fine sand	
1/8 0.0025	0.0625	Coarse silt	
1/16 0.0012	0.031	Medium silt	
1/32 0.00061	0.0156	Fine silt	Silt
1/64 0.00031	0.0078	Very fine silt	
1/128 0.00015	0.0039	Clay	Mud



PC ORIGINAL PKG

Project ID: Vega SES 2/3 **Cross section ID:** ED-3002 (#102) **Date:** 11/9/2020 **Time:** 1:20 PM

Cross section drawing:

OHWM

GPS point: 33.231588, -115.422418

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Large drainage also being used as a road for OHV. Riparian habitat associated with drainage system. Slight break in bed and bank.
OHWM: 25' width, 2" depth
B2B: 30' width, 5" depth

Floodplain unit:

- [x] Low-Flow Channel
- [ ] Active Floodplain
- [ ] Low Terrace

GPS point: 33.231588, -115.422418

Characteristics of the floodplain unit:

Average sediment texture: Medium sand
Total veg cover: 12 % Tree: 12 % Shrub: _____% Herb: _____%
Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [x] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [x] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Channel itself is unvegetated. Palo verde-ironwood woodland on banks, with scattered individuals of creosote bush. A number of braided channels offshoot from main drainage that leads into Siphon Six.

PC ORIGINAL PKG

Project ID: **Cross section ID:** **Date:** **Time:**

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

PC ORIGINAL PKG

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Vega SES 2/3
Project Number:
Stream: ED-3001 (Cross section #200)
Investigator(s): C. Congedo, C. Torres

Date: 09/29/2020
Town: Calipatria
Photo begin file#:

Time: 10:30AM
State: CA
Photo end file#:

Y [x] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [x] Is the site significantly disturbed?

Location Details: Cross section taken of ID-01 adjacent to railroad right-of-way at northeast portion of Project Area.

Projection:
Datum: NAD83
Coordinates:

Potential anthropogenic influences on the channel system:
Channel diverted under railroad tracks using a concrete culvert, and drainage system eventually meets with the East Highline Canal at the southwest end of the site. Lateral canals divert water from the East Highline Canal to active agriculture that is adjacent to the Project Area.

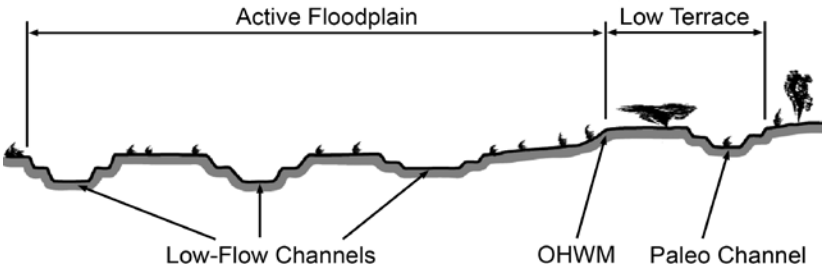
Brief site description: The East Highline Canal bisects the western portion of the Study Area, and the Study Area is bordered by a railroad right-of-way to the northeast. The portion of the site that is southwest of the canal consists of undeveloped land that was historically used for agriculture. The portion of the site that is northeast of the canal is comprised of a drainage system and associated wetland and riparian habitats. Wetland habitat lines both sides of the East Highline Canal.

Checklist of resources (if available):

- [x] Aerial photography
  Dates: 1953- 2015
- [x] Topographic maps
- [ ] Geologic maps
- [x] Vegetation maps
- [x] Soils maps
- [x] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [x] Global positioning system (GPS)
- [ ] Other studies

- [ ] Stream gage data
  Gage number:
  Period of record:
- [ ] History of recent effective discharges
- [ ] Results of flood frequency analysis
- [ ] Most recent shift-adjusted rating
- [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



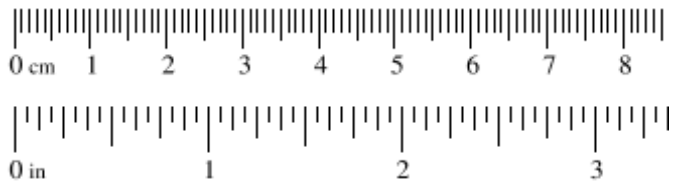
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - [ ] Mapping on aerial photograph
   - [ ] Digitized on computer
   - [x] GPS
   - [ ] Other:

PC ORIGINAL PKG

Wentworth Size Classes

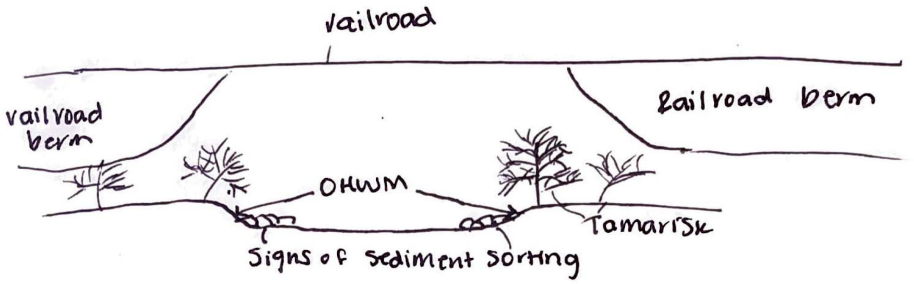
Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	
		Cobble	Gravel
2.56	64	Pebble	
0.157	4	Granule	
0.079	2.00	Very coarse sand	
0.039	1.00	Coarse sand	
0.020	0.50	Medium sand	Sand
1/2 0.0098	0.25	Fine sand	
1/4 0.005	0.125	Very fine sand	
1/8 0.0025	0.0625	Coarse silt	
1/16 0.0012	0.031	Medium silt	
1/32 0.00061	0.0156	Fine silt	Silt
1/64 0.00031	0.0078	Very fine silt	
1/128 0.00015	0.0039	Clay	Mud



PC ORIGINAL PKG

Project ID: Vega SES 5 **Cross section ID:** ED-3001 (#200) **Date:** 09/29/2020 **Time:** 10:30 AM

Cross section drawing:



OHWM

GPS point: 33.206767, -115.431705

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Cross section taken adjacent to railroad. Drainage width eventually increases further downstream as feature continues through site.
OHWM: 3' width, 4" depth
B2B: 4' width, 1' depth

Floodplain unit:

- [x] Low-Flow Channel
- [ ] Active Floodplain
- [ ] Low Terrace

GPS point: 33.206767, -115.431705

Characteristics of the floodplain unit:

Average sediment texture: Medium to fine sand
Total veg cover: 10 % Tree: 10 % Shrub: 0 % Herb: 0 %
Community successional stage:

- [ ] NA
- [x] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [x] Soil development
- [x] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Channel itself is unvegetated. *Tamarix* sp. present on banks of channel. Further downstream there a few scattered individuals of ironwood mixed with tamarisk.

PC ORIGINAL PKG

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 2 City/County: Calipatria/ Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 1

Investigator(s): G. Hampton and C. Torres Section, Township, Range: S8, T11S, R15E

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 15

Subregion (LRR): D Lat: 33.229181 Long: -115.424770 Datum: NAD83

Soil Map Unit Name: Rositas fine sand, wet, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Area adjacent to drainages and hard-packed dirt road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	2		FAC
2.			
3.			
4.			
	2	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 15')			
1. Schismus barbatus	5	x	N/A
2. Cryptantha angustifolia	3		N/A
3.			
4.			
5.			
6.			
7.			
8.			
	8	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 90 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	2	x 3 =	6
FACU species	0	x 4 =	0
UPL species	8	x 5 =	40
Column Totals:	10 (A)		46 (B)

Prevalence Index = B/A = 4.6

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Area mainly consists of dead tamarisk- branches and debris.

PC ORIGINAL PKG

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/3	100					Sandy loa	
3-9	10YR 4/4	100					Loamy sa	
9-13+	10YR 4/4	100					Loamy sa	Rock/gravel deposits in soil.

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ✓ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): _____

Water Table Present? Yes ____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 2 City/County: Calipatria/ Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 2

Investigator(s): G. Hampton and C. Torres Section, Township, Range: S8, T11S, R15E

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 15

Subregion (LRR): D Lat: 33.230137 Long: -115.425168 Datum: NAD83

Soil Map Unit Name: Rositas fine sand, wet, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Area adjacent to drainages and hard-packed dirt road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	3		FAC
2.			
3.			
4.			
	3	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 15')			
1. Schismus barbatus	10	x	N/A
2. Cryptantha angustifolia	2		N/A
3.			
4.			
5.			
6.			
7.			
8.			
	12	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 85 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	3	x 3 =	9
FACU species	0	x 4 =	0
UPL species	12	x 5 =	60
Column Totals:	15 (A)		69 (B)

Prevalence Index = B/A = 4.6

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Area mainly consists of dead tamarisk- branches and debris.

PC ORIGINAL PKG

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13+	10YR 4/4	100					Loamy sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

PC ORIGINAL PKG

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 2 City/County: Calipatria/ Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 3

Investigator(s): G. Hampton and C. Torres Section, Township, Range: S8, T11S, R15E

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Non Slope (%): 15

Subregion (LRR): D Lat: 33.230593 Long: -115.424544 Datum: NAD83

Soil Map Unit Name: Rositas fine sand, wet, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Area adjacent to drainages and hard-packed dirt road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	1		FAC
2.			
3.			
4.			
	1	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 15')			
1. Schismus barbatus	7	x	N/A
2. Cryptantha angustifolia	3		N/A
3.			
4.			
5.			
6.			
7.			
8.			
	10	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 89 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	1	x 3 =	3
FACU species	0	x 4 =	0
UPL species	10	x 5 =	50
Column Totals:	11 (A)		53 (B)

Prevalence Index = B/A = 4.8

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Area mainly consists of dead tamarisk- branches and debris.

PC ORIGINAL PKG

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/3	99	5YR 5/8	1	C	M	Silt loam	
3-13+	10YR 4/3	100					Loamy sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 2 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 551

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 8

Subregion (LRR): D Lat: 33.207607 Long: -115.430569 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Point taken ~250 feet northeast (upslope) of railroad right-of-way.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Tamarix sp.	20	x	FAC
2. Suaeda nigra	3		OBL
3.			
4.			
5.			
	23	= Total Cover	
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 77 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	23 (A)		63 (B)

Prevalence Index = B/A = 2.7

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 551

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 5/4	100					Loamy sa	Fine
6-8+	10YR 5/4	97	Gley 1, 2.5/N	3	C	M	Loamy sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 2 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 552

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Alluvial fan Local relief (concave, convex, none): Concave Slope (%): 8

Subregion (LRR): D Lat: 33.207840 Long: -115.431894 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Point taken ~110 feet northeast (upslope) of railroad right-of-way.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Suaeda nigra	5	x	OBL
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 95 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	5 (A)		5 (B)

Prevalence Index = B/A = 1.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 552

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 4/4	100					Silt loam	
4-7	7.5YR 5/4	100					Loamy sa	10% small/medium pebbles
7-10+	7.5YR 4/4	97	5YR 5/8	3	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

ATTACHMENT D

Representative Site Photographs

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Photo 9. View of Sampling Point 552 taken within alkali sink habitat at the southwest portion of Study Area 1 along the railroad tracks; photo facing southeast. November 11, 2020.

Photo 10. View of the riparian habitat associated with ED-3002 near Sampling Point 2 within the northwest portion of Study Area 2; photo facing southeast. November 11, 2020

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ATTACHMENT E

USACE ORM Aquatic Resources Table
(Provided as an accompanying electronic file)

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ATTACHMENT F

Digital Data
(Provided as accompanying electronic files)

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Aquatic Resources Delineation

Vega SES 5 Solar Project

Imperial County, California

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LIST OF ACRONYMS AND ABBREVIATIONS

Amsl	Above mean sea level
APN	Assessor's Parcel Number
APT	Antecedent Precipitation Tool
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CNPS	California Native Plant Society
CWA	Clean Water Act
FP	Freshwater pond
FSW	Forested/shrub wetlands
Gen-tie	Generator inter-tie
GIS	Geographic Information System
GPS	Global Positioning System
IID	Imperial Irrigation District
MW	Megawatt
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWPR	Navigable Waters Protection Rule
OHWM	Ordinary high-water mark
ORM	OMBIL Regulatory Module
Project	Vega SES 5 Solar Project
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
sUAS	Small unmanned aircraft system
SWQB	Surface Water Quality Bureau
SWRCB	State Water Resources Control Board
TNW	Traditional navigable water
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency

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LIST OF ACRONYMS AND ABBREVIATIONS

USGS	U.S. Geological Survey
WDR	Waste discharge regulation

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1.0 INTRODUCTION

This aquatic resources delineation report was prepared to describe the aquatic resources at the Vega SES 5 Solar Project (Project). The proposed Project is a 50-megawatt (MW) alternating current solar photovoltaic energy project with an integrated 50-MW battery storage utility-scale solar project located on approximately 405 acres of land (*Project Area*) on three private parcels in Imperial County, California (Assessor Parcel Numbers [APNs] 025-260-022-000, 025-260-019-000, and a portion of 025-260-011-000). For the purposes of this report, the term *Impact Area* refers to the area proposed to be directly affected by implementation of the Project and corresponds to the client supplied project impact boundary.

The Project Area is approximately 10 miles east of the Salton Sea and five miles east of the Chocolate Mountains (Figure 1. *Project Location and Vicinity*). The Project Area corresponds to portions of Sections 8, 16, 17, 18, 19, and 20; Township 11 South; and Range 15 East (San Bernardino Base and Meridian) of the "Iris, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1992). The approximate center of the Project Area is located at 33.206020° latitude and -115.440959° longitude within the Salton Sea Watershed (Hydrologic Unit Code #18100204, Natural Resources Conservation Service [NRCS], USGS, and U.S. Environmental Protection Agency [USEPA] 2016). Driving directions to the site are included as Attachment A.

This report describes aquatic resources identified within the Impact Area that may be regulated by the Porter-Cologne Water Quality Act, California Fish and Game Code Section 1600 and 1602, and the U.S. Army Corps of Engineers (USACE) pursuant to Sections 401 and 404 of the federal Clean Water Act (CWA). The information presented in this report provides data required by the USACE Los Angeles District's *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (USACE 2016). The aquatic resource boundaries depicted in this report represent a calculated estimation of the potentially jurisdictional area within the Impact Area and are subject to modification following a verification process by each regulating agency.

The original area surveyed in 2020 and 2021 included a larger footprint. This area was the Project Area plus a 500-foot buffer. The Impact Area of the Project was refined in 2022. Therefore, the original 2020 and 2021 survey area, including features mapped and sample points collected outside of the updated Impact Areas are shown on the figures to provide context. However, this report is intended to provide information to support USACE review and verification for features within the Impact Area only.

2.0 REGULATORY SETTING

2.1 Clean Water Act

The USACE regulates discharge of dredged or fill material into waters of the U.S. under Section 404 of the CWA. "Discharges of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to, the following: placement of fill necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road

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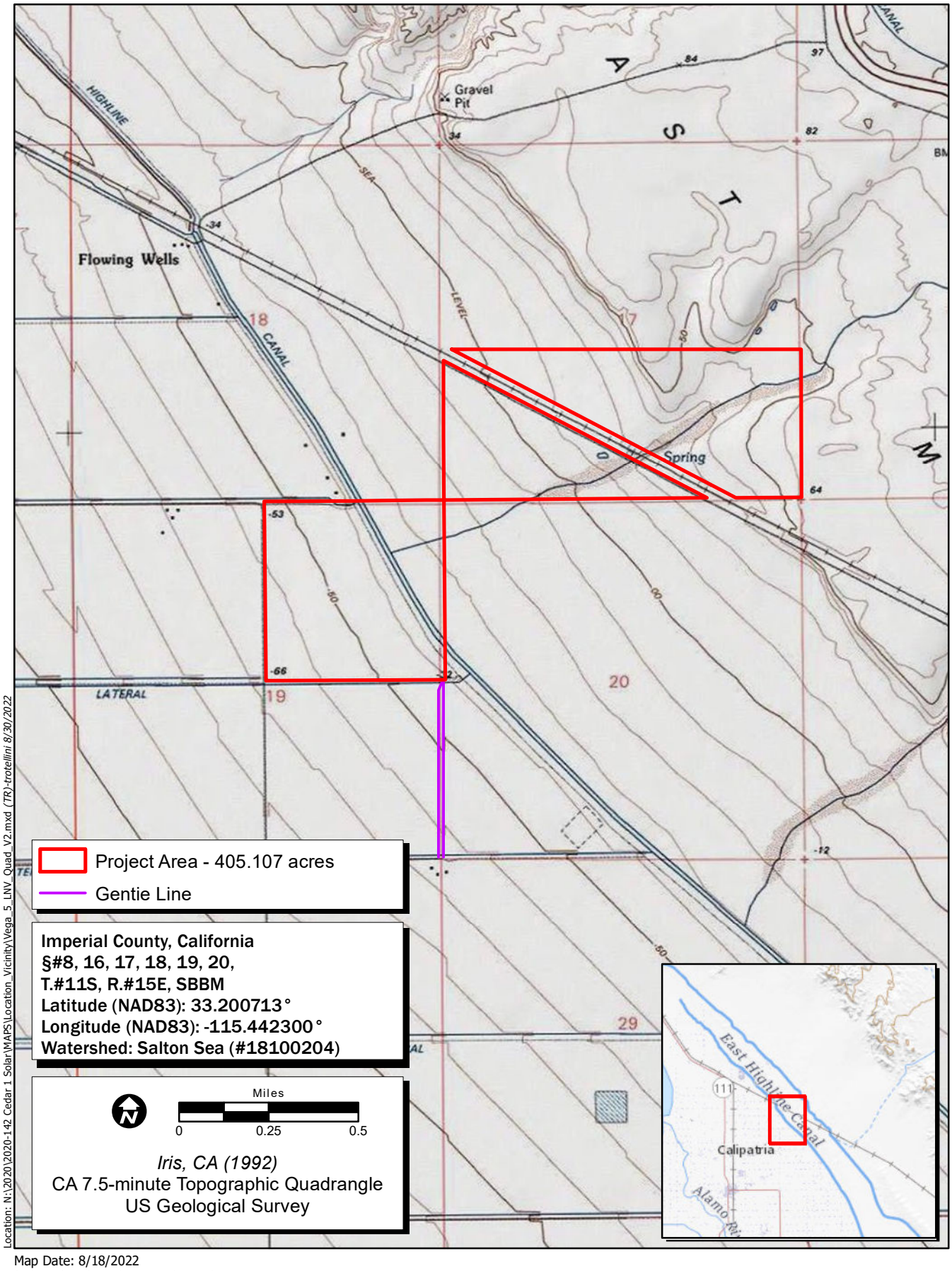

Location: N:\2020\2020-142 Cedar 1 Solar\MAPS\Location_Vicinity\Vega_5_LNV_Quad_V2.mxd (TR)-trotellini 8/30/2022

Map Date: 8/18/2022

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Figure 1. Project Location and Vicinity

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fills; and fill for intake and outfall pipes, and subaqueous utility lines [33 CFR § 328.2(f)]. In addition, Section 401 of the CWA (33 U.S. Code 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Substantial impacts to wetlands, over 0.5 acre of impact, may require an individual permit. Projects that only minimally affect wetlands, less than 0.5 acre of impact, may meet the conditions of one of the existing Nationwide Permits. A RWQCB Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for USACE Section 404 permit actions.

Pursuant to the USEPA and USACE memorandum regarding CWA jurisdiction, issued following the U.S. Supreme Court's decision in the consolidated cases Rapanos v. United States and Carabell v. United States (herein referred to as Rapanos), the agencies will assert jurisdiction over the following waters: "Traditional Navigable Waters" (TNW), all wetlands adjacent to TNWs, non-navigable tributaries of TNWs that are "relatively permanent" waters (RPW) (i.e., tributaries that typically flow year-round or have continuous flow at least seasonally), and wetlands that directly abut such tributaries (USEPA and USACE 2007).

Waters requiring a significant nexus determination by the USACE and USEPA to establish jurisdiction include non-navigable tributaries that are not relatively permanent, wetlands adjacent to non-navigable tributaries that are not relatively permanent, and wetlands adjacent to but do not directly abut a relatively permanent non-navigable tributary (USEPA and USACE 2007). The jurisdictional determination is a fact-based evaluation to establish whether a water has a significant nexus with a TNW. The significant nexus analysis will assess the flow characteristics and functions of the non-navigable tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream TNWs (USEPA and USACE 2007).

2.2 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (hereafter referred to as Porter-Cologne Act) provides a framework to protect water quality in California. The Porter-Cologne Act was enacted in 1969 as Division 7 of the Water Code and is the primary water quality law in California. The Porter-Cologne Act addresses two primary functions: water quality control planning and waste discharge regulation (WDR). The State Legislature, in adopting the Porter-Cologne Act, directed that California's waters "shall be regulated to attain the highest water quality which is reasonable" and charges the Water Boards with protecting all waters of California, defined as "any surface water or groundwater, including saline waters, within the boundaries of the State." This encompasses all Waters of the State, including those not under federal jurisdiction.

The Porter-Cologne Act regulates discharges that could affect the quality of water of surface or ground waters, wherever those discharges may occur. Under the Porter-Cologne Act, the Water Board regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" [Water Code 13260(a)]. Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" [Water Code 13050 (e)].

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The Porter Cologne Act defines "Waters of the State" very broadly, with no physical descriptors, and no interstate commerce limitation.

The Porter-Cologne Act further requires that anyone who plans to discharge waste where it might affect Waters of the State must first notify the Water Boards. The Water Boards identify the sources of pollutants that threaten water quality under the Porter-Cologne Act and regulate waste discharges that could affect water quality by issuing WDRs. The State Water Resources Control Board (SWRCB) adopted the *State Wetland Definition and Procedures for Discharge of Dredged or Fill Material into Waters of the U.S.* in April 2019. The Water Board regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by USACE due to a lack of connectivity with a navigable water body. The Water Board may require issuance of a WDR for these activities. If a project impacts Waters of the State that do not fall under federal jurisdiction, the applicant need not obtain a section 404 permit or a 401 certification, but instead must receive approval from the Water Boards through the adoption of WDRs.

2.3 California Fish and Game Code Section 1602

Pursuant to Section 1602 of the California Fish and Game Code, a Streambed Alteration Agreement (SAA) application must be submitted for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake" (California Department of Fish and Wildlife [CDFW] 2020). In Title 14 of the California Code of Regulations, Section 1.72, the CDFW defines a *stream* (including creeks and rivers) as:

> "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

The CDFW's jurisdiction includes drainages with a definable bed, bank, or channel with the jurisdictional limit being the top-of-bank. It also includes areas that support intermittent, perennial, or subsurface flows; supports fish or other aquatic life; or supports riparian or hydrophytic vegetation. It also includes areas that have a hydrologic source.

The CDFW will determine if the proposed actions will result in diversion, obstruction, or change of the natural flow, bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. The CDFW will submit an SAA that includes measures to protect affected fish and wildlife resources; this SAA is the final proposal agreed upon by the CDFW and the applicant.

A summary of federal, state, and local regulations and corresponding regulating agencies are summarized in Table 1.

Table 1. Summary of Federal, State, and Local Regulations

Regulation	Resource	Regulating Agency
Federal Regulations		
Federal Clean Water Act	Aquatic features meeting the definition of Waters of the US	USACE

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State Regulations		
California Fish and Game Code Section 1602	River, stream, or lake and associated riparian habitat	CDFW
Porter-Cologne Act	Aquatic features meeting the definition of Waters of the State	SWRCB/RWQCB

3.0 METHODS

3.1 Pre-Survey Investigations

Due to the size of the area and limited road access, an initial survey utilizing a small Unmanned Aircraft System (sUAS) was conducted to assess current site conditions and gather high-resolution imagery. The sUAS survey was conducted on September 9, 2020. Photos collected during the sUAS survey were then combined into a single orthomosaic image that was incorporated into mapping files in a Geographic Information System (GIS). Potential aquatic resources, specifically drainages, within the Project Area were digitized prior to the field survey using the sUAS imagery. Prior to conducting the field delineations, the following resources were reviewed to identify potential aquatic resources: sUAS imagery, satellite aerial imagery (ESRI 2020; Google Earth 2015; USDA 2018), the National Wetlands Database, the online web soil survey (NRCS 2020a), and a hydric soils list for the area (NRCS 2020c).

3.2 Field Survey Investigation

This aquatic resources delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b), the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2010), and the State of New Mexico's *Hydrology Protocol for the Determination of Ephemeral, Intermittent, and Perennial Waters* (Surface Water Quality Bureau [SWQB] 2010). Field data was recorded on Wetland Determination Data Forms - Arid West Region and Arid West OHWM Datasheets. ESRI© and sUAS aerial imagery were used to assist with mapping and ground-truthing. *Munsell Soil Color Charts* (Kollmorgen Instruments Co. 1990) and the Web Soil Survey (NRCS 2020a) were used to aid in identifying hydric soils in the field. The Jepson Manual, 2nd Edition (Baldwin et al. 2012) and the USACE National Wetland Plant List (USACE 2018) were used for plant nomenclature and identification.

Digitized feature boundaries identified during the pre-survey investigation were then verified in the field. Feature boundary modifications, if necessary, were made in the field using a post-processing capable global positioning system unit with sub-meter accuracy (EOS Arrow 100 GNSS). Where aquatic features were present, the extent of potential Waters of the U.S. and CDFW-regulated streambed and top-of-bank limits were determined using the OHWM in accordance with USACE requirements and guidelines, as well as SWRCB and CDFW delineation guidance. Streambed widths were based on evidence of OHWM as observed during the field survey, and streambed widths and other lateral limits of jurisdiction were calculated and recorded. Bank-to-bank width measures were also recorded and used as a measure of

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CDFW jurisdictional boundary where features lacked riparian vegetation. The extent of associated riparian habitat was based on the canopy of the riparian community within or directly adjacent to the streambed that is likely influenced by the hydrology of the streambed. In addition, each of the drainages were evaluated for the presence or absence of sediment deposits, litter/debris, water stains, soil shelving, or exposed roots indicating active hydrology within the channel. Streambed widths and other lateral limits of jurisdiction were calculated and recorded. Bank-to-bank width measures were also recorded and used as a measure of CDFW jurisdictional boundary where features lacked riparian vegetation. The extent of associated riparian habitat was based on the canopy of the riparian community within or directly adjacent to the streambed that is likely deriving benefit from the hydrology of the streambed. In addition, stream conditions were assessed based on the SWQB protocol to classify features as ephemeral, intermittent, or perennial waters. A combination of hydrological, geomorphic and biological indicators was used to determine the hydrologic nature of each drainage. Each channel was also evaluated for the presence or absence of OHWM field indicators such as bed and bank, a natural line impressed in the bank, sediment deposits, changes in the character of soil, destruction of terrestrial vegetation, litter/debris, leaf litter disturbance, water stains, soil shelving, and exposed roots indicating active hydrology within the channel.

Due to the alluvial fan system within the Project Area, ephemeral channels identified during the pre-survey investigation were assessed in the field to determine if active hydrology occurred within the channel. Ephemeral features were assessed on a case-by-case basis and determined to be active or inactive based on the number of OHWM features present and the presence of riparian vegetation. In general, ephemeral features were considered active if the feature exhibited at least two OHWM indicators and supported riparian vegetation. These active ephemeral drainages were mapped upstream of existing riparian vegetation to the extent that two or more OHWM indicators were present. Whereas channels mapped during the pre-survey that only exhibited one OHWM indicator were classified as inactive erosional channels, or rills. Channels classified as active are those that are presumed to regularly transport water during rain events, and channels classified as inactive do not regularly transport water during rain events and are relic remains of large rain events.

The boundaries of the aquatic resources were delineated through standard field methods (e.g., paired sample set analyses) and aerial photograph interpretation. Paired locations were sampled to evaluate whether the vegetation, hydrology, and soils data supported an aquatic resource determination. At each paired location, one point was located such that it was within the estimated aquatic resource area, and the other point was situated outside the limits of the estimated aquatic resource area. Additional non-paired locations were sampled to confirm boundaries. All aquatic features observed within the Project Area were recorded in the field using a post-processing capable Global Positioning System (GPS) unit with sub-meter accuracy (e.g., Juniper Geode™). Feature characteristics and measurements were recorded directly into the data dictionary in the GPS unit. Characteristics of mapped features were also documented in photographs.

Field surveys were conducted on six days (September 29-30, November 9-11, 2020, and January 25, 2021) by ECORP delineation specialists Christina Congedo, Jessie Beckman, and Caroline Garcia. The September field surveys were general field reconnaissance of the Project Area to identify areas supporting potential state and federal jurisdictional waters. The November and January field surveys were a formal delineation

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conducted to verify preliminary results observed in the September surveys and to collect additional data and photographs. The entire Project Area was visually surveyed to determine the location and extent of aquatic resources, and special attention was given to the features identified during the preliminary survey described above.

3.3 Post-Processing

The data collected in the field utilized ArcGIS™ Collector on a device (smartphone or tablet) connected to a submeter external receiver. The submeter receiver applies differential correction instantaneously in the field using the Satellite Based Augmentation System. The data were then viewed and analyzed for verification, edited, and compiled in GIS format at the time of download. ArcGIS™ software was used to develop the geodatabase and the shapefiles depicted on the figures included in this report.

4.0 RESULTS

4.1 Existing Site Conditions

The Project Area is located within relatively flat to gently sloping terrain situated at an elevational range of approximately -20 meters (-65 feet) and 22 meters (71 feet) above mean sea level (amsl) in the Sonoran Desert Region of the Desert Province (Baldwin et. al. 2012). The average winter low temperature in the vicinity of the Project Area is 41.7 degrees Fahrenheit (˚F) and the average summer high temperature is 104.7˚F. Average annual precipitation for Imperial, California is approximately 2.90 inches, which falls as rain (National Oceanic and Atmospheric Administration [NOAA] 2020a). During the 2019-2020 rain year prior to the to the November field survey (October 1, 2019 to April 30, 2020), approximately 4.74 inches of precipitation were recorded at the Imperial, CA weather station located approximately 25 miles southwest of the Project Area (NOAA 2020b). The most recent significant precipitation event prior to the surveys occurred April 8-11, 2020, with a total of 0.80 inches of rainfall accumulating over four days.

A typical year analysis of the Project Area via a single point method was conducted using the USACE Antecedent Precipitation Tool (APT, USACE 2021). The APT is an automation tool that utilizes standardized methodology to calculate precipitation normalcy at a given location using publicly available data sources. The APT analysis determines whether precipitation, drought, and other climatic conditions from the previous three months are *wet*, *normal*, or *dry* for the geographic area based on a rolling 30-year period (USEPA 2021). The APT was run for the dates the wetland delineation data were collected between September 29, 2020 and January 25, 2021. The APT demonstrated the site conditions on these dates represent a time of year referenced as the dry season, that the general region and site were in a moderate to severe drought, and that site conditions were normal to wetter than normal in climatic conditions.

The southwestern portion of the Project Area is primarily composed of undeveloped land that was historically used for agriculture. The northeastern section is comprised of an ephemeral drainage and associated wetland and riparian habitats. The ephemeral drainage system (ED-3001) associated with Siphon Five runs northeast-southwest through the Project Area. A majority of ED-3001 is located outside of the Impact Area. The East Highline Canal bisects the western portion of the Project Area, and the Project Area is bisected by a railroad right-of-way in the northeastern portion of the Project Area. The

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Project Area is surrounded to the west and south by agricultural fields and undeveloped land to the north, east, and southeast.

4.1.1 Vegetation Communities

The western portion of the Project Area is primarily composed of active and fallow agriculture. The eastern portion of the Project Area is primarily composed of a braided ephemeral drainage system with riparian scrub and wetland habitats. The Impact Area supports three vegetation communities: bush seepweed (*Suaeda nigra*) scrub, creosote bush (*Larrea tridentata*) scrub, and tamarisk (*Tamarix* spp.) thickets. The Impact Area also includes the following land cover types: fallow agricultural land and urban/developed. Two additional land cover types, iodine bush (*Allenrolfea occidentalis*) scrub and active agricultural land, were observed within the buffer, but not within the Impact Area. Descriptions of the vegetation communities and land cover within the Impact Area only are provided below.

Vegetation Communities with the Impact Area

Bush seepweed scrub is typically found in flat to gently sloping valley bottoms, playas, toe slopes adjacent to alluvial fans, and bajadas (CNPS 2020). Bush seepweed scrub is found within an alkali sink that makes up most of the eastern portion of the Impact Area. Alkali sinks are composed of poorly drained soils with high salinity and/or alkalinity from evaporation of water that accumulates in closed drainages. These sinks are often seasonally inundated and lose water through evaporation. Within the Impact Area, bush sweepweed dominated the shrub cover with occasional occurrences of four-wing saltbush (*Atriplex canescens*), arrow weed (*Pluchea sercia*), big saltbush (*Atriplex lentiformis*), alkali goldenbush (*Isocoma acradenia*), and tamarisk.

Creosote bush scrub is typically found on alluvial fans, bajadas, upland slopes, and washes (CNPS 2020). Within the Impact Area, creosote bush scrub is located in the upland areas adjacent to the alkali sink and is dominated by a nearly monotypic stand of creosote bush with an open canopy and an herbaceous layer of seasonal annuals and perennials. Creosote was typically dominant in the shrub canopy, but occasionally was co-dominant with white bursage (*Ambrosia dumosa*), with an absent to intermittent herbaceous layer of seasonal annuals. Other plant species include four-wing saltbush, big saltbush, Mediterranean grass (*Schismus barbatus*) and occasional bush seepweed on the banks of established drainages.

Tamarisk thickets are typically found in sandy or gravelly braided washes or streams, areas where evaporation is high therefore increasing the saltiness. Within the Impact Area, tamarisk thickets are located within the ephemeral drainage and within the wetlands adjacent to East Highline Canal, and are characterized by a weedy, monoculture of tamarisk. Within the Impact Area, tamarisk and arrow weed were often co-dominant in this vegetation community. Other plant species observed include arrow weed, bush seepweed, four-wing saltbush, and big saltbush.

Land Cover Types within the Impact Area

Fallow agricultural lands include remnant signs of row crops with open space between rows. Agricultural lands often occur in upland areas with high soil quality, or floodplains and are almost always artificially irrigated. This land cover was observed in the southwestern portion of the Impact Area. With the Impact

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Area, this land cover consisted primarily of ruderal vegetation including bush seepweed, amaranth (*Amaranthus* sp.), sudangrass (*Sorghum bicolor* ssp. *drummondii*), and occasional big saltbush.

Urban/Developed areas do not constitute a vegetation classification, but rather a land cover type. Areas mapped as developed have been constructed upon or otherwise physically altered to an extent that natural vegetation communities are no longer supported. There may be irrigated landscaped, ornamental species present between the hardscape. Within the Impact Area, this land cover consisted primarily of compacted dirt roads, structures, including utility towers.

4.1.2 Soils

According to the Web Soil Survey (NRCS 2020a), eight soil units, or types, have been mapped within the Project Area (Figure 2. *Natural Resources Conservation Service Soil Types*). These include:

- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 115 - Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes
- 122 - Meloland very fine sandy loam, wet
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 141 - Torriorthents and Orthids, 5 to 30 percent slopes
- 142 - Vint loamy very fine sand, wet
- 144 - Vint and Indio very fine sandy loams, wet
- 145 - Water

The Niland gravelly sand (124) and the Niland gravelly sand, wet map units (125) both contain hydric minor components (NCRS 2020c). Three water state classes (dry, moist, and wet) are used as soil moisture status entries for map unit components and designate a mean monthly soil water state at a specified depth. A summary of characteristics based on official series descriptions for each of the soil series mapped within the alignments are provided below (NRCS 2020b).

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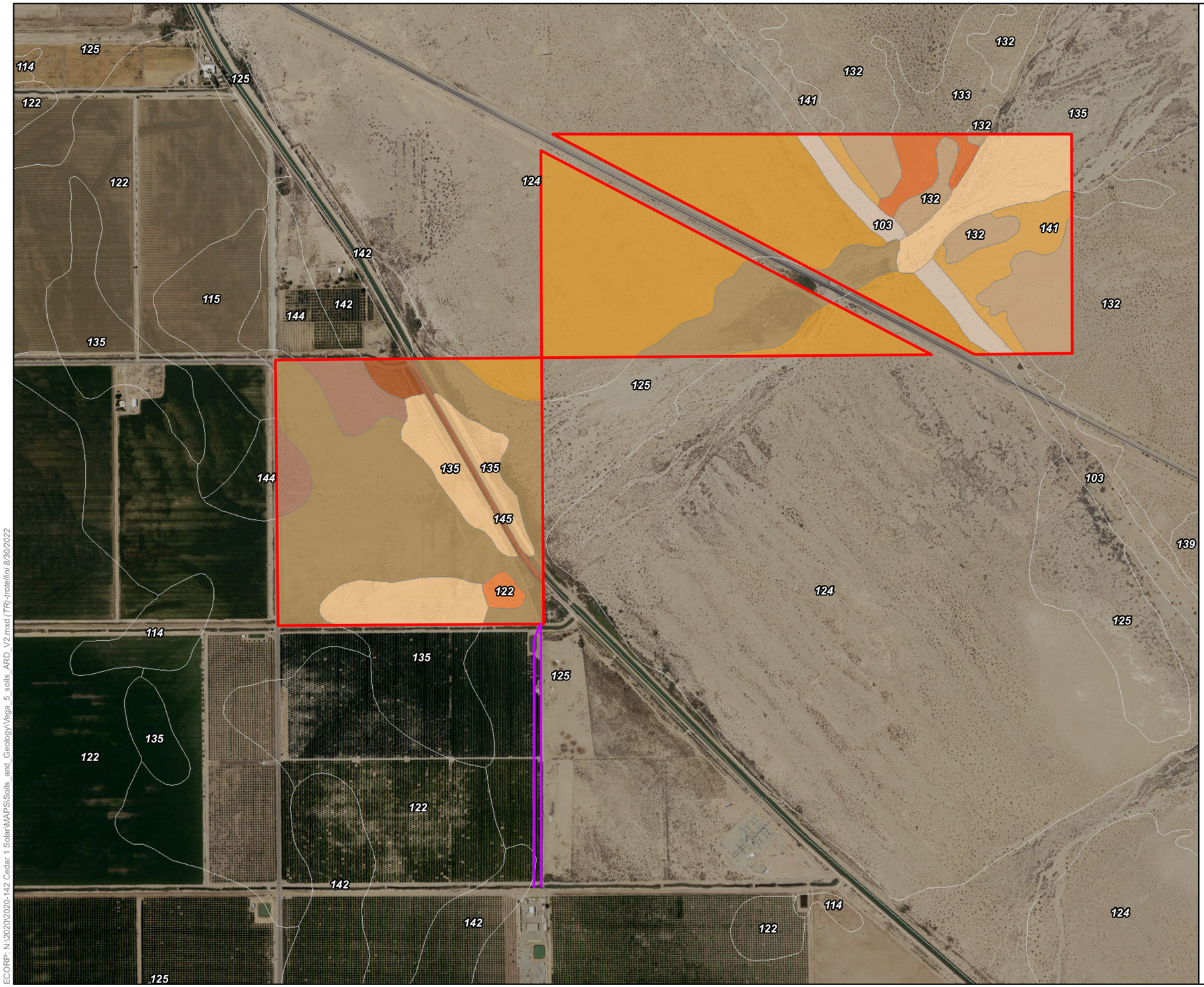

Map Features

- Project Area
- Gentie Line

Series Designation - Series Description

- 103 - Carsitas gravelly sand, 0 to 5 percent slopes
- 115 - Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes
- 122 - Meloland very fine sandy loam, wet
- 124 - Niland gravelly sand
- 125 - Niland gravelly sand, wet
- 132 - Rositas fine sand, 0 to 2 percent slopes
- 133 - Rositas fine sand, 2 to 9 percent slopes
- 135 - Rositas fine sand, wet, 0 to 2 percent slopes
- 141 - Torriorthents and Orthids, 5 to 30 percent slopes
- 142 - Vint loamy very fine sand, wet
- 144 - Vint and Indio very fine sandy loams, wet
- 145 - Water

Sources: NAIP (2018)

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Map Date: 8/30/2022

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Scale in Feet
0 1,000

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Figure 2. Natural Resources Conservation Service Soil Types

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Carsitas Series

The Carsitas series consists of very deep, somewhat excessively drained soils that formed in alluvium from granitoid and/or gneissic rocks. The Carsitas soils are on alluvial fans, fan aprons, valley fills, dissected remnants of alluvial fans and in drainageways. Slopes range from 0 to 30 percent. The mean annual precipitation is about three inches and the mean annual air temperature is about 77°F.

Imperial Series

The Imperial series consists very deep, well and moderately well-drained soils that formed in calcareous alluvium from mixed sources. The Imperial soils are nearly level to gently sloping are on flood plains and in old lake beds. The climate is arid with hot dry summers and cool dry winters. Average annual precipitation is less than four inches and the average annual temperature is about 72°F.

Glenbar Series

The Glenbar series consists of very deep, well-drained soils that formed in stratified stream alluvium. Glenbar soils are on flood plains and alluvial fans and have slopes of 0 to 3 percent. The mean annual precipitation is about seven inches and the mean annual air temperature is about 71°F.

Meloland Series

The Meloland series consists of naturally well-drained soils that commonly have perched water tables under irrigation. Typically, Meloland soils have light brown and very pale brown, calcareous very fine sandy loam, loamy fine sand, and silt loam upper horizons underlain by pink calcareous silty clay at depth of 26 inches that extends to a depth of 71 inches. Meloland soils are found in nearly level lacustrine basins and flood plains in the deserts. These soils have low to medium surface runoff and slow permeability.

Niland Series

The Niland series consists of well and moderately well-drained soils with slopes that formed in coarse mixed alluvium overlying fine alluvium at depths of less than 36 inches. Niland soils are on basin and floodplain edges and have slopes that are typically less than one percent, but can range up to five percent. Average annual precipitation is less than four inches and the average annual temperature is about 72°F.

Rositas Series

The Rositas series consists of very deep, somewhat excessively drained soils. These soils are formed in sandy eolian material and have less than 15 percent coarse and very coarse sand. Rositas soils are on dunes and sand sheets and have slopes that range from 0 to 30 percent. The mean annual precipitation is about four inches and the mean annual air temperature is about 72°F.

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Torriorthents and Orthids Series

The Torriorthents and Orthids series consists of deep, well drained to excessively drained soils formed on terrace escarpments and old alluvial fans dissected by geologic erosion. These soils are formed in mixed, unconsolidated alluvial sediment. These soils have rapid surface runoff and slow to rapid permeability.

Vint Series

The Vint series consists of very deep, somewhat excessively drained soils formed in stratified stream alluvium. These soils are on flood plains with a mean annual precipitation is about seven inches and the mean annual air temperature is about 71°F.

4.1.3 National Wetland Inventory

According to the National Wetlands Inventory (NWI, USFWS 2020a), there are four general types of drainage features mapped within the Project Area. These include freshwater pond, freshwater forested/shrub wetland, fluvial natural drainage features, and fluvial unnatural features (Figure 3. *National Wetland Inventory*).

4.1.4 Hydrology

The Project Area is within the Salton Sea Watershed (Hydrologic Unit Code #18100204, NRCS et al. 2016). The Project Area and adjacent upslope areas are within an alluvial fan drainage system that produces ephemeral conditions with surface waters flowing in direct response to large rain events for short durations. soils. A number of ephemeral features within the Project Area are relic remains of rain events and do not actively transport surface flow within the site; they would therefore be considered inactive ephemeral drainages. Furthermore, these features lack connectivity to the ephemeral system further upstream due to the presence of the railroad right-of-way.

The hydrology of the ephemeral system within the Project Area supports associated wetland, alkali sink, and riparian habitat. The ephemeral system ultimately drains into wetlands existing along the eastern end of the East Highline Canal, and additional wetlands exist along the western end of the canal. Runoff within the Project Area generally flows southwest from the direction of the Chocolate Mountains toward the East Highline Canal and associated wetlands. The East Highline Canal supplies water to the Imperial Valley via smaller lateral canals and drains that ultimately drain to the Salton Sea. The Salton Sea is a traditional navigable water (TNW) per Section 404 of the CWA.

4.2 Aquatic Resources

Aquatic resources have been mapped within the Impact Area; each resource is summarized by feature in Table 2 and depicted on Figure 4. *Aquatic Resources Delineation*. The regulated limits that are presented in Table 2 serve as an estimate and are subject to agency verification. Features identified as an aquatic resource had wetland indicators present and/or physical evidence of flow including OHWM, defined bed and bank, scour, presence of a clear and natural line impressed on the bank, disturbance of leaf litter, the presence or absence of sediment deposits, changes in the character of soil, destruction of terrestrial vegetation, and/or exposed roots indicating active hydrology within the channel.

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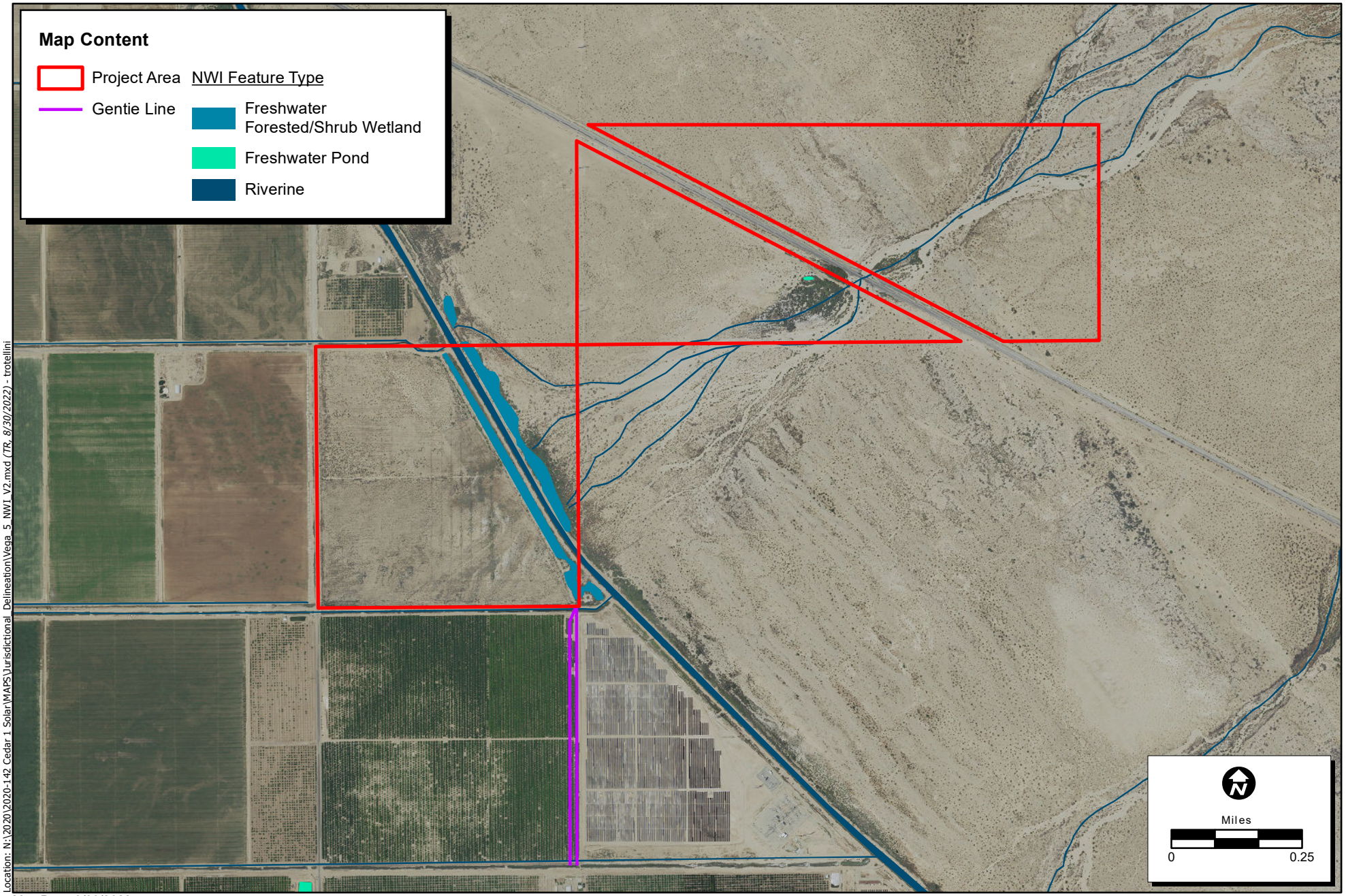

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Map Date: 8/30/2022
Photo Source: NAIP (2020)

Figure 3. National Wetland Inventory

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Table 2. Aquatic Resources within the Impact Area

Resource Name[1]	Aquatic Resources Classification		Flow Regime; OHWM; Wetland Summary	Dominant Vegetation	Resource Size (acre)	Resource Size (linear feet)	Feature Width[3]	Riparian Habitat Size (acres)[4]
	Cowardin[2]	Location (lat/long)						
ED-3001	R6	33.20708933, -115.4308437	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	1.433	1092.817	300	61.505
ED-28	R6	33.20652851, -115.4310019	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.033	88.544	15	N/A
ED-951	R6	33.20618897, -115.432043	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.008	25.806	100	N/A
ED-1034	R6	33.20608786, -115.4317562	Ephemeral; clear OHWM indicators observed, evidence of recent flow; non-wetland.	Unvegetated	0.061	20.695	25	N/A
Unassociated Riparian Habitat	N/A	33.19838717, -115.4489476	Relic feature with riparian habitat persisting; hydrology that was diverted for cropland has been redirected and no longer exists; non-wetland. Associated with N Lateral.	Tamarisk Thickets	N/A	N/A	N/A	0.680
Total	N/A	N/A	N/A	N/A	1.535	1227.862	N/A	62.185

[1]ED= Ephemeral Drainage
[2]Cowardin Codes: (R6) Riverine, Ephemeral (USFWS 2020b).
[3] Bank-to-bank width.
[4]Includes Alkali Sink and Riparian Habitat acreages.

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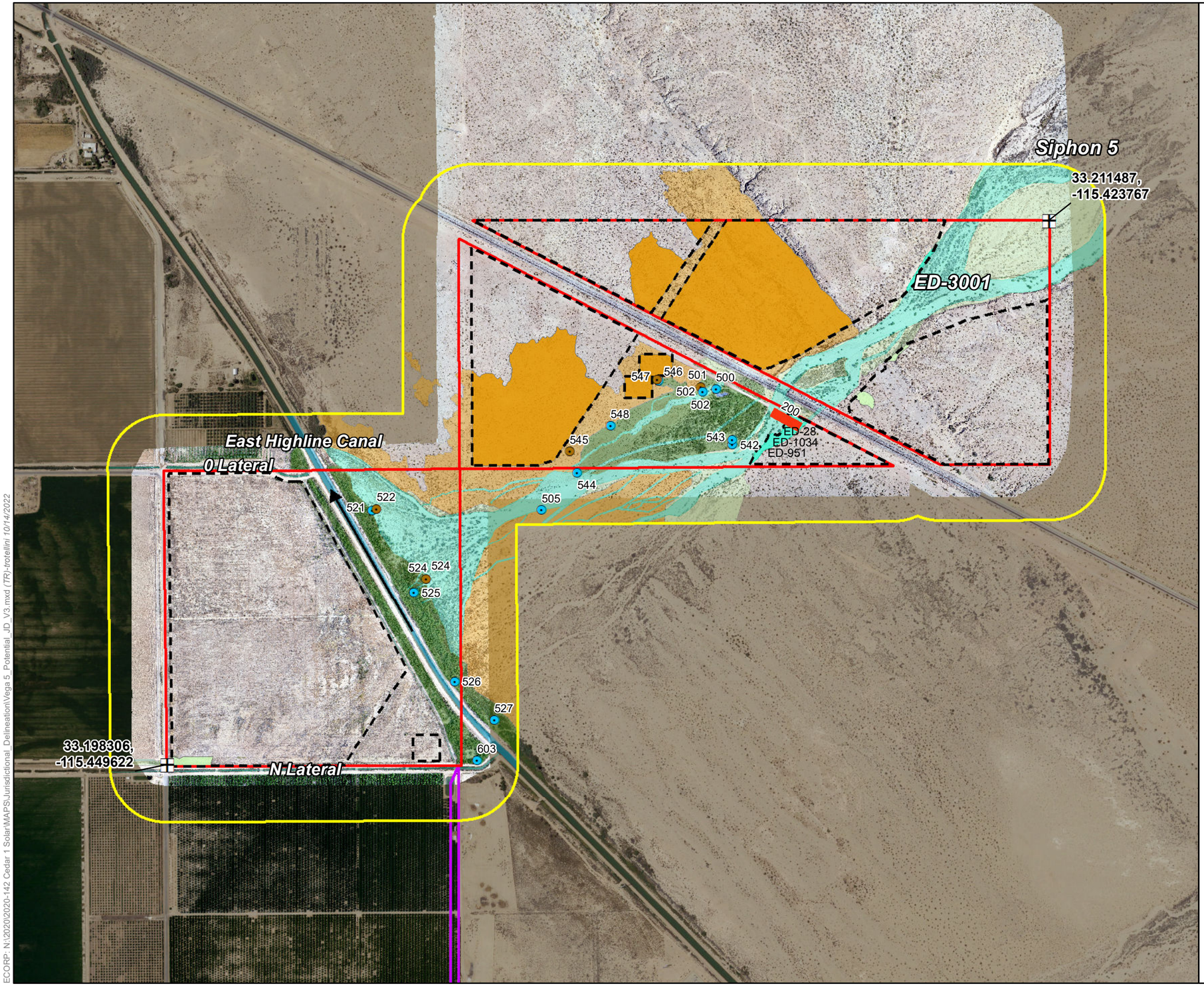


Map Features

- Project Area
- Impact Areas
- 500-ft Buffer (2020 & 2021 Survey Area)
- Gentie Line
- Reference Point
- Flow to TNW
- OHWM Cross Section

Features within Impact Area

- Ephemeral Drainage *
- Riparian Habitat
- Alkali Sink

Features adjacent to the Impact Area

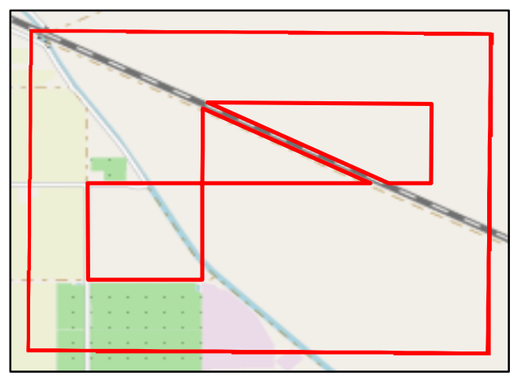
- Irrigation Channel
- Canal
- Freshwater Pond
- Freshwater Forested/Shrub Wetland

Sample Points

- Upland Point
- Waters Point

*Ephemeral drainage features within the buffer are displayed to show connectivity; therefore not all features that exist within the buffer are displayed in the figure.

Sources: NAIP (2020), ECORP Drone Imagery (2020)



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Map Date: 10/14/2022

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Scale in Feet
0 450 900

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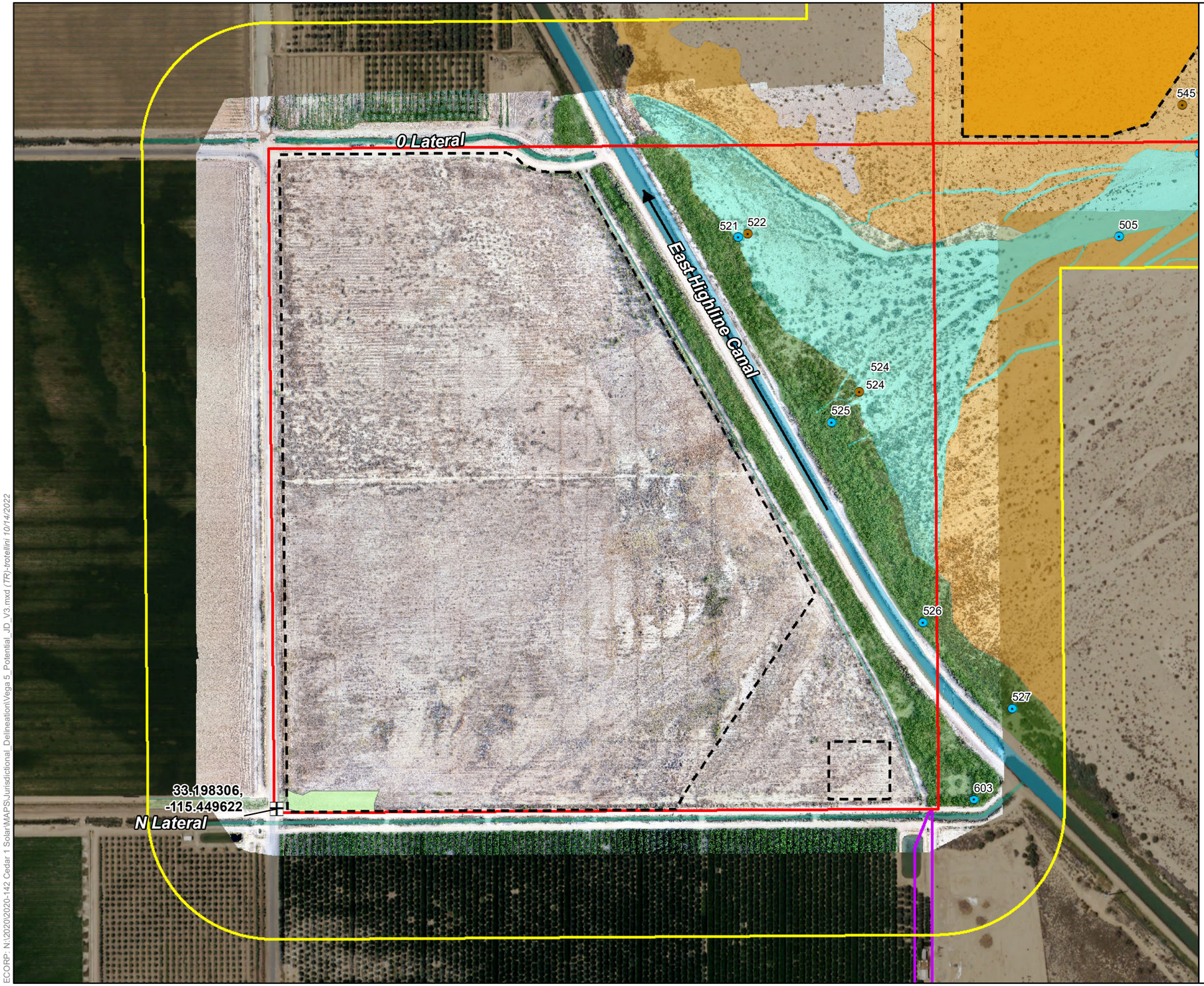
Figure 4. Aquatic Resources Delineation Overview - Sheet 1 of 3
2020-144 Vega SES 5



Map Features

- Project Area
- Impact Areas
- 500-ft Buffer (2020 & 2021 Survey Area)
- Gentie Line
- Reference Point
- Flow to TNW

Features within Impact Area

- Ephemeral Drainage *
- Riparian Habitat
- Alkali Sink

Features adjacent to the Impact Area

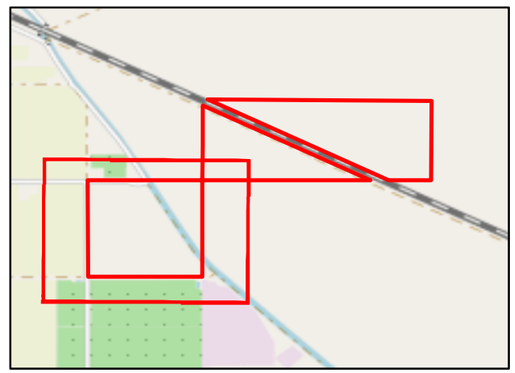
- Irrigation Channel
- Canal
- Freshwater Forested/Shrub Wetland

Sample Points

- Upland Point
- Waters Point

*Ephemeral drainage features within the buffer are displayed to show connectivity; therefore not all features that exist within the buffer are displayed in the figure.

Sources: NAIP (2020), ECORP Drone Imagery (2020)



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Map Date: 10/14/2022

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Scale in Feet
0 200 400

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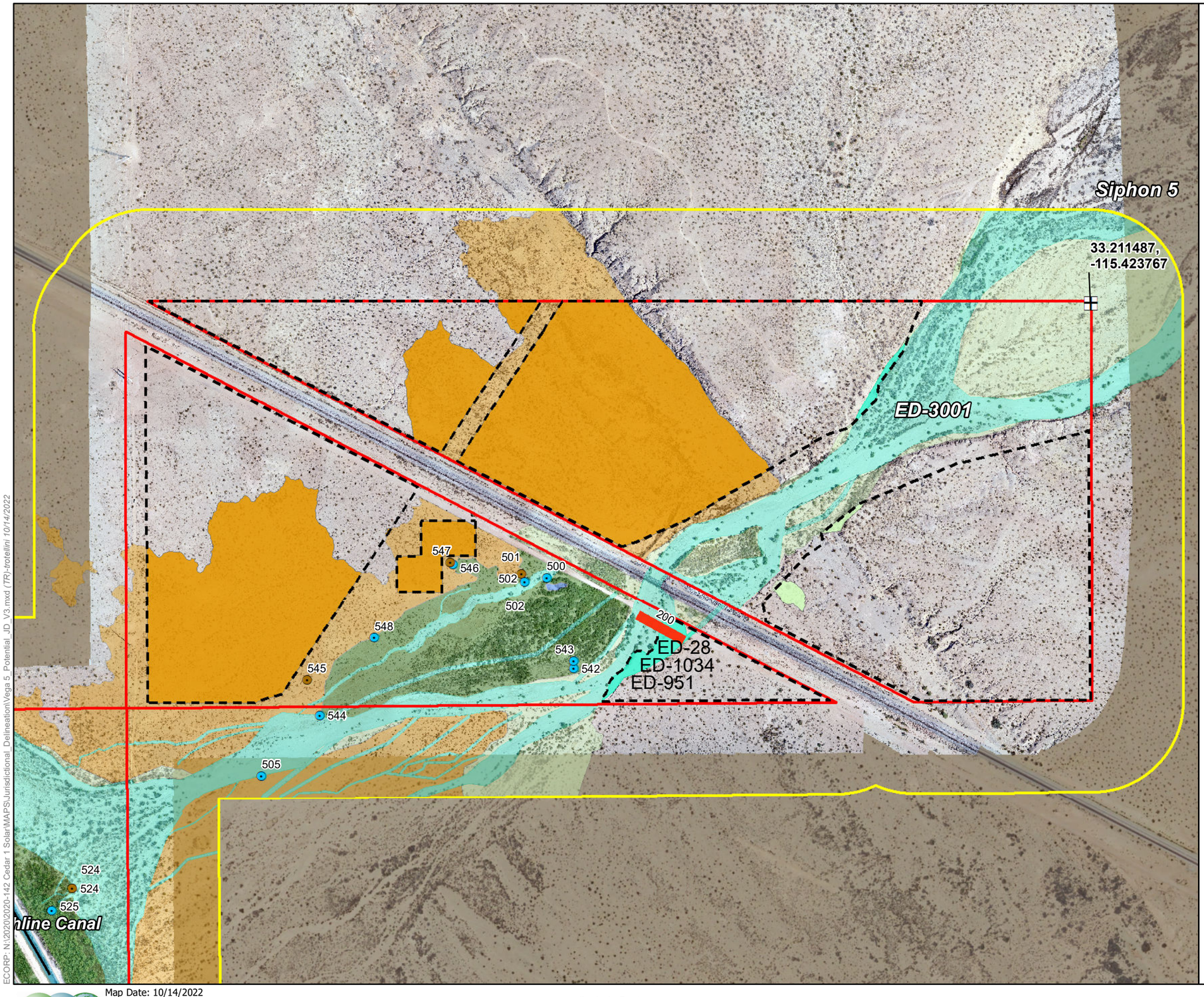
Figure 4. Aquatic Resources Delineation
Sheet 2 of 3
2020-144 Vega SES 5



Map Features

- Project Area
- Impact Areas
- 500-ft Buffer (2020 & 2021 Survey Area)
- Reference Point
- Flow to TNW
- OHWM Cross Section

Features within Impact Area

- Ephemeral Drainage *
- Riparian Habitat
- Alkali Sink

Features adjacent to the Impact Area

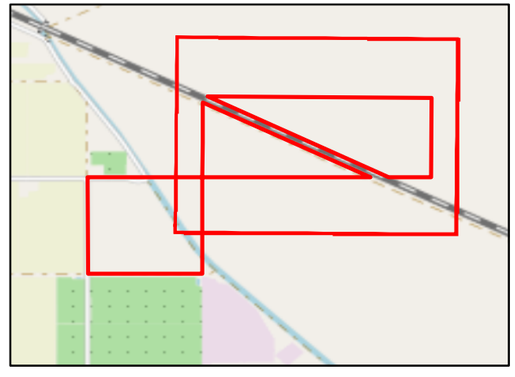
- Irrigation Channel
- Canal
- Freshwater Pond
- Freshwater Forested/Shrub Wetland

Sample Points

- Upland Point
- Waters Point

*Ephemeral drainage features within the buffer are displayed to show connectivity; therefore not all features that exist within the buffer are displayed in the figure.

Sources: NAIP (2020), ECORP Drone Imagery (2020)



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Map Date: 10/14/2022

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Scale in Feet
0 275 550

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Figure 4. Aquatic Resources Delineation
Sheet 3 of 3
2020-144 Vega SES 5

Contiguous riparian habitat associated with a nearby aquatic feature was mapped, and the aquatic feature with which the habitat was associated was also recorded. Riparian habitat not associated with an active aquatic feature was also mapped. OHWM and Wetland Determination Data Forms are included as Attachment B, representative site photographs are included as Attachment C, the USACE OMBIL Regulatory Module (ORM) aquatic resources table is included as Attachment D, and digital data are provided as Attachment E.

4.2.1 Wetlands

No wetlands were delineated within the Impact Area. Three freshwater forested/shrub wetlands and one freshwater pond were identified and mapped within the Project Area but outside of the Impact Area. These features are discussed below to provide context for the aquatic resources within the Impact Area only and not to support verification of these features.

Freshwater Forested/Shrub Wetland

Freshwater forested/shrub wetlands (FSW) are dominated by woody vegetation such as true shrubs, young trees (saplings), and trees or shrubs that are stunted due to environmental conditions. In seasonally flooded wetlands, surface water is present for extended periods, particularly in the early growing season, but is absent by the end of the growing season in most years. The water table can be variable after a flooding event, and ranges from saturation at the ground surface to a water table well below the ground surface (USFWS 2020b).

Three freshwater forested/shrub wetlands were identified and mapped within the Project Area but outside of the Impact Area. Two of these features are located adjacent to the East Highline Canal in the southwest parcel, and one feature is associated with the ephemeral drainage in the northeast parcel of the Project Area. These features are documented with Sampling Points 502, 521, 525, 526, 527, 542, 543, 544, 548, and 603 (Attachment B) and Photos 6-8 (Attachment C). Sampling Points 500, 502, 542, 543, 548, and 544 were collected in the wetland in the northeast parcel of the Project Area. Sampling Points 521, 525, 526, and 527 were collected in the wetland east of the East Highline Canal. Sampling Point 603 was collected in the freshwater forested/shrub wetland west of the East Highline Canal. At the time of the aquatic resource delineation in 2020 and 2021, these sampling points were inside the Project impact limits. The Impact Area was revised in 2022 and it now no longer includes the location of the aforementioned Sampling Points.

All freshwater forested/shrub wetlands were sparsely vegetated and dominated by hydrophytic vegetation characterized as tamarisk scrub. Plant species observed within the wetlands included tamarisk, bush seepweed, arrow-weed, iodine bush, big saltbush, and saltgrass. All sampling points met the F8 (redox depressions) hydric soil indicator. All sampling points met the surface soil cracks (B6) primary wetland hydrology indicator, and multiple sampling points met additional primary or secondary indicators. Additional primary indicators present included sediment deposits (B2) and drift deposits (B3). Additional secondary indicators present included water marks (B1), sediment deposits (B2), drift deposits (B3), drainage patterns (B10), and the FAC-neutral test (D5). Soil at Sampling Point 525 and Sampling Point 526

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are representative of soil conditions within the wetlands throughout the Project Area. Conditions at these sampling points are described below.

At Sampling Point 525, the matrix color at a depth of 0 to 4 inches was 10YR 4/4 with no redox features; and at a depth of 4 to 12 inches the matrix color was 10YR 4/3 with 5 percent redox features colored 5YR 5/8. Texture was the primary difference between these horizons. The A horizon was loamy sand, and the B horizon was silty clay loam. The soil was moist at a depth of approximately four inches, indicating possible ground water connection to the adjacent East Highline Canal at the time of the assessment. It was determined that the redox depressions (F8) hydric soil indicator was met at this sampling location. Wetland hydrology indicators observed included the surface soil cracks (B6) primary indicator and the sediment deposits (B2), drift deposits (B3), drainage patterns (B10), and FAC-neutral test (D5) secondary indicators.

At Sampling Point 526, the matrix color at a depth of 0 to 2 inches was 10YR 4/3 with no redox features; at a depth of 2 to 4 inches the matrix color was 85 percent 10YR 4/3 and 10 percent N 2.5/0 with 5 percent redox features colored 5YR 5/8; and at a depth of 4 to 12 inches the matrix color was 10YR 4/3 with no redox features. The presence of redox features was the primary difference between these horizons. It was determined that the redox depressions (F8) hydric soil indicator was met at this sampling location. Wetland hydrology indicators observed included the surface soil cracks (B6) primary indicator and the sediment deposits (B2), drift deposits (B3), drainage patterns (B10), and FAC-neutral test (D5) secondary indicators.

Freshwater Pond

Freshwater ponds (FP) are non-tidal wetlands that are typically dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens. They consist of unconsolidated substrates with less than 75 percent coverage of stones, boulders or bedrock and less than 30 percent coverage of vegetation. In intermittently flooded wetlands, substrate is usually exposed but surface water is present for variable periods without detectable seasonal periodicity. Weeks, months, or years may pass between periods of inundation (USFWS 2020a).

One freshwater pond was identified and mapped within the northeast portion of the Project Area, outside of the Impact Area. This feature is documented by Sampling Point 500 (Attachment B) and Photo 5 (Attachment C). At the time of the aquatic resource delineation in 2020 and 2021, this Sampling Point was inside the Project impact limits. The Impact Area was revised in 2022 and it now no longer includes the location of the Sampling Point 500. Plant species observed within the wetland included tamarisk and iodine bush. The matrix color at a depth of 0 to 6 inches was 7.5YR 4/4 with 5 percent redox features colored 7.5R 5/8; and at a depth of 6 to 15 inches the matrix color was 7.5YR 4/3 with 30 percent redox features colored 7.5R 5/8. Texture and the percentage of redox features were the primary differences between these horizons. The A horizon was clay loam, and the B horizon was silty clay. It was determined that the redox depressions (F8) hydric soil indicator was met at this sampling location. Wetland hydrology indicators met included the surface soil cracks (B6) primary indicator and FAC-neutral test (D5) secondary indicator.

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4.2.2 Other Aquatic Resources (Non-Wetland Waters)

Ephemeral Drainage

Ephemeral drainages are linear features that exhibit a bed and bank and an OHWM. These features typically convey runoff for short periods of time, during and immediately following rain events, and are not influenced by groundwater sources at any time during the year. As previously described, the Project Area and adjacent upslope areas are within an alluvial fan drainage system. Multiple ephemeral drainages that are part of this system flow through the Project Area and appear to transport surface water from the direction of the Chocolate Mountains to the East Highline Canal, the ephemeral drainage (ED-3001), and/or the freshwater forested/shrub wetland directly northeast of the East Highline Canal. These features lack connectivity to the ephemeral system further upstream due to the presence of the railroad right-of-way.

Four ephemeral drainage features associated with Siphon Five are located fully or partially within the Impact Area (ED-3001, ED-28, ED-951, and ED-1034). Feature ED-3001 is documented by OHWM Transect 200 (Attachment B) and Photo 3 (Attachment C). A majority of feature ED-3001 is outside of the Impact Area. At the time of the field delineation in 2020, the OHWM Transect was located inside the Project impact limits, as previously provided by the Applicant. The Impact Area limits were revised in 2022 and the OHWM Transect was no longer located fully within the revised Impact Area, but was partially within and directly adjacent. The OHWM Transect data sheet has been included in this report because the field conditions documented are representative of the ephemeral drainages mapped within the revised Impact Area limits. At the time of the field assessment, this feature contained no surface flow and had sparse vegetation within the bed. The OHWM was delineated in the field primarily by changes in sediment, vegetation, a natural scour line, bank erosion, and the presence of litter and debris. ED-3001 flows southwest under the railroad via a concrete underpass. It diverts surface flow from the direction of the Chocolate Mountains to the southwest, bypassing the Coachella Canal and the railroad right-of-way, and ultimately connects to the East Highline Canal and/or associated wetlands within the southwest portion of the Project Area. The East Highline Canal supplies water to the Imperial Valley via smaller lateral canals and drains that ultimately drain to the Salton Sea.

At the time of the field assessment, all other ephemeral features contained no surface flow. The OHWM was delineated in the field primarily by the changes in vegetation, sediment changes, and the break in bank slope. Other features observed included mud cracks and surface relief caused by flowing water. Channel surface features within ephemeral drainages indicated weak bed and bank along with a narrow scoured area that varied in width. Other indicators present included drainage patterns and sediment deposits..

4.2.3 Manmade Features

No manmade features were delineated within the Impact Area. One canal and three irrigation channels were identified and mapped within the Project Area and buffer but are located outside of the Impact Area. These features are discussed below to provide context for the aquatic resources within the Impact Area only and not to support verification of these features.

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Canal

One major canal, the East Highline Canal, is located within the Project Area but outside of the Impact Area. The East Highline Canal is managed by the Imperial Irrigation District (IID) and was constructed for the purposes of water delivery. It is an unvegetated, concrete (or other impervious material)-lined channel that transports water year-round. Within the Project Area, lateral canals transport water from the East Highline Canal east towards active agricultural land within the buffer area. The East Highline Canal ultimately flows into the Salton Sea through a series of lateral canals and drains.

Irrigation Channel

Features classified as irrigation channels include concrete-lined lateral canals and concrete-lined irrigation ditches. The irrigation channels located within the buffer of the Project Area are used for agricultural purposes and are part of a larger interconnected system that supplies water throughout the Imperial Valley.

Lateral Canals

The lateral canals within the buffer of the Project Area are managed by IID and supply water to irrigation ditches that are used by private farming operations. The concrete-lined lateral canals are managed by IID to be free of vegetation and therefore lack habitat for wildlife species. Lateral canals that fall adjacent to the Project Area include the O Lateral along the northern end and the N Lateral along the southern end of the western portion of the Project Area.

Irrigation Ditches

There is one concrete-lined irrigation ditch within the Project Area, but outside of the Impact Area, that is associated with a fallow agricultural field and is no longer in use. This irrigation ditch runs parallel to the East Highline Canal and associated wetlands. The concrete-lined irrigation ditch is free of vegetation and therefore lacks habitat for wildlife species.

4.2.4 Potential CDFW Regulated Habitats

The following describes vegetation communities or habitat features that could be regulated by CDFW but are not expected to be regulated by the USACE under Section 404 of the CWA because they do not appear to meet the current definition of waters of the U.S.

Alkali Sink

Alkali sinks are composed of poorly drained soils with high salinity and/or alkalinity from evaporation of water that accumulates in closed drainages. These sinks are often temporarily flooded during large precipitation events, but do not stay inundated long enough to form hydric soils.

The alkali sink habitat is documented with Sampling Points 501, 522, 524, 545, and 547 (Attachment B) and Photo 9 (Attachment C). At the time of the aquatic resource delineation in 2020 and 2021, these sampling points were inside the Project impact limits. The Impact Area was revised in 2022 and it now no longer includes the location of the aforementioned Sampling Points. However, alkali sink habitat is still

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present within the revised Impact Area and is subject to direct impacts. Sampling Points 501, 522, 524, 545, and 547 are representative of the alkali sink habitat of the Project Area as a whole. Sparse hydrophytic vegetation was present at all sampling point locations within the alkali sink habitat, including iodine bush, arrow weed, bush seepweed, and big saltbush. Indicators of wetland hydrology were observed at multiple upland sampling points within the alkali sinks, including primary indicator surface soil cracks (B6) and secondary indicators sediment deposits (B2), drift deposits (B3), and drainage patterns (B10). All sampling points within the alkali sink habitat lacked hydric soil indicators. Upland Sampling Points 522 and 545 document locations which had hydrophytic vegetation but lacked wetland hydrology and hydric soils. Upland Sampling Points 524 and 547 document locations which had hydrophytic vegetation and wetland hydrology but lacked hydric soils.

Riparian Habitat

Riparian habitat associated with the drainage systems throughout the Project Area consists of tamarisk thickets, which is characterized by a weedy, monoculture of tamarisk. This habitat is typically in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. Throughout the Project Area, other species observed included four-wing saltbush and arrow weed. There is additional riparian habitat within the southwest portion of the Impact Area near the N Lateral canal that is not associated with an active aquatic feature. This habitat likely established opportunistically in areas that were recently left fallow and consists of tamarisk thickets. This area was determined to be remnant of a relic unlined irrigation channel that is no longer in use.

5.0 JURISDICTIONAL ASSESSMENT

Aquatic resources that are potentially regulated under the CWA, the Porter-Cologne Act, and California Fish and Game Code Section 1602 within the Impact Area are summarized below. These results are subject to modification following agency verification.

5.1 Clean Water Act

Per Regulatory Guidance Letter 16-01, an applicant may request a PJD "in order to move ahead expeditiously to obtain a Corps permit authorization where the requestor determine*s that it is in his or her best interest to do so … even where initial indications are that the aquatic resources on a parcel may not be jurisdictional*" (USACE 2016b). The following information on connectivity of wetlands and other waters in the Survey Area to TNW is provided should an Approved Jurisdictional Determination (AJD) be necessary.

The ephemeral drainages within the Impact Area are tributary to the Salton Sea, which is a TNW. Under the current definition of waters of the U.S., the *Rapanos* guidance, the ephemeral drainages onsite would be considered non-navigable tributaries that are not relatively permanent. In which, case, a significant nexus evaluation of the ephemeral drainages would be necessary to determine jurisdiction if seeking an AJD.

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5.2 Porter-Cologne Water Quality Control Act

Ephemeral drainages meet the definition of Waters of the State and are regulated pursuant to the Porter-Cologne Act. The Porter-Cologne Act defines Waters of the State as "any surface water or groundwater, including saline waters, within the boundaries of the state" [Water Code 13050 (e)]. The Porter Cologne Act defines "Waters of the State" very broadly, with no physical descriptors, and no interstate commerce limitation.

5.3 California Fish and Game Code Section 1600-1602

The following categories meet the criteria for resources that are regulated under section 1600 of the California Fish and Game Code. This includes all resources with surface or subsurface flow, and a body of water that "flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life." Areas with associated riparian vegetation that is supported by the surface and subsurface flow through these streambeds are also added to CDFW's jurisdiction under 1600. The categories are:

- Ephemeral Drainages
- Riparian Habitat
- Alkali Sinks

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LIST OF ATTACHMENTS

Attachment A – Driving Directions to the Project

Attachment B – OHWM and Wetland Determination Data Forms - Arid West

Attachment C – Representative Site Photographs

Attachment D – USACE ORM Aquatic Resources Table

Attachment E – Digital Data

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ATTACHMENT A

Driving Directions to the Project

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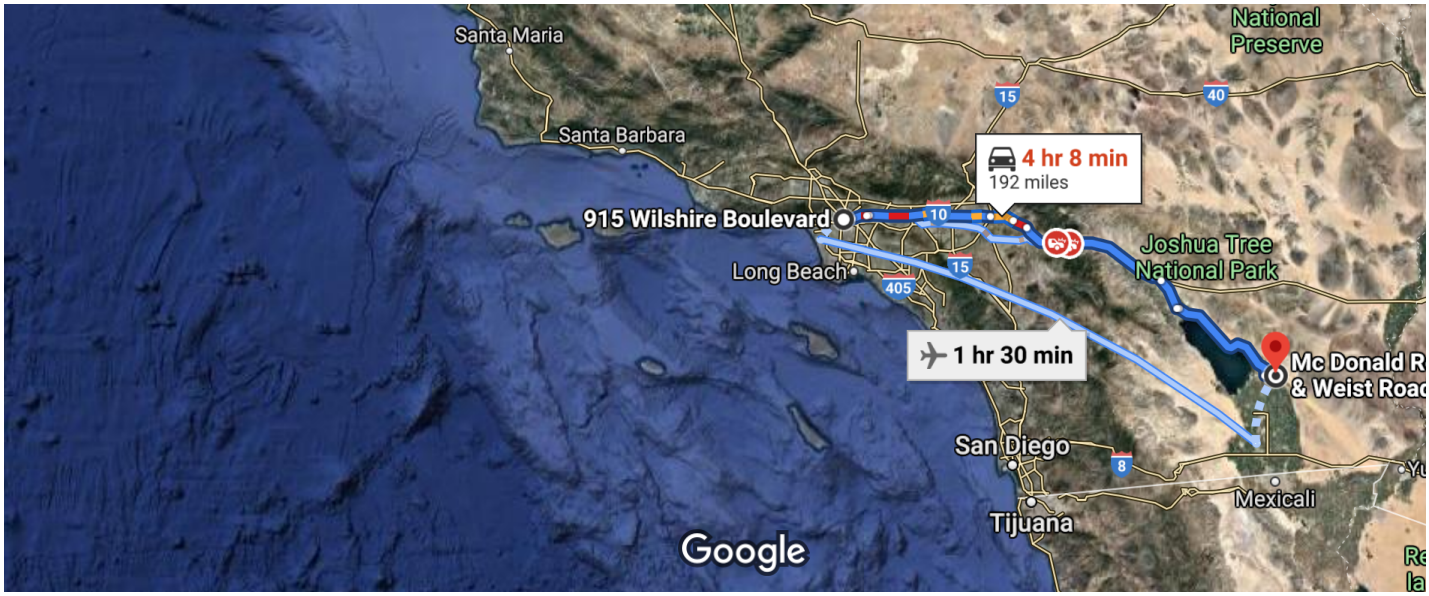
Google Maps

915 Wilshire Blvd, Los Angeles, CA 90017 to Wiest Rd & McDonald Rd, California 92233

Drive 192 miles, 4 hr 8 min



Imagery ©2020 TerraMetrics, Map data ©2020 Google, INEGI 50 mi

915 Wilshire Blvd

Los Angeles, CA 90017

Get on CA-110 N/Harbor Fwy from S Figueroa St

2 min (0.5 mi)

1. Head southeast on Wilshire Blvd toward S Figueroa St

410 ft

2. Use the left 2 lanes to turn left at the 1st cross street onto S Figueroa St

0.2 mi

3. Use the 2nd from the left lane to turn left at the 3rd cross street onto W 5th St

174 ft

4. Keep right at the fork, follow signs for Harbor Fwy/CA-110 N and merge onto CA-110 N/Harbor Fwy

0.2 mi

Follow I-10 E to CA-86 S in Indio

1 hr 59 min (129 mi)

5. Merge onto CA-110 N/Harbor Fwy

0.5 mi

6. Use the 2nd from the right lane to take the exit toward I-5 S/I-10 E

0.5 mi

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7. Merge onto US-101 S

1.3 mi

8. Keep left at the fork to continue on San Bernardino Fwy, follow signs for I-10 E/San Bernardino

1.2 mi

9. Continue onto I-10 E/San Bernardino Fwy

5.8 mi

10. Keep left to stay on I-10 E

1.0 mi

11. Keep left to stay on I-10 E

46.2 mi

12. Keep left to stay on I-10 E

Pass by Starbucks (on the right in 1.2 mi)

9.2 mi

13. Keep left to stay on I-10 E

6.0 mi

14. Keep left to stay on I-10 E

57.6 mi

Follow CA-86 S and CA-111 S to McDonald Rd in Imperial County

1 hr 6 min (62.8 mi)

15. Keep right to continue on CA-86 S, follow signs for Brawley/El Centro/865 Expy

12.1 mi

16. Use the left lane to take the 66th Ave ramp to CA-111 S/Niland/Calipatria

0.2 mi

17. Turn left onto 66th Ave

0.8 mi

18. Continue onto Lincoln St

190 ft

19. Turn right onto CA-111 S

45.7 mi

20. Turn left onto McDonald Rd

4.0 mi

McDonald Rd & Weist Rd

California 92233

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

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OHWM and Wetland Determination Data Forms – Arid West Region

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Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Vega SES 5
Project Number:
Stream: ED-3001 (Cross section #200)
Investigator(s): C. Congedo, C. Torres

Date: 09/29/2020
Town: Calipatria
Photo begin file#:

Time: 10:30AM
State: CA
Photo end file#:

Y [x] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [x] Is the site significantly disturbed?

Location Details: Cross section taken of ED-3001 adjacent to railroad right-of-way at northeast portion of Project Area.

Projection:
Datum: NAD83
Coordinates:

Potential anthropogenic influences on the channel system:

Channel diverted under railroad tracks using a concrete culvert, and drainage system eventually meets with the East Highline Canal at the southwest end of the site. Lateral canals divert water from the East Highline Canal to active agriculture that is adjacent to the Project Area.

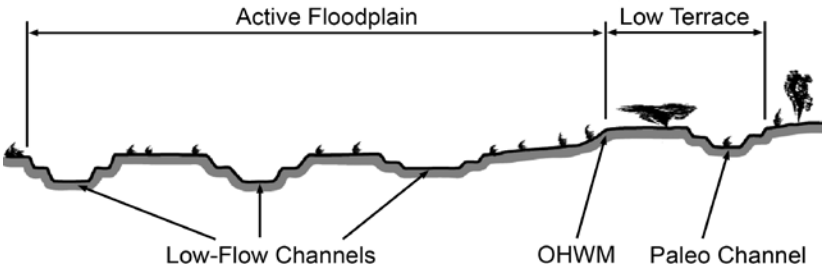
Brief site description: The East Highline Canal bisects the western portion of the Study Area and a railroad bisects the eastern portion of the Study Area. The portion of the site that is southwest of the canal consists of undeveloped land that was historically used for agriculture. The portion of the site that is northeast of the canal is comprised of an ephemeral drainage system and associated wetland and riparian habitats. Wetland habitat lines both sides of the East Highline Canal.

Checklist of resources (if available):

- [x] Aerial photography
  Dates: 1953- 2015
- [x] Topographic maps
- [ ] Geologic maps
- [x] Vegetation maps
- [x] Soils maps
- [x] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [x] Global positioning system (GPS)
- [ ] Other studies

- [ ] Stream gage data
  Gage number:
  Period of record:
- [ ] History of recent effective discharges
- [ ] Results of flood frequency analysis
- [ ] Most recent shift-adjusted rating
- [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - [ ] Mapping on aerial photograph
   - [ ] Digitized on computer
   - [x] GPS
   - [ ] Other:

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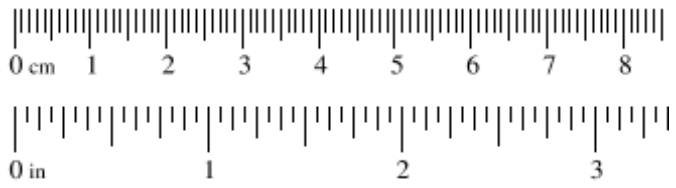
Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	
		Cobble	Gravel
2.56	64	Pebble	
0.157	4	Granule	
0.079	2.00	Very coarse sand	
0.039	1.00	Coarse sand	
0.020	0.50	Medium sand	Sand
1/2 0.0098	0.25	Fine sand	
1/4 0.005	0.125	Very fine sand	
1/8 0.0025	0.0625	Coarse silt	
1/16 0.0012	0.031	Medium silt	
1/32 0.00061	0.0156	Fine silt	Silt
1/64 0.00031	0.0078	Very fine silt	
1/128 0.00015	0.0039	Clay	Mud



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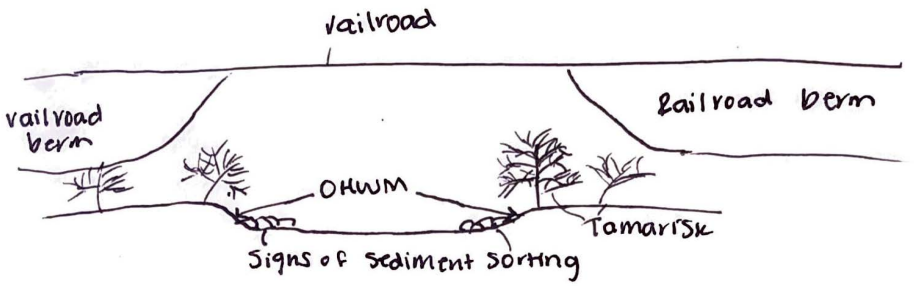
Project ID: Vega SES 5 **Cross section ID:** ED-3001 (#200) **Date:** 09/29/2020 **Time:** 10:30 AM

Cross section drawing:



OHWM

GPS point: 33.206767, -115.431705

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Cross section taken adjacent to railroad. Drainage width eventually increases further downstream as feature continues through site.
OHWM: 3' width, 4" depth
B2B: 4' width, 1' depth

Floodplain unit:

- [x] Low-Flow Channel
- [ ] Active Floodplain
- [ ] Low Terrace

GPS point: 33.206767, -115.431705

Characteristics of the floodplain unit:

Average sediment texture: Medium to fine sand
Total veg cover: 10 % Tree: 10 % Shrub: 0 % Herb: 0 %
Community successional stage:

- [ ] NA
- [x] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [x] Soil development
- [x] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Channel itself is unvegetated. *Tamarix* sp. present on banks of channel. Further downstream there a few scattered individuals of ironwood mixed with tamarisk.

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/9/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 500

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Basin Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.207433 Long: -115.433520 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Point taken within the outer limits of the freshwater emergent wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	1		FAC
2.			
3.			
4.			
	1	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Allenrolfea occidentalis	5	x	FACW
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 94 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	1	x 3 =	3
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	6 (A)		13 (B)

Prevalence Index = B/A = 2.2

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

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SOIL

Sampling Point: 500

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 4/4	95	7.5R 5/8	5	C	M	Clay loam	5% small rocks
6-15+	7.5YR 4/3	70	7.5R 5/8	30	C	M	Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Soils moist starting at 6" depth.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/9/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 501

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Alluvial fan Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR): D Lat: 33.207491 Long: -115.433970 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Sampling point in upland vegetation with mounds.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Larrea tridentata	1		N/L
2. Isocoma acradenia	5	x	FACU
3. Atriplex canescens	1		N/L
4. Allenrolfea occidentalis	1		FACW
5.			
	8	= Total Cover	
Herb Stratum (Plot size: 15')			
1. Isocoma acradenia (seedlings)	3	x	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	3	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 89 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	1	x 2 =	2
FAC species	0	x 3 =	0
FACU species	8	x 4 =	32
UPL species	2	x 5 =	10
Column Totals:	11 (A)		44 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

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SOIL

Sampling Point: 501

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/4	100					Loamy sa	Fine rocks
8-12+	10YR 4/4	100					Loamy sa	90% small/medium pebbles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appears to receive ephemeral water flow, from overflow during high rain events. Drainage just west (10 feet) from collection.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/9/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: _____ Sampling Point: 502

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Alluvial fan Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR): D Lat: 33.207369 Long: -115.433918 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Point collected ~200 feet southwest of railroad right-of-way.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	2		FAC
2.			
3.			
4.			
	2	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Allenrolfea occidentalis	3	x	FACW
2.			
3.			
4.			
5.			
	3	= Total Cover	
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 95 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	3	x 2 =	6
FAC species	2	x 3 =	6
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	5 (A)		12 (B)

Prevalence Index = B/A = 2.4

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 502

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/4	100					Loamy sa	
4-12	10YR 4/3	93	7.5YR 5/8	7	C	M	Silty clay	
12-15+	10YR 4/3	80	7.5YR 5/8	20	C	M	Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Soils wet at 4" deep.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Salt crust is present, but most likely from agricultural runoff.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/10/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 521

Investigator(s): C. Congedo Section, Township, Range: S19, T11S, R15E

Landform (hillslope, terrace, etc.): Alluvial fan Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.204514 Long: -115.443583 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Point taken ~180 feet east of hard-packed road and adjacent wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	1		FAC
2.			
3.			
4.			
	1	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. Pluchea sericea	3		FACW
2. Suaeda nigra	6	x	OBL
3. Tamarix sp.	2		FAC
4.			
5.			
	11	= Total Cover	
Herb Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 88 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	6	x 1 =	6
FACW species	3	x 2 =	6
FAC species	3	x 3 =	9
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	12 (A)		21 (B)

Prevalence Index = B/A = 1.8

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 521

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/4	100					Silt loam	
2-5	10YR 4/4	95	7.5YR 5/8	5	C	M	Silt loam	
5-12+	10YR 4/4	100					Loamy sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ✓ Sediment Deposits (B2) (**Nonriverine**)
- ✓ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Soil cracks prevalent, sheet flow until wetland then begins ponding.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/10/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 522

Investigator(s): C. Congedo Section, Township, Range: S19, T11S, R15E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.204555 Long: -115.443463 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Point taken ~220 feet east of hard-packed road and adjacent wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. Suaeda nigra	4	x	OBL
2. Pluchea sericea	1		FACW
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 10')			
1. Schismus barbatus	2		N/L
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	2	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 93 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	4	x 1 =	4
FACW species	1	x 2 =	2
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	2	x 5 =	10
Column Totals:	7 (A)		16 (B)

Prevalence Index = B/A = 2.3

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 522

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/4	98	Gley 1, 2.5/N	2	C	M	Silt loam	
3-6	10YR 4/4	100					Loamy sa	30% small pebbles
6-12+	10YR 4/4	100					Loamy sa	50% small/medium pebbles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/10/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 524

Investigator(s): C. Congedo Section, Township, Range: S19, T11S, R15E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.202820 Long: -115.442029 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	1		FAC
2.			
3.			
4.			
	1	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Suaeda nigra	5	x	OBL
2. Larrea tridentata	2		N/L
3.			
4.			
5.			
	7	= Total Cover	
Herb Stratum (Plot size: 15')			
1. Brassica tournefortii	3		N/L
2. Schismus barbatus	3		N/L
3.			
4.			
5.			
6.			
7.			
8.			
	6	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 86 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	1	x 3 =	3
FACU species	0	x 4 =	0
UPL species	8	x 5 =	40
Column Totals:	14 (A)		48 (B)

Prevalence Index = B/A = 3.4

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 524

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/4	100					Loamy sa	Fine
10-12	10YR 4/3	100					Loamy sa	Very fine

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appears to be part of sheet flow from numerous drainages.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/10/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 525

Investigator(s): C. Congedo Section, Township, Range: S19, T11S, R15E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.202490 Long: -115.442389 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Point collected within wetland ~150 east of hard-packed road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	5		FAC
2.			
3.			
4.			
	5	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. Suaeda nigra	25	x	OBL
2.			
3.			
4.			
5.			
	25	= Total Cover	
Herb Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 70 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	30 (A)		40 (B)

Prevalence Index = B/A = 1.3

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 525

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/4	100					Loamy sa	
4-12	10YR 4/3	95	5YR 5/8	5	C	M	Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Soil moist approximately 4" deep.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/10/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 526

Investigator(s): C. Congedo Section, Township, Range: S19, T11S, R15E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.200294 Long: -115.441220 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	10	x	FAC
2.			
3.			
4.			
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. Atriplex lentiformis	10	x	FAC
2. Suaeda nigra	3		OBL
3.			
4.			
5.			
	13	= Total Cover	
Herb Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 77 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	23 (A)		63 (B)

Prevalence Index = B/A = 2.7

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 526

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/3	100					Silty clay	
2-4	10YR 4/3	85	5YR 5/8	5	C	M/PL	Silty clay	
2-4	Gley 1, 2.5/N	10					Silty clay	
4-12+	10YR 4/3	100					Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/10/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 527

Investigator(s): C. Congedo Section, Township, Range: S20, T11S, R15E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR): D Lat: 33.199352 Long: -115.440070 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	8	x	FAC
2.			
3.			
4.			
	8	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Allenrolfea occidentalis	3		FACW
2. Suaeda nigra	10	x	OBL
3.			
4.			
5.			
	13	= Total Cover	
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 79 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	3	x 2 =	6
FAC species	8	x 3 =	24
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	21 (A)		40 (B)

Prevalence Index = B/A = 1.9

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 527

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/3	100					Silty clay	
4-8	10YR 4/3	75	5YR 5/8	5	C	M	Silty clay	
4-8	N/9.5	20						
8-12+	10YR 4/3	60	5YR 5/8	20	C	M	Sandy cla	
8-12+	N/9.5	20						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): _____

Water Table Present? Yes ___ No ___ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: _____ Sampling Point: 542

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.206062 Long: -115.433048 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Flood plain area of main channels, several small inlet channels that appear to hold water.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Tamarix sp.	8	x	FAC
2.			
3.			
4.			
5.			
	8	= Total Cover	
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 92 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	8	x 3 =	24
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	8 (A)		24 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 542

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 5/4	90					Loamy sa	10% small pebbles
2-4	10YR 3/4	75					Loamy sa	25% small pebbles
4-6	10YR 5/4	80	5YR 5/8	20	C	M	Loamy sa	
6-12+	10YR 5/4	80	5YR 5/8	10	C	M	Loamy sa	10% small pebbles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Soils moist at 9" deep.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Within overflow channels connected to main channel.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 543

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.206175 Long: -115.433052 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Wedge of overflow area, just on other side (west) of overflow channel from Sampling Point 542.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. Tamarix sp.	8	x	FAC
2.			
3.			
4.			
5.			
	8	= Total Cover	
Herb Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 92 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	8	x 3 =	24
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	8 (A)		24 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 543

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 4/4	90					Loamy sa	10% small/medium pebbles
1-6	7.5YR 4/4	87	5YR 5/8	5	C	M	Silty clay	
1-6			WP 7.5YR 8.5/2	8	C	M	Silty clay	
6-12	7.5YR 4/4	80	5YR 5/8	10	C	M	Silty clay	
6-12	WP 7.5YR 8.5/2	10					Silty clay	
12-15	7.5YR 4/4	80	5YR 5/8	10	C	M	Silty clay	
	WP 7.5YR 8.5/2	5					Silty clay	
	Gley 1, 2.5/N	5					Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

WP= White Page

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 544

Investigator(s): C. Congedo Section, Township, Range: S20, T11S, R15E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): 12

Subregion (LRR): D Lat: 33.205394 Long: -115.437585 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

South end of adjacent freshwater forested/shrub wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Allenrolfea occidentalis	8	x	FACW
2.			
3.			
4.			
5.			
	8	= Total Cover	
Herb Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 92 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	8	x 2 =	16
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	8 (A)		16 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 544

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 5/4	80	5YR 5/8	20	C	M	Loamy sa	
2-5	7.5YR 4/4	92	5YR 5/8	8	C	M	Silty clay	
5-12+	10YR 4/4	97	5YR 5/8	3	C	M	Loamy sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 545

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Alluvial fan Local relief (concave, convex, none): Concave Slope (%): 12

Subregion (LRR): D Lat: 33.205924 Long: -115.437809 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Atriplex canescens	2		N/L
2. Suaeda nigra	5	x	OBL
3. Larrea tridentata	1		N/L
4.			
5.			
	8 = Total Cover		
Herb Stratum (Plot size: 15')			
1. Schismus barbatus	3		N/L
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	3 = Total Cover		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 89 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	6	x 5 =	30
Column Totals:	11 (A)		35 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 545

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/4	95					Loamy sa	5% large pebbles
4-7	10YR 4/4	100					Loamy sa	Small pebbles
7-12+	7.5YR 4/4	95	7.5YR 6/8	5	C	M	Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No ✓

Remarks:

Moist at 7" deep.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): _____

Water Table Present? Yes ____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 546

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Alluvial fan Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.207644 Long: -115.435196 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Point taken ~425 feet southwest of the railroad right-of-way.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Suaeda nigra	3	x	OBL
2. Allenrolfea occidentalis	2	x	FACW
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 15')			
1. Schismus barbatus	1		N/L
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	1	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 94 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species	2	x 2 =	4
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	1	x 5 =	5
Column Totals:	6 (A)		12 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 546

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 4/4	100					Loamy sa	
2-8	7.5YR 4/4	85	7.5YR 5/8	15	C	M	Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 547

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.207674 Long: -115.435234 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Suaeda nigra	4	x	OBL
2. Atriplex canescens	2		N/L
3.			
4.			
5.			
	6	= Total Cover	
Herb Stratum (Plot size: 15')			
1. Schismus barbatus	2		N/L
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	2	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 92 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	4	x 1 =	4
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	2	x 5 =	10
Column Totals:	6 (A)		14 (B)

Prevalence Index = B/A = 2.3

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 547

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 4/4	90					Loamy sa	10% small/medium pebbles
7-12+	7.5YR 4/4	98	5YR 5/8	2	C	M	Loamy sa	Fine

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): _____

Water Table Present? Yes ____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/11/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 548

Investigator(s): C. Congedo Section, Township, Range: S17, T11S, R15E

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): D Lat: 33.206551 Long: -115.436605 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. Suaeda nigra	3	x	OBL
2. Atriplex canescens	1		N/L
3.			
4.			
5.			
	4 = Total Cover		
Herb Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 10')			
1.	0		
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 96 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	1	x 5 =	5
Column Totals:	4 (A)		8 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 548

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/4	100					Loamy sa	Gritty
2-4	7.5YR 4/4	100					Silty clay	Salt particles (10%)
4-12+	7.5YR 4/4	60	5YR 5/8	5	C	M	Silty clay	
4-12+	10YR 5/4	20	5YR 5/8	15	C	M	Loamy sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vega SES 5 City/County: Calipatria/Imperial County Sampling Date: 11/13/2020

Applicant/Owner: Apex Energy Solutions, LLC. State: CA Sampling Point: 603

Investigator(s): C. Congedo and C. Torres Section, Township, Range: S20, T11S, R15E

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 3

Subregion (LRR): D Lat: 33.198356 Long: -115.440576 Datum: NAD83

Soil Map Unit Name: Niland gravelly sand, wet NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix sp.	5		FAC
2.			
3.			
4.			
	5	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Pluchea sericea	4		FACW
2.			
3.			
4.			
5.			
	4	= Total Cover	
Herb Stratum (Plot size: 15')			
1. Distichlis spicata	15	x	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	15	= Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 76 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	4	x 2 =	8
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	24 (A)		68 (B)

Prevalence Index = B/A = 2.8

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

PC ORIGINAL PKG

SOIL

Sampling Point: 603

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/3	95	7.5YR 6/8	3	C	M	Sandy loa	
0-3	Gley 1, 1.5/N	1	2.5YR 4/8	1	C	M		
3-4	10YR 4/4	97	5YR 5/8	3	C	M	Sandy loa	
4-9	10YR 4/4	81	7.5YR 5/8	12	C	M	Silty clay	
4-9			5YR 5/8	7	C	M		
9-12+	10YR 4/4	95	5YR 5/8	5	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Salt crust present, most likely from agricultural runoff.

ATTACHMENT C

Representative Site Photographs

PC ORIGINAL PKG

Photo 1. View of the N Lateral canal within the southwestern portion of the buffer of the Project Area; photo facing south. September 29, 2020.

Photo 2. View of the railroad right-of-way within the northeast portion of the Project Area. ED-3001 drainage crosses the railroad via an underpass; photo facing northeast. November 11, 2020.

PC ORIGINAL PKG

Photo 3. View of a braided portion of ED-3001 taken at OHWM Cross Section 200 near the railroad right-of-way within the Project Area; photo facing northeast. September 29, 2020.

Photo 4. View of an ephemeral drainage determined to be inactive within the northeastern portion of the Project Area; photo facing northeast. January 25, 2021.

PC ORIGINAL PKG

Photo 5. View of Sampling Point 500 taken within the freshwater pond at the northeast portion of the Project Area; photo facing southeast. November 9, 2020.

Photo 6. View of Sampling Point 543 taken within the freshwater forested/shrub wetland at the northeast portion of the site; photo facing west. November 11, 2020.

PC ORIGINAL PKG

Photo 7. View of Sampling Point 525 taken within the freshwater forested/shrub wetland along the east side of the East Highline Canal; photo facing west. November 10, 2020.

Photo 8. View of Sampling Point 603 taken within the freshwater forested/shrub along the west side of the East Highline Canal; photo facing north. November 13, 2020.

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Photo 9. Sampling Point 547 taken within alkali sink habitat at the northeastern portion of the Project Area; photo facing southeast. November 11, 2020.

Photo 10. View of unassociated riparian habitat within the southwestern portion of the Project Area. Habitat is likely remnant of a relic unlined irrigation channel that is no longer in use; photo facing southwest. September 30, 2020.

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ATTACHMENT D

USACE ORM Aquatic Resources Table
(Provided as an accompanying electronic file)

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ATTACHMENT E

Digital Data
(Provided as accompanying electronic files)

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PRELIMINARY GEOLOGICAL AND GEOTECHNICAL HAZARD EVALUATION REPORT

VEGA 2, 3, 5

Imperial County, California

December 2, 2022

Prepared for:

Imperial County
Planning & Development Services Department

Prepared by:

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1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

It is our understanding that the proposed VEGA 2, 3, 5 Project will consist of the design and construction of a 350-megawatt photovoltaic solar energy facility with an integrated 350-megawatt battery storage system to provide a renewable and reliable source of electrical power. Project components will include a ground mounted photovoltaic solar power generating system, supporting structures, on-site substations, battery storage systems, interconnection facilities, and internal access roads. The project would employ the use of PV power systems to convert solar energy into electricity using non-reflective technology. All proposed improvements will be located on approximately 1,963 acres of land in central Imperial County, California.

1.2 SITE LOCATION AND DESCRIPTION

The proposed VEGA 2, 3, 5 Project is located approximately 5.5 miles southeast of Niland in Imperial County, California. The Project site consists of five parcels (Assessor Parcel Numbers (APN) 025-260- 022, 025-260-019, 025-270-023, 025-260-011, and 025-010-006) and crosses over the East Highline and Coachella Canals. The site location is shown on Figure 1, Site Location Map in Appendix A.

Based on our site visit, the five parcels are unimproved with some minimal vegetation consisting of native small brush, cactus, and grass, to bare ground. Agricultural fields are located west of the parcels. The VEGA 5 site consists of two parcels located south of the Noffsinger Road, and a portion of APN 025-260-011 located north of Noffsinger Road.

The VEGA 5 site is traversed by the East Highline Canal. The ground surface at the VEGA 5 site was generally covered with dense vegetation ranging in height between about 3 and 7 feet tall. Transmission towers and overhead power lines run along the eastern and western edges of the south and north quadrants of the VEGA 5 site.

The VEGA 2 and 3 sites are located northeast of the Noffsinger Road. Generally, the ground surface at these parcels consisted of sparse dry vegetation. The northern portion of the parcels were found to contain minimal vegetation, or bare ground. The Coachella Canal traverses one of the northernmost parcels of VEGA 2. During our site visit, some of the north areas of VEGA 2 and VEGA 3 were inaccessible due to soft upper soils or deep erosion gullies on dirt roads.

The topography of the Project site is relatively flat with elevations ranging from approximately -64 feet at the west to +192 feet at the east. The coordinates at the center of the Project site are approximately:

Latitude: 33.21672ºN Longitude: 115.423951ºW

1.3 PURPOSE AND SCOPE

The purpose of this preliminary geological and geotechnical study was to review existing geologic/geotechnical data and evaluate preliminary geological and geotechnical hazards for the proposed Project. This report is preliminary in scope and does not include a subsurface field investigation. A final design report must be performed prior to development after subsurface investigation and laboratory testing has been performed.

Our scope of services for this project included the following tasks:

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Literature Review: Reviewed various readily available published and unpublished geologic and geotechnical documents pertinent to the Project site. A list of references used in preparation of this report is presented in Section 6.0.

Site Reconnaissance: Performed a brief site reconnaissance to visually observe the existing site conditions including existing on-site near-surface soils and potential geologic hazards. Selected photographs from our site reconnaissance are included in Appendix B, Site Photographs. The VEGA 3 area was inaccessible during our visit due to soft upper soils and erosion of dirt roads, therefore no photographs were taken at that location.

Preliminary Geologic and Geotechnical Hazards Evaluation: This evaluation included location of known and mapped nearby earthquake faults and seismic zones in relation to the Project site, intensity of ground shaking, potential for liquefaction, ground rupture, landslides, and flooding. Other potential hazards such as expansion, collapse, and corrosivity potentials of on-site soils were also evaluated. Our evaluations were performed based on literature review only. Field and laboratory testing program was not included as a part of our services.

Report Preparation: Relevant geotechnical and geological data were compiled in this report along with our findings and conclusions for the proposed Project.

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2.0 GEOLOGY, FAULTING AND SEISMICITY

2.1 REGIONAL GEOLOGIC SETTING

The Project site is located in the Imperial Valley, a part of the Salton Trough, located in the Colorado Desert physiographic province of California. With surface elevations as low as 275 feet below sea level, the Salton Trough formed as a structural depression resulting from tectonic boundary adjustment between the Pacific and the North American plates. The Salton Trough is bounded on the east and northeast by the San Andreas Fault and on the west by the San Jacinto Fault Zone. The structural trough is filled with more than 15,000 feet of Miocene and younger, marine and non-marine sediments capped by approximately 100 feet of Pleistocene and later lacustrine deposits that have been deposited by intermittent filling derived from periodic flooding of the Colorado River and Lake Cahuilla (Morton, 1977). A Regional Geologic Map is shown on Figure 2 (Appendix A).

2.2 SURFACE SUBGRADE SOILS AND GROUNDWATER CONDITIONS

Based on a review of published data by the California Geological Survey (CGS, 2010), the Project site is generally underlain by stratified alluvial deposits, predominately consisting of interbedded layers of silt, sand and clay. According to the Soil Survey of Imperial County prepared by United States Department of Agriculture Soil Conservation Service (2020), the near-surface soils are predominantly comprised of very fine to fine sand and occasionally gravelly sand. The soil map for the Project site is shown on Figure 3.

A review of online water well databases from USGS (2021b) and California Department of Water Resources (2021) indicate that there is one water well within a mile radius from the site (less than a mile south of Parcel No. 025-270-023 [VEGA 2 Site]). Groundwater at Well No. 11S15E23M001S was measured at about 50 feet below ground surface in March 2020. Groundwater information should be obtained after conducting a subsurface field investigation during the design phase of the Project. Seasonal fluctuations of shallow groundwater should be expected during periods of rainfall, irrigation of adjacent properties, and site grading. The groundwater levels shown herein should not be interpreted to represent accurate current or permanent conditions.

2.3 FAULTING

Southern California straddles the boundary between two global tectonic plates known as the North American Plate (on the east) and the Pacific Plate (on the west). The main plate boundary is represented by the San Andreas Fault, which extends northwest from the Gulf of California in Mexico, through the desert region of the Imperial Valley, through the San Bernardino region, and into Northern California, where it eventually trends offshore, north of San Francisco (Jennings and Bryant, 2010).

In Southern California, the plate boundary is a complex system of numerous faults known as the San Andreas Fault System (SAFS) that span a 150-mile-wide zone from the main San Andreas fault in the Imperial Valley westward to offshore of San Diego (Powell et al., 1993 and Wallace, 1990). The major faults east of San Diego (from east to west) include the San Andreas Fault, the San Jacinto fault, and the Elsinore fault. The SAFS is a transform plate boundary dominated by right-lateral fault displacement with the Pacific Plate moving northwest relative to the North

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American Plate (Wallace, 1990 and Weldon and Sieh, 1985). The significance of this lateral faulting is that transform plate interactions typically generate much smaller maximum magnitude earthquakes than convergent or subduction plate boundaries. Thus, in Southern California the expected maximum moment magnitudes for most faults are typically in the M6.5 to M7.5 range, with only a few faults (San Andreas Fault, possibly some thrust faults of the Transverse Ranges) capable of generating earthquakes in the M8 range, such as the 1906 San Francisco and 1857 Fort Tejon earthquakes, on the San Andreas Fault itself.

Most of the seismic energy and associated fault displacement within the SAFS occurs along the fault structures closest to the plate boundary (i.e., on the Elsinore, San Jacinto, and San Andreas faults) (Powell et al. 1993). Approximately 1.9 inches/year (49 millimeters per year, [mm/yr.]) of overall lateral displacement have been measured geodetically and as fault slip across the plate boundary. Combined, the Elsinore, San Jacinto, and San Andreas faults account for up to 1.6 inches/year (41 mm/yr.), or 84 percent, of the total plate displacement. The remaining 16 percent is accommodated across the faults to the west (Bennett et al., 1996).

The Project site is located in the seismically active Southern California region, within the influence of several fault systems that are considered to be active or potentially active. Several active or potentially active faults are located in the vicinity of the Project site. The locations of these faults relative to the site are shown on Figure 4, Fault Map (Appendix A).

Under the current understanding of regional seismology and tectonics, the largest maximum earthquake to impact the project may be generated by the Brawley Seismic Zone having an estimated maximum magnitude of M7.4. Table 2-1 lists faults with a risk contribution greater than 1 percent, along with pertinent data such as fault type, distance to fault, and maximum magnitude. Other nearby faults are shown in Figure 4.

Table 2-1. Contributing Faults

Fault Name	Distance (km)	Site Location (Latitude and Longitude)	Maximum Magnitude
Brawley Seismic Zone	21.0	33.21672ºN 115.423951ºW	7.4
Elmore Ranch	21.6		6.5

Note:

Listed faults were derived from United States Geologic Survey (USGS) Deaggregation online tool and lists faults with a risk contribution greater than 1 percent of the total seismic risk. Site Class D was assumed and using USGS Dynamic 2014 dataset (V4.2.0) with a 2,475-year return period. See USGS (2021d) for details.

2.4 HISTORICAL SEISMICITY

The Project site and vicinity are located in an area characterized by high seismicity.

The seismicity of the region surrounding the project site was evaluated using the earthquake database from USGS website (2021c). Based on the review of the available data, 163 earthquake events with magnitudes equal or greater than 4.5 have occurred within a radius of 60 miles of the site in the last 100 years. Selected location of the earthquake epicenter, year of occurrence, and

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earthquake magnitude are summarized in Table 2-2. The earthquakes listed below are based on largest magnitudes.

Table 2-2. List of Selected Historic Earthquakes

Earthquake Location	Date of Earthquake	Earthquake Magnitude
4km N of Holtville, CA	05-19-1940	6.9
22km W of Westmorland, CA	11-24-1987	6.6
5km NNE of Ocotillo Wells, CA	04-09-1968	6.6
17km WSW of Westmorland, CA	10-21-1942	6.6
10km E of Mexicali, B.C., MX	10-15-1979	6.4
12km W of Salton City, CA	03-19-1954	6.4
17km WNW of Westmorland, CA	11-24-1987	6.2
16km WSW of Oasis, CA	03-25-1937	6.0

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3.0 ASSESSMENT OF POTENTIAL GEOLOGIC AND GEOTECHNICAL HAZARDS

3.1 SEISMIC SHAKING

The Project site is located in the highly seismic Southern California region within the influence of several fault systems that are considered to be active or potentially active. A list of known faults considered capable of producing potentially damaging seismic shaking at the site is presented in Table 2-1. It is anticipated that the Project site will periodically experience ground accelerations and shaking as the result of small to moderate magnitude earthquakes occurring along these faults and other faults within the Southern California region.

The results of our preliminary seismic hazard analyses indicated that the estimated horizontal peak ground acceleration (PGA) having a 2 percent probability of exceedance in 50 years and corresponding to the statistical return period of approximately 2,475 years, which is defined as the Maximum Considered Earthquake (MCE), is on the order of 0.55g.

3.2 FAULT-RUPTURE HAZARD

Surface rupture usually occurs along traces of known active or potentially active faults. However, many historic seismic events, including the 1994 Northridge Earthquake, have occurred on faults without surface expression (blind faults) that were not previously known to exist or to be active.

The California Geologic Survey (CGS) established criteria for faults as active, potentially active, and inactive. Active faults are those that show evidence of surface displacement within the last 11,000 years (Holocene age). Potentially active faults are those that demonstrate displacement within the past 1.6 million years (Quaternary age). Faults showing no evidence of displacement within the last 1.6 million years may be, in general, considered inactive for most structures, except for critical structures. In 1972 the Alquist-Priolo Special Studies Earthquake Hazards Act (APEHA) was passed, which required fault studies within 500 feet of active or potentially active faults. The APEHA designates “active” and “potentially active” faults utilizing the same age criteria as that used by the CGS. The site is not located within a currently-delineated State of California Alquist-Priolo Earthquake Fault Zone (Bryant and Hart, 2007 and CGS, 2019) and therefore the likelihood of fault rupture at the Project site is considered low. Location of known Alquist Priolo Earthquake Fault Zones in the general vicinity of the Project Site is shown on Figure 5, Seismic Hazard Map (Appendix A).

3.3 FLOOD HAZARD AND TSUNAMIS

Flooding can occur as a result of several factors in developed areas. These factors include: rainfall rates that exceed an area’s ability to absorb or control the runoff; impounded water retained behind a flood control structure (upstream-inundation), failure of a flood control structure (downstream-inundation), seiches, and tsunami.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map Number 06025C0750C (2008), the Project site is considered a Zone X site, which is an area that is determined to be outside the 0.2% annual chance of flooding. Therefore, the risk related to natural flooding is low.

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Due to the site's inland location and the lack of any local impounded bodies of water, tsunami, and seiches do not represent potential hazards to the site.

3.4 LANDSLIDING

Landslides and other forms of mass wasting, including mud flows, debris flows, and soil slips occur as soil moves downslope under the influence of gravity. Landslides are frequently triggered by intense rainfall or seismic shaking. Because the site is located in a relatively flat area, we do not consider landslides or other forms of natural slope instability to represent a significant hazard to the project.

3.5 LIQUEFACTION/SEISMIC SETTLEMENT

The term liquefaction describes a phenomenon in which saturated, cohesionless soils temporarily lose shear strength (liquefy) when subjected to cyclic ground motions. Cyclic loading of saturated soils leads to the build-up of pore water pressure as a result of soil particles being rearranged with a tendency toward closer packing. Under undrained conditions, shaking of loose non-cohesive soils may result in loads being transferred from the soil skeleton to the pore water with consequent reduction in the soil strength and stiffness. Structures founded on or above potentially liquefiable soils may experience bearing capacity failures due to the temporary loss of foundation support, vertical settlements (both total and differential), and/or undergo lateral spreading. The factors known to influence liquefaction potential include soil type, relative density, grain size distribution, confining pressure, depth to groundwater, and the intensity and duration of the seismic ground shaking. Liquefaction is most prevalent in loose- to medium-dense, silty, sandy, and gravelly soils below the groundwater table.

The Project site has not been mapped for liquefaction potential by CGS. Due to the limited soils and groundwater information, the liquefaction potential at the project site cannot be determined. The liquefaction potential should be evaluated during the design phase of the Project, using site-specific information collected from future site-specific exploratory boreholes.

3.6 LATERAL SPREADING

Liquefaction-induced lateral spreading is defined as the lateral displacement of ground as a result of pore pressure build-up or liquefaction in shallow underlying soils during an earthquake. Lateral spreading can occur on sloping ground or where nearby slopes are present. The factors known to influence the magnitude of lateral spreading include earthquake magnitude, peak ground acceleration, distance between the site and the seismic event, the slope height and gradient, thickness of the liquefied layer, fines content, soil particle gradation, and residual strength of the liquefied soil.

A site-specific geotechnical investigation should be performed and mitigation measures, if necessary, should be developed to reduce the magnitude of lateral displacement due to lateral spreading.

3.7 LAND SUBSIDENCE

Subsidence is the sinking of the ground surface caused by the compression of earth materials or the loss of subsurface soil due to underground mining, tunneling, or erosion. The major causes of subsidence include fluid withdrawal from the ground, decomposing organics, underground

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mining or tunneling, and placing large fills over compressible earth materials. The effective stress on underlying soils is increased resulting in consolidation and settlement. Subsidence may also be caused by tectonic processes. The Project site is not located in an area of known ground subsidence or within any delineated zones of subsidence due to groundwater pumping or oil extraction (USGS, 2021a). Accordingly, the potential for subsidence to occur at the site is considered to be low.

3.8 EXPANSIVE SOILS

Expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell) due to variations in moisture content. Changes in soil moisture content can result from precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may result in unacceptable settlement or heave of structures. Based on available data, the onsite near-surface soil deposits primarily consist of sand, gravelly sand and clay/silty clay. Generally, sands are considered not expansive soils and clays may exhibit moderate to high expansion potential due to variation in moisture content. A site-specific geotechnical investigation should be performed to evaluate soil expansiveness and potential impact, if any, of expansive soil on the Project.

3.9 COLLAPSIBLE SOILS

Collapsible soil is generally defined as soil that will undergo a sudden decrease in volume and its internal support is lost under applied loads when water is introduced into the soil. The internal support is considered to be a temporary strength and is derived from a number of sources including capillary tension, cementing agents, e.g. iron oxide and calcium carbonate, clay-welding of grains, silt bonds, clay bonds and clay bridges. Soils found to be most susceptible to collapse include loess (fine grained wind-deposited soils), valley alluvium deposited within a semi-arid to arid climate, and residual soil deposits. At this time, it is unknown whether collapsible soils are present at the site. A site-specific geotechnical investigation should be performed to assess the presence of collapsible soils and evaluate potential impact, if any, of collapsible soils on the proposed improvements.

3.10 SOIL CORROSION

A site-specific corrosion study should be performed and mitigation measures should be recommended if the soils are found to be corrosive to concrete or steel. Generally, fine grained soils like clay are more likely to be corrosive. Typical remediation for the corrosive soil conditions consists of using concrete mix with higher cement contents (Type V Portland Cement) and appropriate steel corrosion protection. Because fine grained soils are expected to be encountered at the subject site, corrosion potential should be further evaluated during the design phase of this Project.

3.11 OTHER GEOLOGIC HAZARDS

Volcanic Eruption: The Project site is not located in an area of a recent volcanism. Therefore, the potential for volcanic activity is very low.

Radon Gas: Radon gas is a radioactive product of uranium which can reach high levels depending on the local geology and building construction. According to Environmental Protection

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Agency (EPA) Map of Radon Zones, the Project site, as the entire Imperial County, is located in Zone 3 with predicted average indoor radon screening levels less than 2 picocuries per liter (pCi/L). Since the site is not located within an area of high potential for indoor radon levels (above 4 pCi/L), the potential for radon gas accumulation is considered low.

Naturally Occurring Asbestos: The site is not located in an area of known naturally occurring asbestos (CGS, 2011). Therefore, the potential for occurring asbestos is considered low.

Hazardous Materials: The site is not located in proximity to any known hazardous materials (methane gas, hydrogen sulfide gas) and the risk of hazardous materials is considered low.

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4.0 PRELIMINARY SEISMIC DESIGN RECOMMENDATIONS

To reduce the effects of ground shaking produced by regional seismic events, seismic design should be performed in accordance with the applicable building codes. Preliminary seismic parameters were calculated using the California's Office of Statewide Health Planning and Development [OSHPD] (2018) and in accordance with the 2016 California Building Code and the American Society of Civil Engineers/Structural Engineering Institute (ASCE/SEI) (2017) 7-16. Site Class D was assumed for preliminary design and must be confirmed prior to final design. Seismic design parameters for Site Class D are provided in Table 4-1.

Table 4-1. Preliminary Seismic Design Parameters

Category	Recommended Value
Risk Category	II (1)
Site Class	D
Latitude	33.21672ºN
Longitude	115.423951ºW
Mapped (5% damped) spectral response acceleration parameter at short period (0.2 sec), S_S	1.333
Mapped (5% damped) spectral response acceleration parameter at long period (1.0 sec), S_1	0.469
Short period (0.2 sec) site coefficient, F_a	1.0
Long period (1.0 sec) site coefficient, F_v	1.87
Spectral response acceleration parameter at short period (0.2 sec), S_{MS}	1.333
Spectral response acceleration parameter at long period (1.0 sec), S_{M1}	0.877
Design (5% damped) spectral response acceleration parameter at short period (0.2 sec), S_{DS}	0.889
Design (5% damped) spectral response acceleration parameter at long period (1.0 sec) S_{D1}	0.585 (2)
Peak Ground Acceleration (PGA) (g)	0.50
Site -adjusted PGA (PGA_M) (g)	0.55
Design Magnitude(3) Mw	7.3

Notes:

(1) Risk category was assumed and should be verified by designer during final design.

(2) See the commentary in ASCE/SEI 7-16, Section 11.4.8 for site-specific ground motion analysis and "Exception note" 2.

(3) Design magnitude based on USGS Probabilistic Deaggregation with 2% chance of exceedance in 50 years (2,475 year return interval) (USGS, 2021d).

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5.0 CONCLUSIONS AND LIMITATIONS

Our review of available geological and geotechnical literature did not reveal conditions that would preclude development of the proposed Project provided, as mentioned above, a site-specific geotechnical investigation is conducted prior to the site development. The proposed project is considered feasible for development from a geotechnical perspective.

This preliminary geological and geotechnical hazard evaluation report has been prepared for the use of HDR and Imperial County for the proposed VEGA 2,3,5 Project. The report may not be used by others without the written consent of our client and our firm. The findings, conclusions, and preliminary recommendations presented in this report were prepared in a manner consistent with the standard of care and skill ordinarily exercised by members of its profession, practicing under similar conditions in the geographic vicinity, and at the time the services were performed. No other warranty is either expressed or implied.

Our findings, conclusions and preliminary recommendations presented in this report may be used for preliminary consideration of the feasibility and cost of site development purposes only. They are not intended for the design of the project. Additionally, a site-specific geotechnical investigation should be performed during the planning process for the proposed Project, in order to develop recommendations for the specific foundation designs and earthwork construction being considered for this project.

We appreciate the opportunity to provide our services on this Project. Please do not hesitate to contact undersigned if you have questions, comments, or need additional information.

Respectfully submitted,

HDR Engineering, Inc.

Manuel Guzman, PE
Engineer - Geotechnical

Gary Goldman, PE, GE
Senior Project Manager-Geotechnical

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Appendix A
Figures

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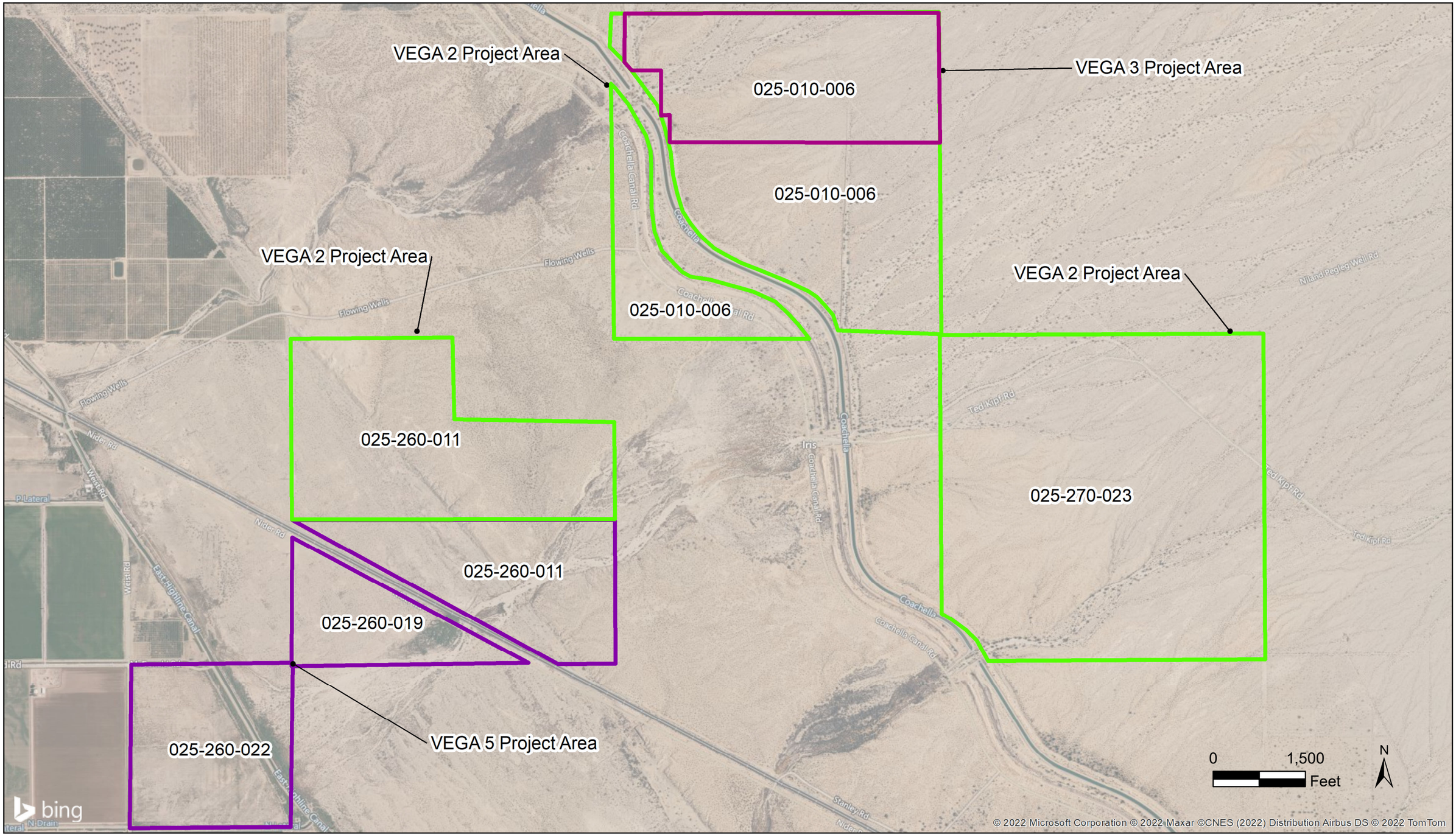

SOIL LOCATION MAP
VEGA 2, 3, 5
IMPERIAL COUNTY, CALIFORNIA

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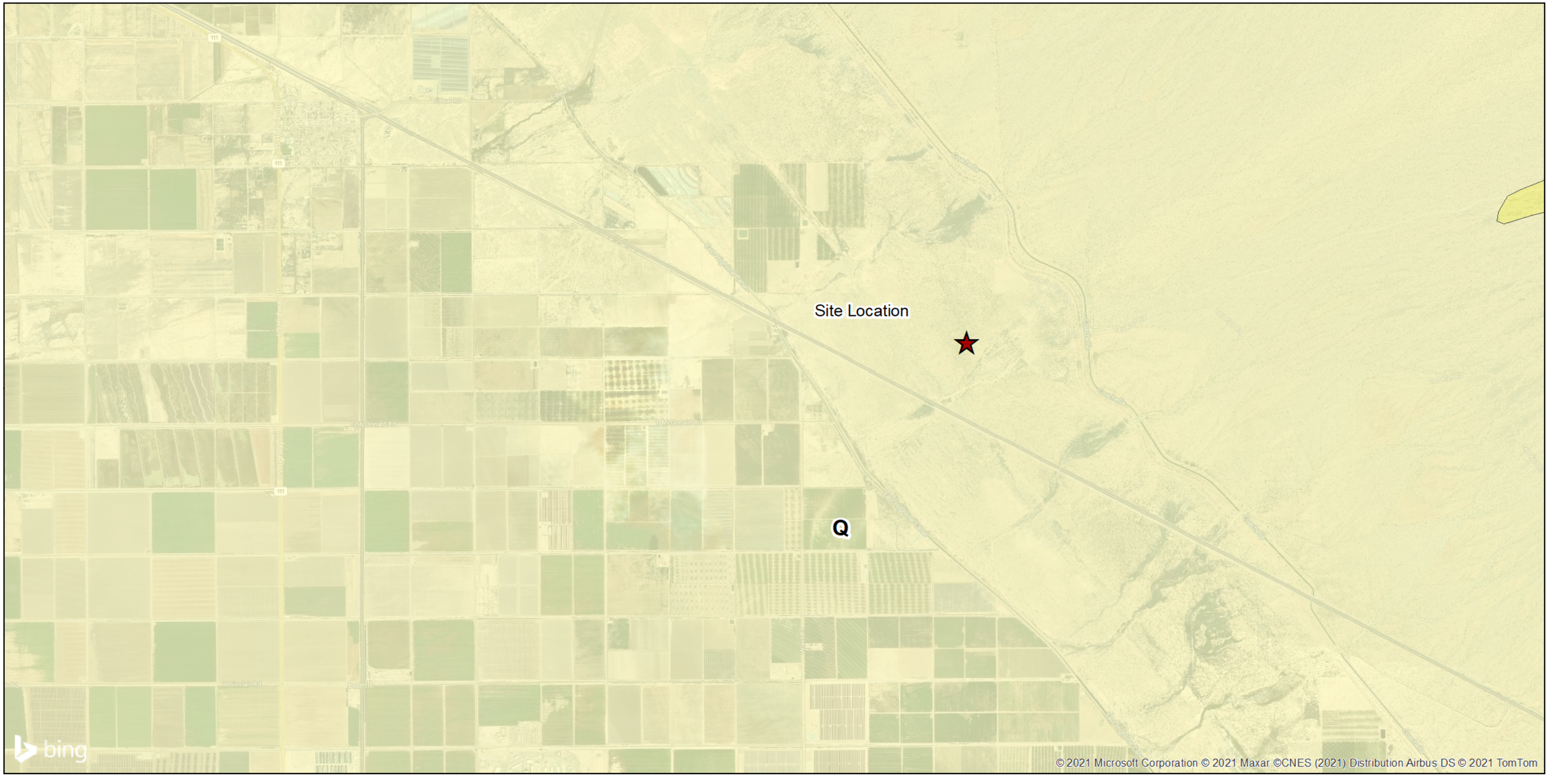
Figure 1



Reference: CGS, 2010, Geologic Map of California, Original compilation by Charles W. Jennings, Updated version by Carlos Gutierrez, William Bryant, George Saucedo, and Chris Wills.

Q **Q - Alluvium, lake, playa, and terrace deposits; unconsolidated and semi-consolidated. Mostly nonmarine, but includes marine deposits near the coast.**

Qoa **Qoa - Older alluvium, lake, playa, and terrace deposits.**

0 4,000 Feet N

REGIONAL GEOLOGIC MAP
VEGA 2,3,5
IMPERIAL COUNTY, CALIFORNIA

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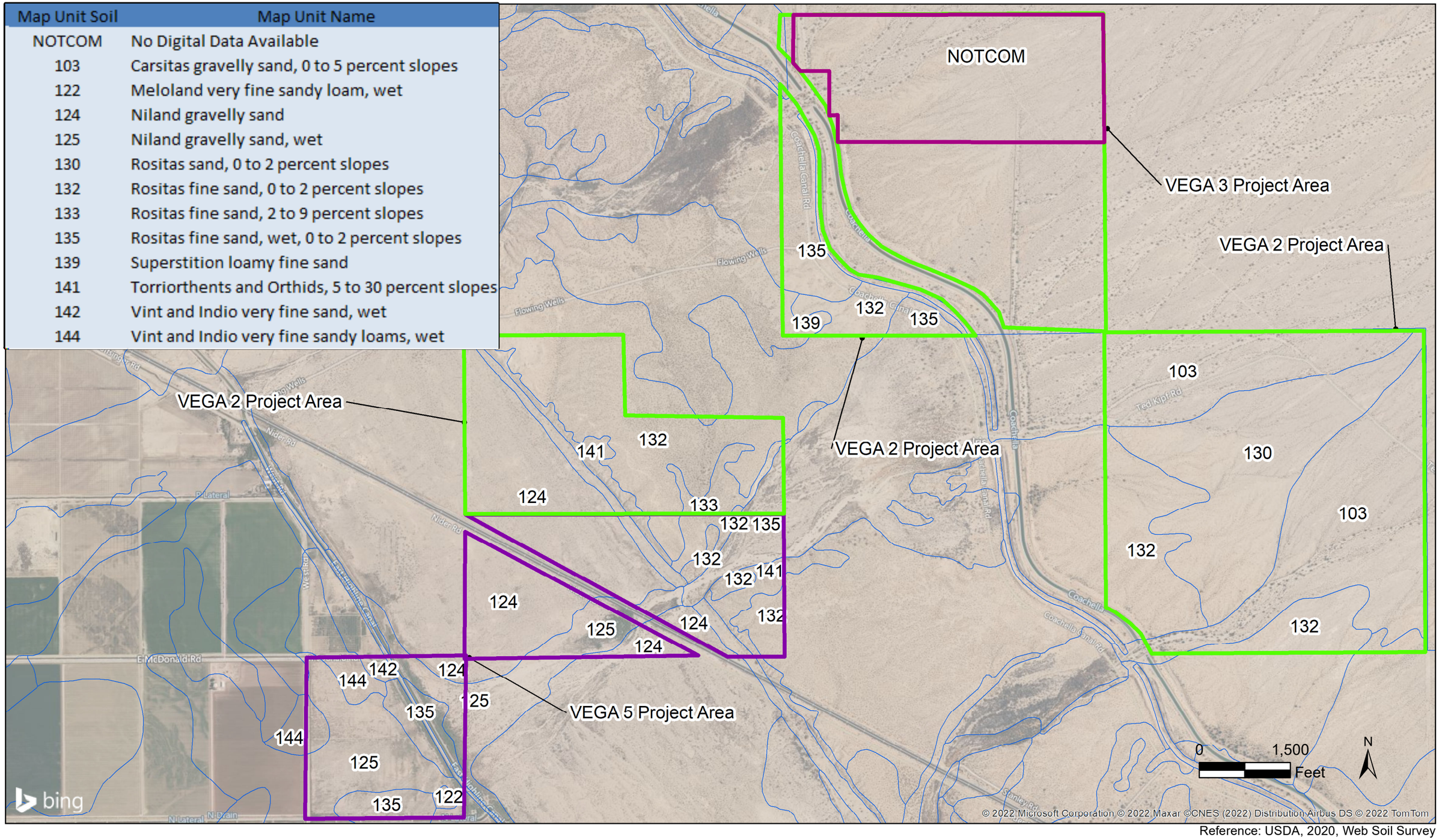
Figure 2

Map Unit Soil	Map Unit Name
NOTCOM	No Digital Data Available
103	Carsitas gravelly sand, 0 to 5 percent slopes
122	Meloland very fine sandy loam, wet
124	Niland gravelly sand
125	Niland gravelly sand, wet
130	Rositas sand, 0 to 2 percent slopes
132	Rositas fine sand, 0 to 2 percent slopes
133	Rositas fine sand, 2 to 9 percent slopes
135	Rositas fine sand, wet, 0 to 2 percent slopes
139	Superstition loamy fine sand
141	Torriorthents and Orthids, 5 to 30 percent slopes
142	Vint and Indio very fine sand, wet
144	Vint and Indio very fine sandy loams, wet



Reference: USDA, 2020, Web Soil Survey

SOIL SURVEY MAP
VEGA 2, 3, 5
IMPERIAL COUNTY, CALIFORNIA

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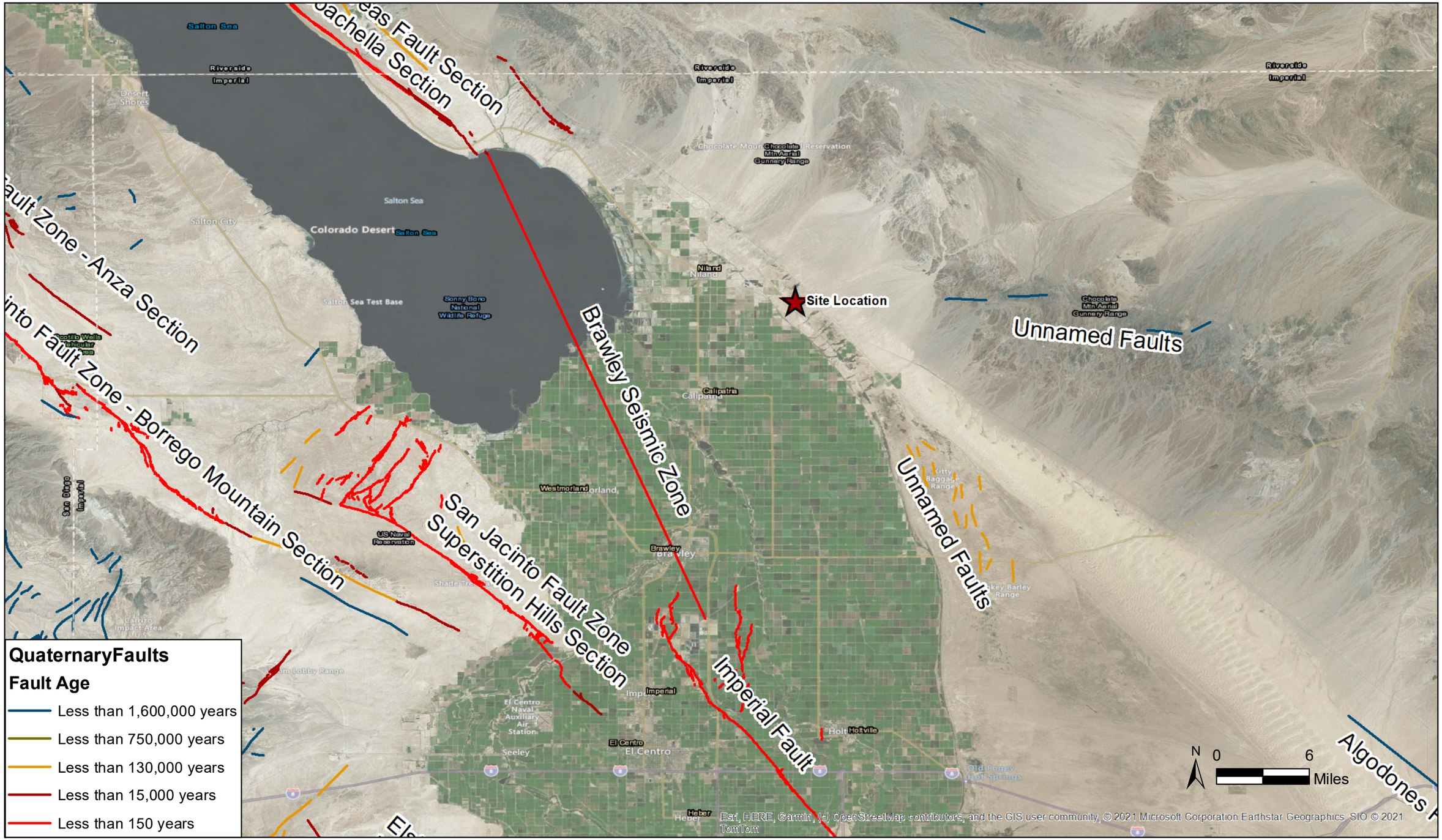
Figure 3



* Fault Age classifications are based on geologic evidence to determine the youngest faulted unit and the oldest unfaulted unit along each fault or fault section (Jennings, C.W., and Bryant, W.A., 2010)

Reference: USGS, 2006

FAULT MAP
VEGA 2,3,5
IMPERIAL COUNTY, CALIFORNIA

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Figure 4

Reference: CGS, 2019

SEISMIC HAZARD MAP
VEGA 2,3,5
IMPERIAL COUNTY, CALIFORNIA

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Figure 5

Appendix B
Site Photographs

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VEGA 2 – Southern Area

VEGA 2 – Southern Area

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VEGA 2 – Northern Area

VEGA 2 – Northern Area

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VEGA 2 – Eastern Area

VEGA 2 – Eastern Area

PC ORIGINAL PKG

VEGA 5 – Southern Area

VEGA 5 – Southern Area

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VEGA 5 – Northeast Area

VEGA 5 – Northeast Area

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Phase I ESA Report

Vega 2/3 (Tong Li, Mesa Ranch and Clark) Solar Site
Flowing Wells and PegLeg Well Roads at Coachella Canal
Niland, California

Prepared for:

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750 Main Street
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December 2020

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GSLyon

Engineering And
Information Technology

December 17, 2020

Mr. Ziad Alaynon
Vega SES 2, LLC
750 Main Street
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Phase I Environmental Site Assessment Report
Vega 2/3 (Tong Li, Mesa Ranch and Clark) Solar Site
Flowing Wells and PegLeg Well Roads at Coachella Canal
Niland, California
GSL Report No. GS2020

Dear Mr. Alaynon:

We have performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM E1527-13 of the approximately 1,713-acre subject property located at Flowing Wells and PegLeg Well Roads at the Coachella Canal approximately 9 miles southeast of Niland, California. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report.

This assessment has not revealed any recognized environmental conditions (REC's) in connection with the property.

We declare that, to the best of our professional knowledge and belief, we meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR §312 and we have the specific qualifications based on education, training and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

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Attached is our report which describes the procedures used and results of the assessment. If you have any questions or require additional information, please do not hesitate to contact the undersigned at (760) 337-1100. We appreciate the opportunity to provide our professional review for this subject property.

Respectfully Submitted,
GS Lyon Consultants, Inc.

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APPENDICES

Appendix A: Site Photographs
Appendix B: Vicinity, Site, and Soils Maps
Appendix C: Historical Aerial Photographs
Appendix D: Historical Topographic Maps
Appendix E: EDR Sanborn Fire Insurance Maps
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Appendix I: User Questionnaire and EDR Environmental Lien and AUL Search
Appendix J: Preliminary Title Report
Appendix K: Resumes of Environmental Professionals

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1.0 INTRODUCTION

1.1 Purpose

GS Lyon Consultants, Inc. was retained by Apex Energy Solutions, LLC to conduct a Phase I Environmental Site Assessment (ESA) for the Property (herein referred to as the subject property or subject sites in this Phase I ESA Report) as a prerequisite to property transaction (purchase, sale, refinance, etc.). The 1,713-acre subject property located at Flowing Wells Road and PegLeg Well Road at the Coachella Canal approximately 9 miles southeast of Niland, California. See Plate 1 in Appendix B for a Vicinity Map of the subject property.

The purpose of this Phase I Environmental Site Assessment (ESA) is to identify, to the extent feasible, recognized environmental conditions (RECs) associated with past and present activities on the subject property or in the immediate subject property vicinity in general conformance to ASTM Standard E1527-13 "*Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*" that may affect future uses of the subject property.

This report is intended to satisfy the Phase I ESA portion of "*all appropriate inquiry*" into the previous ownership and uses of the subject property as defined under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) at Title 42 of the United States Code (U.S.C.) §9601(35)(B) and in accordance with 40 Code of Federal Regulations (CFR) Part 312, Standards and Practices for All Appropriate Inquiries; Final Rule (AAI Rule).

1.2 Scope of Services

The scope of work for this ESA is in general accordance with the requirements of ASTM Standard E1527-13. This assessment included:

- Reconnaissance of the subject property and adjacent properties
- Review user-provided information
- Interviews with persons with significant knowledge of the subject property
- Review of a regulatory database report provided by a third-party vendor
- Review readily-available historical sources (including but not limited to: aerial photographs, fire insurance maps, property tax files, recorded land title records, and topographical maps)
- Prepare report of findings

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1.3 Limitations

No Phase I ESA can completely eliminate uncertainty regarding the potential for RECs in connection with a property. Conformance of this assessment with ASTM Standard E1527-13 is intended to reduce, but not eliminate uncertainty regarding the potential for RECs in connection with the Subject Property. While GS Lyon has made reasonable effort to discover and interpret available historical and current information on the property within the time available, the possibility of undiscovered contamination remains. Our assessment of the subject property and surrounding areas was conducted in accordance with ASTM guidelines and the *generally accepted environmental engineering standard of practice* which existed in Imperial County, California at the time that the report was prepared. No warranty, express or implied, is made.

GS Lyon Consultants, Inc. derived the data in this report primarily from visual inspections, examination of public records and information in the public domain, informal interviews with individuals, and readily available information about the subject property. The passage of time, manifestation of latent conditions or occurrence of future events may require further exploration of the subject property, analysis of the data, and reevaluation of the findings, observations, and conclusions expressed in this report.

The findings, observations, and conclusions expressed by GS Lyon Consultants in this report are not, and should not be considered, an opinion concerning the compliance of any past or present owner or operator of the subject property with any federal, state or local law or regulation.

This report should not be relied upon after **180 days** from the date of issuance, unless additional services are performed as defined in ASTM E1527-13 - Section 4.7.

1.4 Deviations or Data Gaps

ASTM Standard E1527-13 requires any significant data gaps, deviations, and deletions from the ASTM Standard to be identified and addressed in the Phase I ESA. A significant data gap would be one that affected the ability to identify a REC on the subject property or adjacent properties.

Through the course of this assessment, *data failures* or *data gaps* may have been encountered. These failures or gaps, if any, are discussed below. The following provides the opinion of the Environmental Professional as to the significance of the data gaps in terms of defining *recognized environmental conditions* at the subject property. Data failures may or may not be significant data gaps, and the discussion also provides information pertaining to whether the data failures resulted in significant data gaps.

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1.4.1 Data Failures

Data failure is a failure to achieve the historical (property use) research objectives specified in the ASTM Standard Practice even after reviewing the eight standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

No *data failures w*ere encountered during this investigation.

1.4.2 Data Gaps

A *data gap* is a lack of or inability to obtain information required by the ASTM Standard Practice, despite good faith efforts by the Environmental Professional to gather such information. This could include any component of the Practice, e.g., standard environmental records, interviews, or a complete reconnaissance. A data gap by itself is not inherently significant, but if other information and/or the EP's experience raises reasonable concerns about the gap, it may be judged to be significant.

Due to the location of the subject property, Sanborn Fire Insurance maps were not available for the subject property. Because there is no historical data or physical indications that the property has ever been developed or occupied by a business that would have produced hazardous materials, the lack of Sanborn Fire Insurance maps is not considered a significant data gap.

Aerial photographs and other historical records were not available at 5 year intervals as required under the ASTM E1527-13 standard. This resulted in a data gap for years that records were not available regarding the area of the subject property. However, based upon other historical information reviewed, the subject property has been vacant desert land. Therefore, this data gap is not considered to be significant.

Interviews with past owners, operators and occupants were not reasonably ascertainable and thus constitute a data gap. Based on information obtained from other historical sources (as discussed in Section 3.0), this data gap is not expected to alter the findings of this assessment.

1.5 Significant Assumptions

In preparing this report, GS Lyon Consultants, Inc. has relied upon and presumed accurate certain information (or the absence thereof) about the subject property and adjacent properties by governmental officials and agencies, the Client, and others identified herein. Except as otherwise stated in the report, GS Lyon Consultants has not attempted to verify the accuracy or completeness of any such information.

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1.6 User Reliance

This report has been prepared on behalf of and for the exclusive use of Apex Energy Solutions, LLC for the particular subject property identified in this report, and is subject to and issued in connection with the referenced Agreement and the provisions thereof. This report should not be relied upon by any party other than the client, its legal counsel, and financial institution without the express permission of GS Lyon Consultants, Inc. Any reliance on this report by other parties shall be at such party's sole risk. Any future consultation or provision of services to third parties related to the subject property requires written authorization from Apex Energy Solutions, LLC or their representatives. Any such services may be provided at GS Lyon Consultants sole discretion and under terms and conditions acceptable to GS Lyon Consultants, including potential additional compensation.

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2.0 SITE DESCRIPTION

2.1 Site Location and Legal Description

The approximately 1,713-acre subject property (APNs 025-260-011, 025-270-023 and 025-010-006) is located at Flowing Wells Road and PegLeg Well Road at the Coachella Canal approximately 9 miles southeast of Niland, California. The subject property location is depicted on Plate 1, Site Map.

2.2 Current Property Use and Description

The subject property currently consists of three distinct parcels consisting of vacant desert land located on the east side of the Union Pacific Railroad mainline tracks. Descriptions of the three parcels are provided below.

APN 025-260-011: This parcel is irregularly shaped area on the north side of the Union Pacific Railroad (UPRR) tracks which form the southern boundary of the parcel. A dry ephemeral wash bed (subject to flash flooding) crosses the southeast corner of this parcel in a northeast to southwest direction. Desert vegetation is scattered throughout the site. A high voltage powerline (230-kV) parallels the western boundary of the parcel. Scattered desert vegetation covers the subject site. The high stand shoreline at Elev. +43 ft. MSL of ancient Lake Cahuilla crosses diagonally (southeast to northwest) across the subject property and is expressed and a sharp change in elevation.

APN 025-010-006: This parcel is square in plan view and is comprised of approximately 640 acres of vacant desert land. The Coachella Canal, a concrete lined major irrigation supply canal to the Coachella Valley, crosses the southwest portion of this site. Flowing Wells Road and Coachella Canal Road, which are unpaved roads, are located in the southwest portion of this parcel. Desert vegetation is scattered throughout the site. A dry ephemeral wash bed (subject to periodic flooding) crosses the northwest corner of this parcel in a northeast to southwest direction. An earth flood diversion berm runs north-south within the eastern portion of this parcel to divert desert flood waters to the Siphon 5 crossing of the Coachella Canal.

APN 025-270-023: This parcel is approximately square in plan view and comprised of approximately 625 acres of vacant desert land. The Coachella Canal crosses the southwest portion of this site. PegLeg Well Road, an unpaved road, crosses the northern portion of this parcel. Ted Kipf Road (unpaved) spits southeasterly from PegLeg Road and diagonally crosses the northeastern portion of the parcel. Desert vegetation is scattered throughout the site.

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Dry ephemeral wash beds (subject to flash flooding) cross the northwest and southeast corners of this parcel in a northeast to southwest direction aligning to siphons 4 and 5 in the Coachella Canal.

2.3 Adjoining Property Use

The subject property is located near the boundary between the cultivated portion and the desert margins of the Imperial Valley southeast of Niland, California. Adjacent properties consist of agricultural fields and citrus orchards west of the East Highline (EHL) Canal and vacant desert lands east of the EHL Canal. The Coachella Canal, a large concrete lined supply canal, crosses through a portion of the subject properties. The Union Pacific Railroad mainline tracks form the southwestern boundary of the westernmost parcel of the subject site.

2.4 Physical Site Characteristics

Topography: Topographic maps (USGS 7.5 minute Iris, CA Quadrangle) indicate that the subject property elevation is approximately 5 feet below to 190 feet above mean sea level (MSL) or Elevation 995 to 1190 (local datum). The Imperial Irrigation District, which supplies power and raw (irrigation) water to the area, established local datum by equating mean sea level to El. 1000.00 feet.

Geologic Setting: The subject property is located in the Colorado Desert Physiographic province of southern California. The dominant feature of the Colorado Desert province is the Salton Trough, a geologic structural depression resulting from large-scale regional faulting. The trough is bounded on the northeast by the San Andreas Fault and the southwest by faults of the San Jacinto Fault Zone. The Salton Trough represents northward extension of the Gulf of California, which has experienced continual in-filling with both marine and non-marine sediments since the Miocene Epoch (25 million years before present). The tectonic activity that formed the trough continues at a high rate as evidenced by deformed young sedimentary deposits and high levels of historic seismicity.

The subject property is directly underlain by Holocene (0-11,000 years before present) Cahuilla Lake sediments, which consist of interbedded lenticular and tabular sand, silt, and clay. The predominant surface soil is silty clay. The Holocene lake deposits are considered to be less than 100 feet thick and are characterized by surficial clay and silt deposits with varying amounts of fine sand. The topography of the Imperial Valley is relatively flat, with few significant land features. The valley floor slopes gently to the north (less than 0.5 percent) from an elevation of sea level at Calexico to approximately 225 feet below sea level at the Salton Sea.

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Soil Conditions: The U. S. Soil Conservation Service compiled a map of surface soil conditions and published a soil survey report including maps in 1980. The soil survey maps indicate that surficial deposits at the subject property and surrounding area consist predominantly of sandy loams of the Carsitas and Rositas soil groups (see Appendix B). These loams are formed in sediment and alluvium of mixed origin (Colorado River overflows, fresh-water lake-bed sediments, and alluvial fan deposits). Based on Unified Soil Classification System presented in the Soils Survey Report, the permeability of these soils is expected to be low to moderate.

Groundwater Conditions: The groundwater adjacent to the Coachella Canal is encountered at a depth of approximately 40 feet below the ground surface and gets deeper to the east. Little seepage is expected downslope from the canal due to the concrete canal lining.

Groundwater levels may fluctuate with precipitation, drainage, and site grading. Based on the regional topography, groundwater flow is assumed to be generally towards the southwest within the subject property area. Flow directions may also vary locally in the vicinity of the subject property.

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3.0 USER PROVIDED INFORMATION

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *Brownfields Amendments*), the *User* must provide the following information (if available) to the *environmental professional*. Failure to provide this information could result in a determination that *all appropriate inquiry* is not complete. The user was asked to provide information or knowledge of the following:

- Environmental cleanup liens that are filed or recorded against the subject property.
- Activity and land use limitations that are in place on the subject property or that have been filed or recorded in a registry.
- Specialized knowledge or experience of the person seeking to qualify for the LLPs.
- Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.
- Commonly known or *reasonably ascertainable* information about the *property*.
- The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.
- The reason for preparation of this Phase I ESA.

A user questionnaire was provided to the user to aid in gathering information that may be pertinent to the evaluation of the subject property for environmental conditions. The completed user questionnaire is provided in Appendix I.

3.1 Title Records

GS Lyon reviewed preliminary title reports as part of this assessment and did not find past ownership or easements that would indicate environmentally hazardous uses on the parcels.

3.2 Environmental Liens or Activity and Use Limitations

An environmental lien is a charge, security, or encumbrance upon the title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous substances or petroleum products upon the property. According to the User Questionnaire, Ms. Jamie Nagel of Apex Energy Solutions, LLC is not aware of any Environmental Liens or Activity and Use Limitations associated with the subject property that have been filed or recorded under federal, tribal, state or local law (Appendix I).

GS Lyon Consultants contracted Environmental Data Resources, Inc. (EDR) of Shelton, Connecticut to conduct a search of environmental liens for the subject property. According to the EDR environmental lien report, there are no environmental liens associated with the subject property. The EDR environmental lien report is included in Appendix I.

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3.3 Specialized Knowledge

According to the User Questionnaire, Ms. Nagel is not aware of any specialized knowledge or experience associated with the subject property or nearby properties. GS Lyon does not have any personal knowledge of the subject property.

3.4 Commonly Known or Reasonable Ascertainable Information

No information was provided by the Client regarding any commonly known or reasonably ascertainable information within the local community that is material to RECs in connection with the subject property.

3.5 Valuation Reduction for Environmental Issues

The client indicated that the purchase price of this property reasonably reflects the fair market value of the property with no discounts for environmental issues.

3.6 Owner, Property Manager, and Occupant Information

The current owners for APN 025-260-011 are The Marjorie A. Hoffmeister Gardner Trust, Bay Family Trust, and the Joseph G. Clark Revocable Trust. The current owner of APN 025-010-006 is Mesa West Ranch, LLC. The current owners for APN 025-270-023 are Ernest and Traci Lo Living Trust 1999 and the Wang Family Trust and Tien-shih Lin.

The subject property is currently undeveloped desert land. No property manager or occupant information is available.

3.7 Previous Reports and Other Provided Documentation

No previous reports or other pertinent documentation was provided to GS Lyon for review during the course of this assessment.

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4.0 RECORDS REVIEW

A review of historic aerial photographs (Appendix C), historic topographic maps (Appendix D), historic Sanborn Fire Insurance maps (Appendix E), governmental regulatory databases (Appendix F), other regulatory and agency databases (Appendix G), and historic telephone and city directories (Appendix H) was performed to evaluate potentially adverse environmental conditions resulting from previous ownership and uses of the subject property. The details of the review are presented in Sections 4.1 through 4.5 of this report.

4.1 Regulatory Database Review

4.1.1 Standard Environmental Record Sources

GS Lyon Consultants contracted Environmental Data Resources, Inc. (EDR) of Shelton, Connecticut which queries and maintains comprehensive environmental databases and historical information, including proprietary databases, aerial photography, topographic maps, Sanborn Maps, and city directories to generate a compilation of Federal, State and Tribal regulatory lists containing information regarding hazardous materials occurrences on or within the prescribed radii of ASTM E1527-13. The search of each database was conducted using the approximate minimum search distances from the subject property defined by the ASTM E1527-13 Standard. The purpose of the records review is to obtain and review *reasonably ascertainable* records that will help identify *recognized environmental conditions* or *historical recognized environmental conditions* in connection with the subject property.

EDR‘s Phase I ESA search package was ordered and performed on August 28, 2020. The search package included: Radius Map with Geocheck, aerial photographs, and historic topographic maps.

The results of EDR’s search were used to evaluate if the subject property and/or properties within prescribed search distances are listed as having a past or present record of actual or potential environmental impact. Inclusion of a property in a government database list does not necessarily indicate that the property has an environmental problem.

The following is a brief synopsis of sites identified in the EDR Radius Map with Geocheck report. The government record search report is included in its entirety in Appendix F.

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Federal NPL List

The Environmental Protection Agency's (EPA) National Priorities List (NPL) of uncontrolled or abandoned hazardous waste sites was reviewed for risk sites within a 1 mile radius of the subject property. The NPL identifies sites for priority cleanup and long-term care of properties under the Superfund Program that are contaminated with hazardous substances.

The database search did not identify any NPL sites within 1 mile of the subject property.

Federal CERCLIS List

The EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) listings were reviewed to determine if risks sites within ½ mile are listed for investigation. The CERCLIS database identifies hazardous waste sites that are on or proposed to be included in the NPL and sites that require investigation and possible remedial action to mitigate potential negative impacts on human health or the environment.

The CERCLIS database search did not identify any risk sites within 0.5 mile of the subject property.

Federal CERCLIS – No Further Remedial Action Planned

The EPA's CERCLIS – No Further Remedial Action Planned (NFRAP) database was reviewed to determine if risks sites within ½ mile are listed. CERCLIS NFRAP site are risk sites that have been removed from and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at the subject property has been completed and the EPA has determined that no further steps will be taken to list this subject property on the NPL, unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time.

This designation is for sites where no contamination was found, contamination was quickly removed without the need for the subject property to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

The CERCLIS – NFRAP database search did not identify any risk sites within ½mile of the subject property.

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Federal RCRA List

The Federal Resource Conservation Recovery Act (RCRA) Notifiers List was reviewed to determine if RCRA treatment, storage or disposal sites (TSD) are located within 1 mile of the subject property. The RCRA Correction Action Sites List (CORRACTS) is maintained for risk sites which are undergoing "a corrective action". A corrective action order is issued when there has been a release of hazardous waste constituents into the environment from a RCRA facility.

The RCRA and RCRA CORRACTS database searches did not identify any RCRA TSD or RCRA CORRACTS risk sites within ½ mile of the subject property.

The RCRA regulated hazardous waste generator notifiers list was reviewed to determine if RCRA generator facilities are located on or adjoining the subject property. No RCRA generator facilities within ¼ mile of the subject property were identified in the database.

Federal ERNS List

The Federal Emergency Response Notification System (ERNS) List was reviewed to determine if reported release of oil and/or hazardous substances occurred on the subject property.

The ERNS database searches did not identify any reported releases for the subject property.

State and Tribal NPL List

The Environmental Protection Agency's (EPA) National Priorities List (NPL) of uncontrolled or abandoned hazardous waste sites was reviewed for risk sites within a 1 mile radius of the subject property. The NPL identifies sites for priority cleanup and long-term care of properties under the Superfund Program that are contaminated with hazardous substances.

The database search did not identify any NPL sites within 1 mile of the subject property.

State and Tribal equivalent CERCLIS

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites.

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EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

The EnviroStor database search did not identify and risk sites within 1 mile of the subject property.

State and Tribal Leaking Underground Storage Tank Sites
The California State Water Resources Control Board (SWRCB) maintains a list of information concerning reported leaking underground storage tanks (LUST). The LUST inventory list was reviewed to determine if any LUSTs are located within ½ mile the subject property.

The SWRCB LUST database did not identify any risk sites within ½ mile of the subject property.

State and Tribal Underground and Aboveground Storage Tank Sites
The California State Water Resource Control Board (SWRCB) underground storage tank (UST) and above ground storage tank (AST) inventory list was reviewed to determine if any UAST's are located on or adjacent to the subject property.

The SWRCB UST and AST databases did not identify any risk sites within ¼ mile of the subject property.

Solid Waste Disposal/Landfill Facilities
The Solid Waste Disposal/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data comes from the Integrated Waste Management Board's Solid Waste Information System (SWIS) database.

A review of the SWF/LF list database did not identify any risk sites within ½ mile of the subject property.

Unmapped (Orphan) Sites
Not all sites or facilities identified in the database records can be accurately located in relation to the Subject Property due to incomplete information being supplied to the regulatory agencies and are referred to as "orphan sites" by EDR.

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The "Orphan Summary" section of the EDR Radius Map Report identified several orphan sites. Based on a drive-by reconnaissance of the Subject Property vicinity and review of location and status information provided in the database report, none of the identified orphan sites are located within the search radii for databases specified by the Standard.

4.1.2 Additional Environmental Record Sources

California Department of Toxic Substances Control (DTSC) Records – Envirostor Database: EnviroStor is an online search and Geographic Information System tool for identifying sites that have known contamination or sites for which there may be reasons to investigate further. Public Access to EnviroStor is accessible via the DTSC Web Page located at: http://www.envirostor.dtsc.ca.gov/public/. The EnviroStor database includes the following site types: Federal Superfund sites (National Priority List); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. The information includes site name, site type, status, address, any restricted use (recorded deed restrictions), past use(s) that caused contamination, potential contaminants of concern, potential environmental media affected, site history, planned and completed activities. The EnviroStor database also contains current and historical information relating to Permitted and Corrective Action facilities. The EnviroStor database includes current and historical information on the following permit-related documents: facility permits; permit renewal applications; permit modifications to an existing permit; closure of hazardous waste management units (HWMUs) or entire facilities; facility corrective action (investigation and/or cleanup); and/or post-closure permits or other required post-closure activities.

The EnviroStor database was queried on September 10, 2020. A map showing the results of the query is provided in Appendix G. No reported cases were found on the subject property. No risk sites were located within ½ mile of the subject property.

California State Water Resources Control Board Records – GeoTracker Database: GeoTracker is a geographic information system (GIS) maintained by the California State Water Resources Control Board (SWRCB) that provides online access to environmental data at http://www.geotracker.swrcb.ca.gov\. GeoTracker tracks regulatory data about underground fuel tanks, fuel pipelines, and public drinking water supplies. Site information from the Spills, Leaks, Investigations, and Cleanups (SLIC) Program is also included in GeoTracker.

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The GeoTracker database was queried for environmental data pertaining to the Subject property on September 10, 2020. A map showing the results of the query is provided in Appendix G. No reported cases were found on the subject property. No risk sites were located within ½ mile of the subject property.

CUPA Records Search: The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. Cal/EPA and other state agencies set the standards for their programs while local governments implement the standards—these local implementing agencies are called Certified Unified Program Agencies (CUPA).

The DTSC Imperial CUPA office was contacted (Veronica Lopez) by email on September 16, 2020. CUPA records were searched for environmental issues related to the subject property. The DTSC indicated that records are filed per address, and with no known address associated with the subject property, no records were found associated with the subject property.

4.2 Historical Use Records

ASTM E1527-13 requires the environmental professional to identify all obvious uses of the property from the present back to the property's first developed use or 1940, whichever is earliest. This information is collected to identify the likelihood that past uses have led to RECs in connection with the property. This task is accomplished by reviewing standard historical sources to the extent that they are necessary, reasonably ascertainable, and likely to be useful. These standard records include aerial photographs, fire insurance maps, property tax files, land title records, topographic maps, city directories, telephone directories, building department records, and zoning/land use records.

The general type of historical use (i.e., commercial, retail, residential, industrial, undeveloped, office) should be identified at 5-year intervals, unless the specific use of the property appears to be unchanged over a period longer than 5 years. The historical research is complete when the use is defined or when data failure occurs. Data failure occurs when all of the standard historical sources have been reviewed, yet the property use cannot be identified back to its first developed use or to 1940. Data failure is not uncommon in trying to identify the use of the property at 5-year intervals back to first use or 1940, whichever is earlier.

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GS Lyon reviewed the following historical records to identify obvious uses of the subject property from the present back to the property's first developed use, or to 1940, whichever is earlier. The results of this research and data failure, if encountered, are presented in the following sections.

4.2.1 Title Records

GS Lyon was provided with preliminary title records for review as part of this assessment.

4.2.2 Sanborn Fire Insurance Maps

Sanborn Fire Insurance Maps are large scale maps depicting the commercial, industrial, and residential sections of various cities across the United States. Since the primary use of the fire insurance maps was to assess the buildings that were being insured, the existence and location of fuel storage tanks, flammable or other potentially toxic substances, and the nature of businesses are often shown on these maps.

Due to the rural undeveloped nature of the subject property and vicinity for the years the Sanborn Fire Insurance Maps were available for this subject property, no maps are available for the subject property. An "Unmapped Property" letter for the Sanborn Fire Insurance Maps is included in Appendix E.

4.2.3 Aerial Photographs

Aerial photographs obtained from Environmental Data Resources (EDR) dating back to 1937 and Google Earth aerial photographs dating back to 1996 were reviewed for historical development of the subject property. Reproductions of the historical aerial photographs reviewed are included in Appendix C.

The 1937 aerial photograph shows the subject sites as being vacant desert ground with dry washes crossing the parcels from a northeast to southwest direction. Adjacent parcels appear to be vacant desert lands. The Union Pacific railroad mainline tracks are visible on the southwest boundary of APN 025-260-011. The high stand shoreline (45' elevation contour) of ancient Lake Cahuilla is visible crossing APN 025-260-011 from northwest to southeast.

The 1940, 1953 and 1976 aerial photographs show the subject sites being similar to the 1937 aerial photograph except the Coachella Canal had been constructed and is visible adjacent to APN 025-270-023 and crossing through the western portion of APN 025-010-006.

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The 1984 aerial photograph shows the subject sites being similar to the 1976 aerial photograph except the Coachella Canal channel had been shifted to the east and concrete lined.

The 2004, 2008, 2012 and 2016 aerial photographs show the subject site as being similar to the 1984 aerial photograph and at the present time.

4.2.4 Street Directories

City directories are used for locating individuals and businesses in a particular urban or suburban area. City directories are generally divided into three sections: a business index, a list of resident names and addresses, the name and type of businesses (if unclear from the name). While city directory coverage is comprehensive for major cities, it may be spotty for rural and small towns.

Polk City Directories: The Polk City Directories for the years 1965 and 1983 were reviewed. No listings for the subject properties were found.

4.2.5 Historic Topographic Maps

Historic topographic maps (1940, 1945, 1947, 1956, 1965, 1976, 1992, 2002, and 2012), USGS 7.5 Min. Iris, CA Quadrangle, showed the subject property the subject property as being vacant. The historical topographic maps showed powerlines crossing the northern and western sites from 1940 to 1947 and several unpaved roads crossing the sites.

4.2.6 Historical Telephone Directories

Telephone Directories: Telephone directories for the Imperial County, which included the City of Niland businesses published in 1941, 1955, 1965, 1974, 1994, and 2004 were reviewed. No service stations, chemical manufacturers, petroleum manufacturers, distributors, or automotive repair facilities were noted at or in the immediate vicinity of the subject property. No listings for the subject site were found.

4.3 Historical Use Summary

4.3.1 Summary of the Historical Use of Property

Based on a review of the historical information, the subject sites have been vacant desert land since 1937.

4.3.2 Summary of the Historical Use of Adjacent Properties

Historically, the properties located immediately adjacent to the subject property have been comprised of agricultural field to the west and south and vacant desert lands to the east and north. Development of the agricultural fields began in the 1930s.

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5.0 SITE RECONNAISSANCE

5.1 Methodology and Limiting Conditions

A site reconnaissance was performed by Mr. Pete LaBrucherie, a consulting engineer to GS Lyon Consultants, on September 29, 2020. The site visit consisted of a walking the perimeter of the subject property and randomly crossing the subject property. The reconnaissance included visual observations of surficial conditions at the subject property and observation of adjoining properties to the extent that they were visible from public areas. Mr. LaBrucherie was unaccompanied during the site reconnaissance.

The site reconnaissance was limited to visual and/or physical observation of the exterior and interior of the subject property and its improvements, the current uses of the property and adjoining properties, and the current condition of the property. The site visit evaluated the subject property and adjoining properties for potential hazardous materials/waste and petroleum product use, storage, disposal, or accidental release, including the following: presence of tank and drum storage; mechanical or electrical equipment likely to contain liquids; evidence of soil or pavement staining or stressed vegetation; ponds, pits, lagoons, or sumps; suspicious odors; fill and depressions; or any other condition indicative of potential contamination. The site visit did not evaluate the presence of asbestos-containing materials, radon, lead-based paint, mold, indoor air quality, or structural defects, or other non-scope items.

A site reconnaissance can be limited by weather conditions, bodies of water, adjacent buildings, or other obstacles. The weather was warm and sunny and no access limitations were placed on the site visit.

5.2 General Site Setting

The subject property currently consists of three separate parcels, all of which are vacant desert land. Descriptions of the three individual parcels are provided below.

APN 025-260-011: This parcel is irregularly shaped area on the north side of the Union Pacific Railroad (UPRR) tracks which form the southern boundary of the parcel. A dry ephemeral wash bed (subject to flash flooding) crosses the southeast corner of this parcel in a northeast to southwest direction. Desert vegetation is scattered throughout the site. A high voltage powerline (230-kV) parallels the western boundary of the parcel. Scattered desert vegetation covers the subject site. The high stand shoreline at Elev. +43 ft. MSL of ancient Lake Cahuilla crosses diagonally (southeast to northwest) across the subject property and is expressed and a sharp change in elevation.

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APN 025-010-006: This parcel is square in plan view and is comprised of approximately 640 acres of vacant desert land. The Coachella Canal, a concrete lined major irrigation supply canal to the Coachella Valley, crosses the southwest portion of this site. Flowing Wells Road and Coachella Canal Road, which are unpaved roads, are located in the southwest portion of this parcel. Desert vegetation is scattered throughout the site. A dry ephemeral wash bed (subject to periodic flooding) crosses the northwest corner of this parcel in a northeast to southwest direction. An earth flood diversion berm runs north-south within the eastern portion of this parcel to divert desert flood waters to the Siphon 5 crossing of the Coachella Canal.

APN 025-270-023: This parcel is approximately square in plan view and comprised of approximately 625 acres of vacant desert land. The Coachella Canal crosses the southwest portion of this site. PegLeg Well Road, an unpaved road, crosses the northern portion of this parcel. Ted Kipf Road (unpaved) spits southeasterly from PegLeg Road and diagonally crosses the northeastern portion of the parcel. Desert vegetation is scattered throughout the site. Dry ephemeral wash beds (subject to flash flooding) cross the northwest and southeast corners of this parcel in a northeast to southwest direction aligning to siphons 4 and 5 in the Coachella Canal.

Photographs of the subject property taken on September 29, 2020 during our site reconnaissance are included in Appendix A.

5.3 Adjacent Properties

The subject property is located near the boundary between the cultivated portion and the desert margins of the Imperial Valley southeast of Niland, California. Adjacent properties consist of agricultural fields and citrus orchards west of the East Highline (EHL) Canal and vacant desert lands east of the EHL Canal. The Coachella Canal, a large concrete lined supply canal, crosses through a portion of the subject properties. The Union Pacific Railroad mainline tracks form the southwestern boundary of the westernmost parcel of the subject site.

5.4 Exterior and Interior Observations

The following conditions were specifically assessed for their potential to indicate RECs and may include conditions inside or outside structures on the subject property.

5.4.1 Hazardous Substances and Petroleum Products

GS Lyon did not observe operations that use, treat, store, dispose of, or generate hazardous materials or petroleum products on the subject property.

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5.4.2 Storage Tanks

Underground Storage Tanks (USTs) – No obvious visual evidence indicating the current presence of USTs (i.e. vent pipes, fill ports, etc.) was noted.

Aboveground Storage Tanks (ASTs) – No obvious visual evidence indicating the historical presence of ASTs (i.e. secondary containments, concrete saddles, etc.) was observed.

5.4.3 Odors

No obvious strong, pungent, or noxious odors were noted during the site reconnaissance.

5.4.4 Pools of Liquid

Pools of liquid were not observed during the site reconnaissance.

5.4.5 Drums and Containers

GS Lyon did not observe drums or storage containers on the subject property.

5.4.6 Unidentified Substance Containers

GS Lyon did not observe open or damaged containers containing unidentified substances at the subject property.

5.4.7 Suspect Polychlorinated Biphenyl (PCB) Containing Equipment

No potential PCB containing equipment such as electrical transformers, capacitors, and hydraulic equipment were observed during the site reconnaissance on the subject property or immediate vicinity.

5.5 Interior Observations

The subject property is currently vacant with no structures; therefore, no interior observations were made.

5.6 Exterior Observations

5.6.1 Pits, Ponds, and Lagoons

No pits, ponds, or lagoons were noted on the subject property.

5.6.2 Stained Soils or Pavement

No evidence of significantly stained soil or pavement was noted on the subject property.

5.6.3 Stressed Vegetation

No evidence of stressed vegetation attributed to potential contamination was noted on the subject property.

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5.6.4 Solid Waste

No dumpsters or solid waste containers exist on the subject property.

5.6.5 Wastewater

No wastewater is generated at the subject property

5.6.6 Wells

No evidence of wells (dry wells, drinking water, observation wells, groundwater monitoring wells, irrigation wells, injection wells or abandoned wells) was noted on the subject property.

5.6.7 Septic Systems

No septic systems are present on the subject property.

5.7 Non-Scope Issues

ASTM guidelines identify non-scope issues, which are beyond the scope of a Phase I ESA as defined by ASTM. These issues may affect environmental risk at the subject property and may warrant discussion and/or assessment. Some of these non-scope issues include; asbestos-containing building materials, radon, lead-based paint, and wetlands which are discussed below.

5.7.1 Asbestos-Containing Building Materials

The potential for asbestos containing materials (ACM) existing at the subject property is very low due to the lack of subject property structures.

5.7.2 Lead-Based Paint

The potential or lead based paint residues existing at the subject property is very low due to the lack of subject property development.

5.7.3 Radon

The subject property is located in Zone 3 as shown on the EPA Map of Radon Zones indicating a predicted average indoor radon screening level of less than 2 pCi/L; therefore, r gas is not believed to be a potential hazard at the subject property.

5.7.4 Wetlands

No wetlands are located within one (1) mile of the subject property.

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5.7.5 Agricultural Use

Based on our review of environmental records and historical documents, the subject property has been vacant desert land.

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6.0 INTERVIEWS

GS Lyon interviewed various individuals familiar with the subject property, as identified to us, and/or government officials in order to evaluate historical uses and identify potential RECs existing on the subject property. The individuals interviewed were asked to provide responses in good faith and to the best of their knowledge. The following sections identify the individuals interviewed and summarize the information each provided; however, additional information provided by these individuals may be presented in other sections of this report.

6.1 Interview with Owner

GS Lyon we not able to contact the current property owner; therefore, no interview was conducted.

6.2 Interview with the Site Manager

The subject property is vacant, undeveloped land; therefore, there is no site manager.

6.3 Interview with Occupants

The subject property is vacant, undeveloped land; therefore, there are no occupants.

6.4 Interview with Local Government Officials

The DTSC Imperial CUPA office was contacted (Veronica Lopez) by email on September 16, 2020. CUPA records were searched for environmental issues related to the subject property. The DTSC indicated that records are filed per address, and with no known address associated with the subject property, no records were found associated with the subject property.

Interviews with past owners, operators and occupants were not reasonably ascertainable and thus constitute a data gap.

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7.0 EVALUATION

7.1 Summary of Findings

The approximately 1,713-acre subject property located at Flowing Wells Road and PegLeg Well Road at the Coachella Canal approximately 9 miles southeast of Niland, California. The subject property has been undeveloped desert lands since at least 1937 according to the historical information obtained and reviewed during this site assessment. The subject property is generally planar, with surface water drainage toward the southwest. The regional topographic gradient is generally toward the west to the Salton Sea.

7.2 Conclusions

GS Lyon has performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM E1527-13 of the property located at Flowing Wells Road and PegLeg Well Road at the Coachella Canal approximately 9 miles southeast of Niland, California. Any exceptions to, or deviations from, this practice are described in Section 1.4 of this Phase I ESA report. This assessment has not revealed recognized environmental conditions (RECs) in connection with the subject property.

7.2.1 Recognized Environmental Conditions

A *recognized environmental condition (REC)* refers to the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term REC includes hazardous substances and petroleum products even under conditions that might be in compliance with laws. The term is not intended to include "de minimis" conditions as defined in Section 7.2.3 of this report.

This Phase I ESA has revealed no evidence of *recognized environmental conditions* in connection with the subject property.

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7.2.2 Historical Recognized Environmental Conditions

A *historical recognized environmental condition (HREC)* refers to a past *release* of any *hazardous substances* or *petroleum products* that has occurred in connection with the *property* and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the *property* to any required controls (for example, *property* use restrictions, *activity and use limitations*, *institutional controls*, or *engineering controls*).

This Phase I ESA has revealed no evidence of *historical recognized environmental conditions* in connection with the subject property.

7.2.3 Environmental Concerns and De Minimis Conditions

A *de minimis condition* is a condition that generally does not present a threat to human health or the *environment* and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis conditions* are not *recognized environmental conditions* nor *controlled recognized environmental conditions*.

This Phase I ESA has revealed no *de minimis* conditions or environmental concerns in connection with the subject property.

7.3 Recommendations

Based on the scope of work performed for this assessment, it is our professional opinion that no RECs have been identified in connection with the subject property that would warrant further environmental study (Phase II) at this time.

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8.0 REFERENCES

40 CFR 312, Standards and Practices for All Appropriate Inquiries; Final Rule, November 2005 (AAI Rule).

American Society for Testing and Materials. 2013. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. Designation E 1527-13. West Conshohocken, Pennsylvania. 35 pp.

Department of Toxic Substances Control. 2020. EnviroStor Database Website, http://www.envirostor.dtsc.ca.gov/public/ .

Environmental Data Resources, Inc., *The EDR Radius Map with Geocheck*. Inquiry number 6210343, dated September 30, 2020

Environmental Data Resources, Inc., *EDR Historical Topographic Map Report*. Inquiry number 6210343, dated September 30, 2020

Environmental Data Resources, Inc., *The EDR Aerial Photo Decade Package*. Inquiry number 6210343, dated September 30, 2020

State Water Resources Control Board. 2020. GeoTracker Database Website, http://geotracker.swrcb.ca.gov/

United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey, accessed via the Internet, October 2020

United States Environmental Protection Agency, EPA Map of Radon Zones (Document EPA-402-R-93-071), accessed via the Internet, October 2020

United States Geological Survey Topographic Map 1997, 7.5 minute series

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APPENDIX A

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Photo 1: Looking south from the northwest corner of the Clark portion of the subject site at Noffsinger Road and the IID 230kv KN&KS power line.

Photo 2: Looking at metal debris (car hood) located along the western boundary of the southwest portion of the Clark portion of the subject site.

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Photo 3: Looking southeast along the railroad that forms the southern boundary of the southwestern portion of the Clark portion of the subject site.

Photo 4: Looking northeast across the southwestern portion of the Clark portion of the subject site from the southern boundary.

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Photo 5: Looking south-southeast along the ridge that bisects the southwestern portion of the Clark portion of the subject site.

Photo 6: Looking north-northwest along the ridge toward the northwest corner of the southwest portion of the Clark portion of the subject site.

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Photo 7: Looking at the scattered debris located near the northwest corner (top of ridge) of the southwestern portion of the Clark portion of the subject site.

Photo 8: Looking at additional metal debris near same area as photo 7.

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Photo 9: Looking north across the eastern portion of the southwestern part of the Clark portion of the subject site from the west side of the large wash.

Photo 10: Looking east across the large wash that bisects the eastern portion of the southwest part of the Clark portion of the subject site.

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Photo 11: Looking south across the southeastern corner of the southwest part of the Clark portion of the subject site.

Photo 12: Looking west across the southern portion of the southwestern part of the Clark portion of the subject site.

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Photo 13: Looking northwest across the southwestern portion of the Clark portion of the subject site from the large wash at the southeast corner.

Photo 14: Looking at additional area of debris near northwest corner of southwestern part of the Clark portion of the subject site.

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Photo 15: Looking at burn pile near northwest corner of southwestern part of the Clark portion of the subject site.

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Photo 16: Looking northwest along the east side of the Coachella Canal from the southern boundary of the subject site.

Photo 17: Looking northeast across the subject site from the east side of the Coachella Canal and the southern boundary of the subject site.

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Photo 18: Looking east across the subject site from the east side of the Coachella Canal at the southern boundary of the site.

Photo 19: Looking west across the subject site from the berm that bisects the site.

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Photo 20: Looking north across the subject site from the berm that bisects the site.

Photo 21: Looking at one of the wildlife water drinkers (SP-8) located within the subject site east of the berm.

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Photo 22: Looking north across the subject site from the wildlife drinker SP-8

Photo 23: Looking at used tire and metal debris located within the subject site west of the berm.

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Photo 24: Looking northwest across the northern portion of the subject site from the berm.

Photo 25: Looking northeast across the northern portion of the subject site from the berm.

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Photo 26: Looking southeast across the subject site from the north end of the berm.

Photo 27: Looking south along the berm that bisects the subject site from the north end of the berm.

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Photo 28: Looking southwest across the subject site from the north end of the berm.

Photo 29: Looking west along the northern boundary of the subject site from approximate mid boundary.

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Photo 30: Looking east along the northern boundary of the subject site from approximately mid boundary.

Photo 31: Looking south along across the subject site from approximately mid northern boundary.

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Photo 32: Looking east along the northern boundary of the subject site from near the northwest corner of the site.

Photo 33: Looking southeast across the subject site from near the northwest corner of the site.

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Photo 34: Looking south along the berm near the western boundary of the subject site from near the northwest corner of the site.

Photo 35: Looking at some debris located at the southeast corner of the Coachella Canal siphon within the subject site.

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Photo 36: Looking at a wildlife water drinker (SP-9) located east of the Coachella Canal near the siphon within the subject site.

Photo 37: Looking southeast along Coachella Canal Road from Flowing Wells Road.

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Photo 38: Looking north along Coachella Canal Road from Flowing Wells Road.

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Photo 39: Looking east across the northern portion of site 2B from the western boundary along Ted Kipf Road.

Photo 40: Looking south across subject site 2B western boundary from Ted Kipf Road.

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Photo 41: Looking north across the northwest corner subject site 2B from Ted Kipf Road.

Photo 42: Looking east across the northeast corner of subject site 2B from the north bend in Ted kipf Road.

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Photo 43: Looking southeast along Ted Kipf Road from the north bend.

Photo 44: Looking south across subject site 2B from the north bend in Ted Kipf Road.

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Photo 45: Looking west along wash within subject site 2B from north bend in Ted Kipf Road.

Photo 46: Looking south along the eastern boundary of subject site 2B.

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Photo 47: Looking northwest along Ted Kipf Road from the eastern boundary of subject site 2B.

Photo 48: Looking south west along the large wash that bisects the southern portion of subject site 2B.

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Photo 49: Looking north from the edge of the large wash that bisects the southern portion of subject site 2B.

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APPENDIX B

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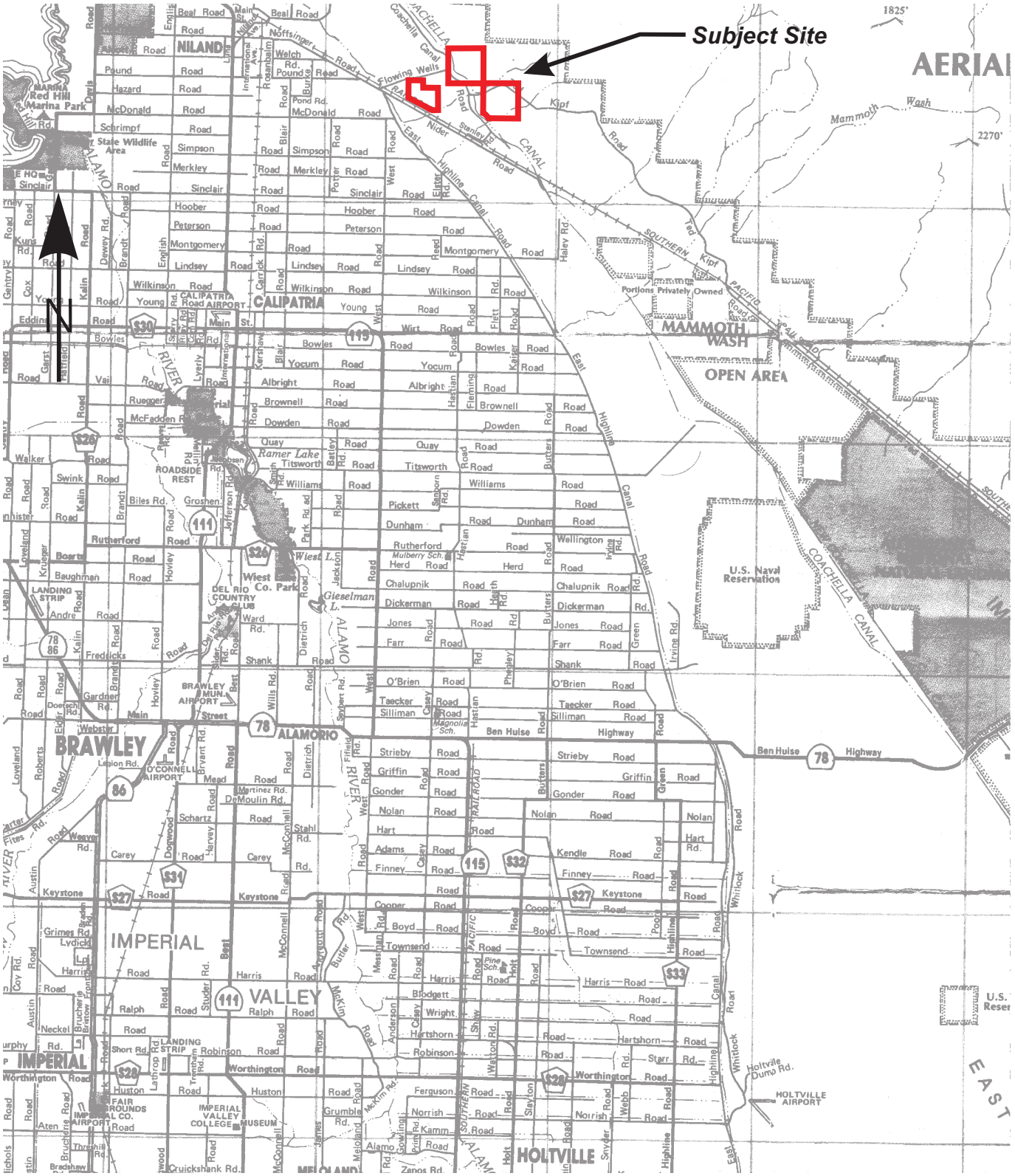

GS Lyon Project No.: GS2020	Vicinity Map	Plate 1

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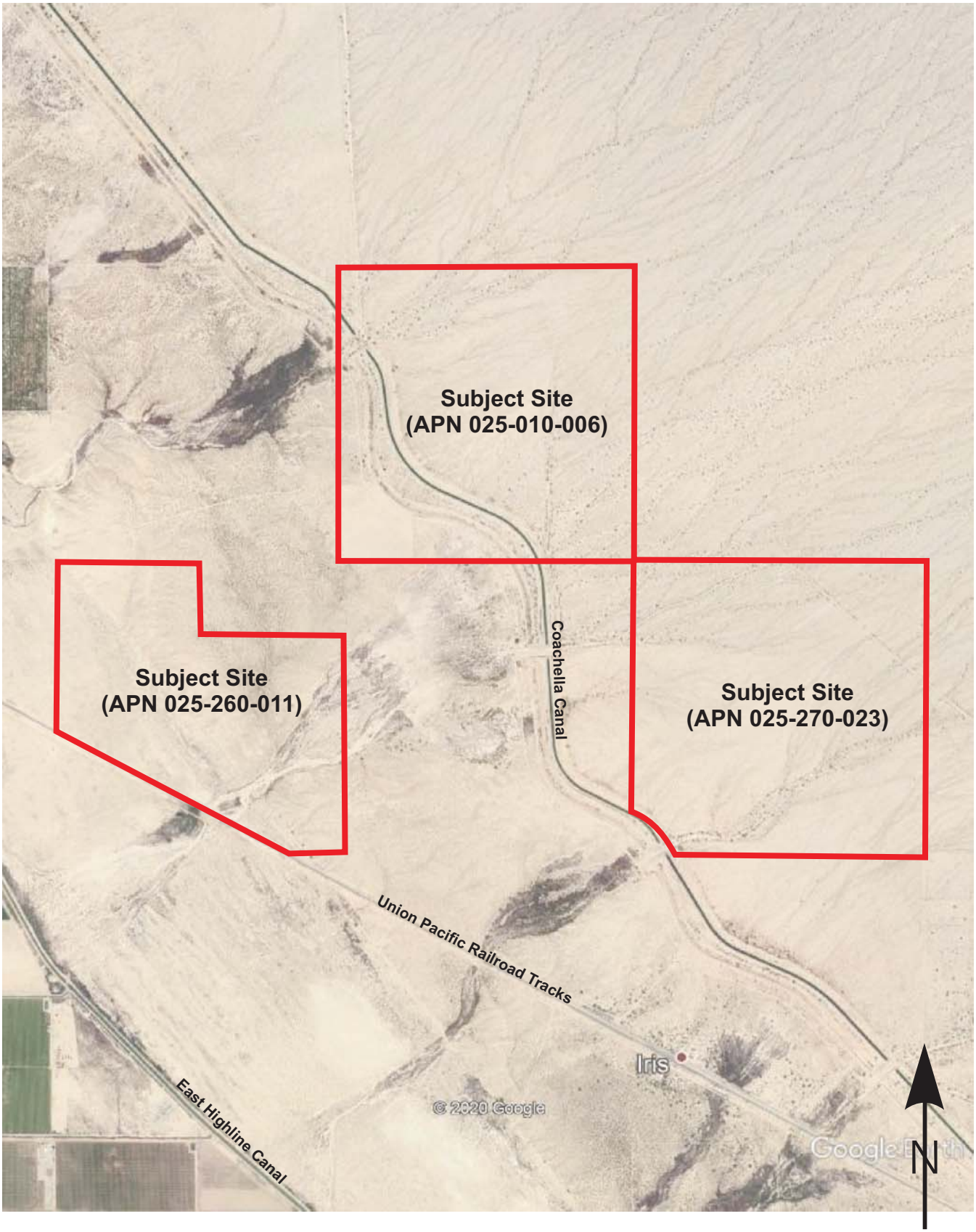

GS Lyon Project No.: GS2020	Site Map	Plate 2

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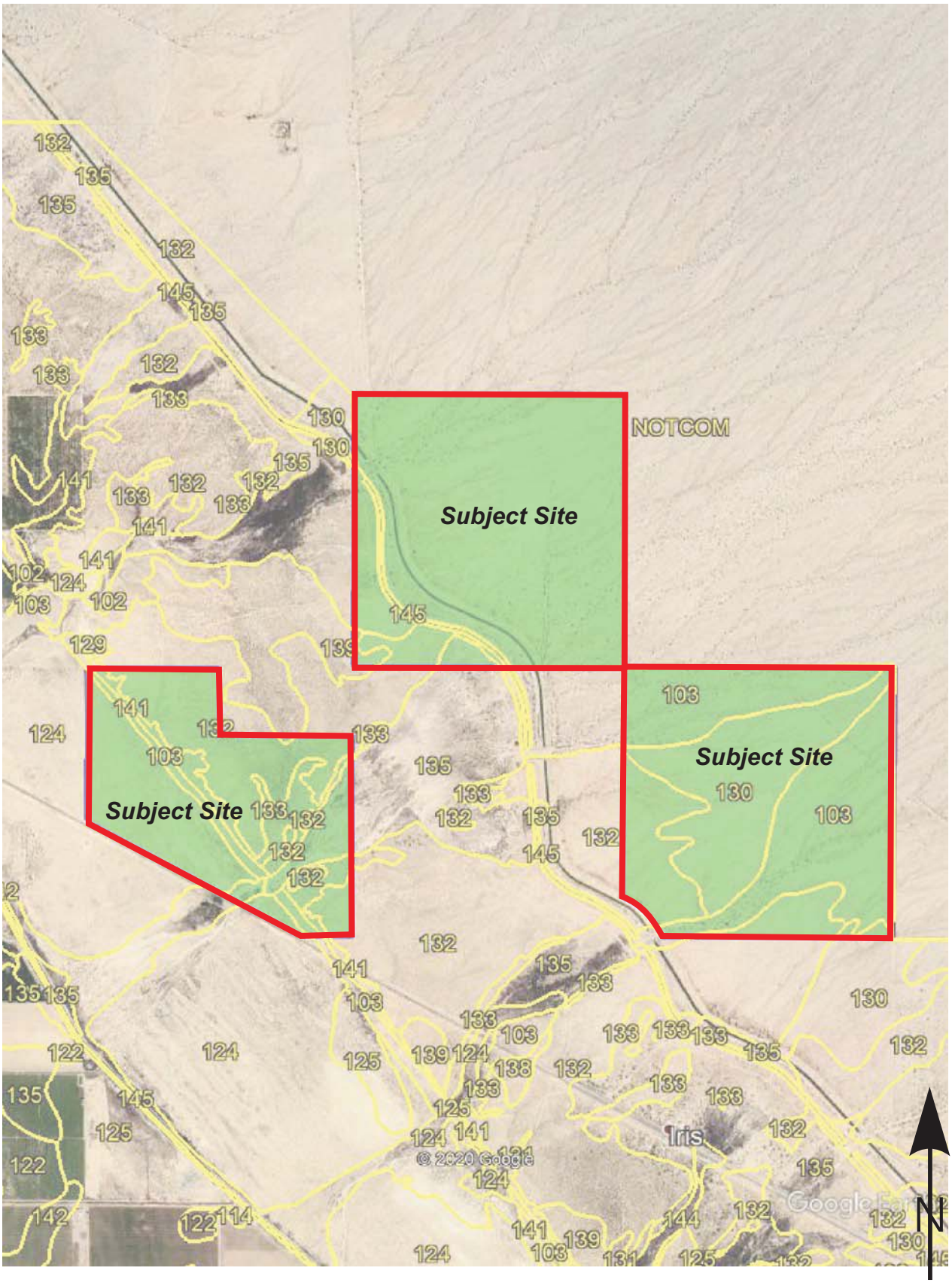

GS Lyon		
Project No.: GS2020	Soil Survey Map	Plate 3

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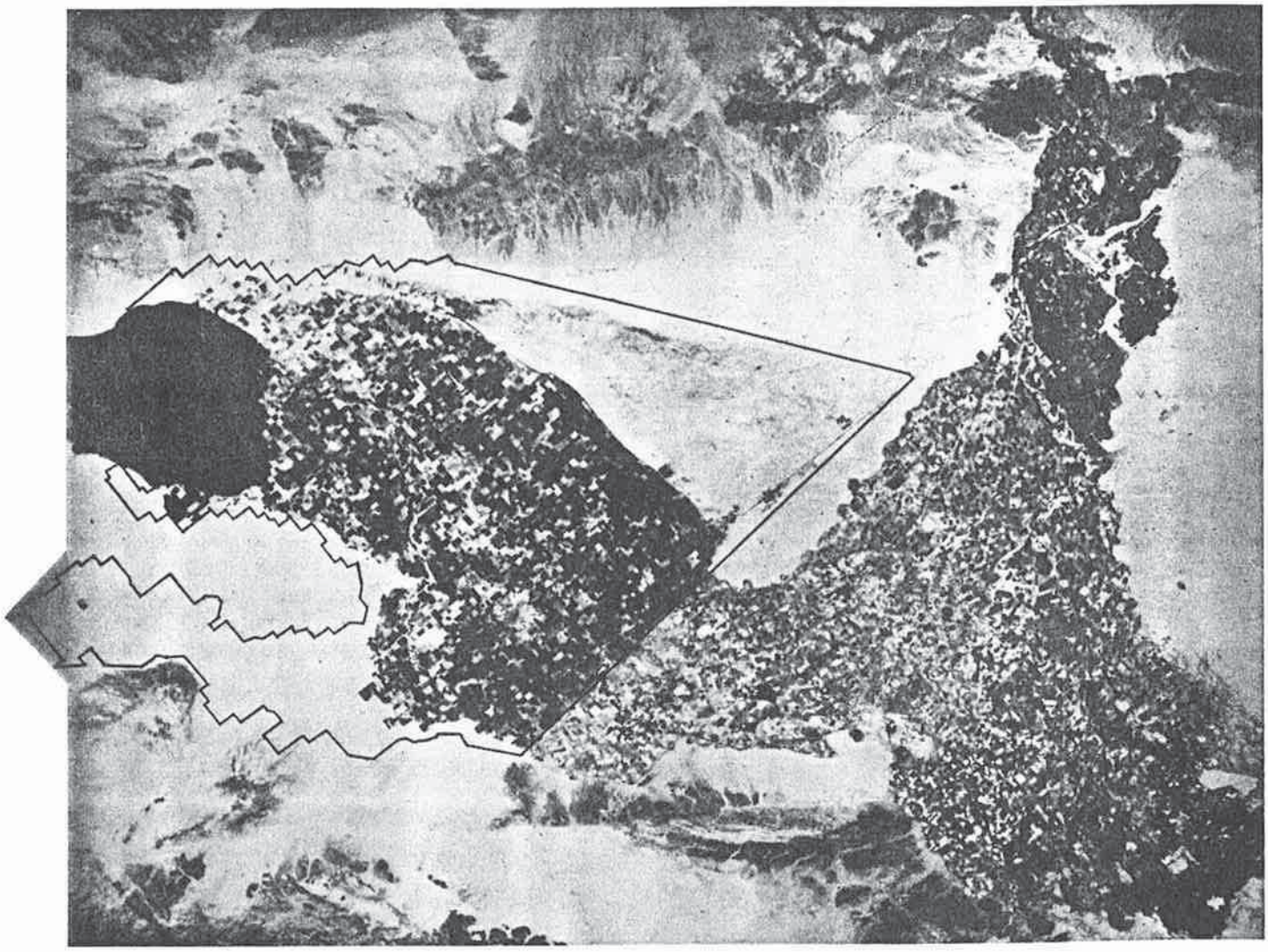
Soil Survey of

IMPERIAL COUNTY CALIFORNIA IMPERIAL VALLEY AREA



United States Department of Agriculture Soil Conservation Service
in cooperation with
University of California Agricultural Experiment Station
and
Imperial Irrigation District

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TABLE 11.--ENGINEERING INDEX PROPERTIES

[The symbol > means more than. Absence of an entry indicates that data were not estimated]

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
100---------- Antho	0-13	Loamy fine sand	SM	A-2	0	100	100	75-85	10-30	---	NP
	13-60	Sandy loam, fine sandy loam.	SM	A-2, A-4	0	90-100	75-95	50-60	15-40	---	NP
101*:											
Antho----------	0-8	Loamy fine sand	SM	A-2	0	100	100	75-85	10-30	---	NP
	8-60	Sandy loam, fine sandy loam.	SM	A-2, A-4	0	90-100	75-95	50-60	15-40	---	NP
Superstition------	0-6	Fine sand-------	SM	A-2	0	100	95-100	70-85	15-25	---	NP
	6-60	Loamy fine sand, fine sand, sand.	SM	A-2	0	100	95-100	70-85	15-25	---	NP
102*. Badland											
103---------- Carsitas	0-10	Gravelly sand---	SP, SP-SM	A-1, A-2	0-5	60-90	50-85	30-55	0-10	---	NP
	10-60	Gravelly sand, gravelly coarse sand, sand.	SP, SP-SM	A-1	0-5	60-90	50-85	25-50	0-10	---	NP
104* Fluvaquents											
105---------- Glenbar	0-13	Clay loam-------	CL	A-6	0	100	100	90-100	70-95	35-45	15-30
	13-60	Clay loam, silty clay loam.	CL	A-6	0	100	100	90-100	70-95	35-45	15-30
106---------- Glenbar	0-13	Clay loam-------	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
	13-60	Clay loam, silty clay loam.	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
107*---------- Glenbar	0-13	Loam----------	ML, CL-ML, CL	A-4	0	100	100	100	70-80	20-30	NP-10
	13-60	Clay loam, silty clay loam.	CL	A-6, A-7	0	100	100	95-100	75-95	35-45	15-30
108---------- Holtville	0-14	Loam----------	ML	A-4	0	100	100	85-100	55-95	25-35	NP-10
	14-22	Clay, silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	22-60	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	65-85	25-35	NP-10
109---------- Holtville	0-17	Silty clay------	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	17-24	Clay, silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	24-35	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	65-85	25-35	NP-10
	35-60	Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55	---	NP
110---------- Holtville	0-17	Silty clay------	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-35
	17-24	Clay, silty clay	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-35
	24-35	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	55-85	25-35	NP-10
	35-60	Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55	---	NP

See footnote at end of table.

PC ORIGINAL PKG

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
111*:											
Holtville	0-10	Silty clay loam	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	10-22	Clay, silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	22-60	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	65-85	25-35	NP-10
Imperial	0-12	Silty clay loam	CL	A-7	0	100	100	100	85-95	40-50	10-20
	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
112	0-12	Silty clay	CH	A-7	0	100	100	100	85-95	50-70	25-45
Imperial	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
113	0-12	Silty clay	CH	A-7	0	100	100	100	85-95	50-70	25-45
Imperial	12-60	Silty clay, clay, silty clay loam.	CH	A-7	0	100	100	100	85-95	50-70	25-45
114	0-12	Silty clay	CH	A-7	0	100	100	100	85-95	50-70	25-45
Imperial	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
115*:											
Imperial	0-12	Silty clay loam	CL	A-7	0	100	100	100	85-95	40-50	10-20
	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
Glenbar	0-13	Silty clay loam	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
	13-60	Clay loam, silty clay loam.	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
116*:											
Imperial	0-13	Silty clay loam	CL	A-7	0	100	100	100	85-95	40-50	10-20
	13-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
Glenbar	0-13	Silty clay loam	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
	13-60	Clay loam, silty clay loam.	CL	A-6	0	100	100	90-100	70-95	35-45	15-30
117, 118	0-12	Loam	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
Indio	12-72	Stratified loamy very fine sand to silt loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
119*:											
Indio	0-12	Loam	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	12-72	Stratified loamy very fine sand to silt loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
Vint	0-10	Loamy fine sand	SM	A-2	0	95-100	95-100	70-80	25-35	---	NP
	10-60	Loamy sand, loamy fine sand.	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
120*	0-12	Loam	ML, CL-ML	A-4	0	100	95-100	75-85	55-65	20-30	NP-10
Laveen	12-60	Loam, very fine sandy loam.	ML, CL-ML	A-4	0	95-100	85-95	70-80	55-65	15-25	NP-10

See footnote at end of table.

PC ORIGINAL PKG

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
121---------- Meloland	0-12	Fine sand-------	SM, SP-SM	A-2, A-3	0	95-100	90-100	75-100	5-30	---	NP
	12-26	Stratified loamy fine sand to silt loam.	ML	A-4	0	100	100	90-100	50-65	25-35	NP-10
	26-71	Clay, silty clay, silty clay loam.	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-40
122---------- Meloland	0-12	Very fine sandy loam.	ML	A-4	0	95-100	95-100	95-100	55-85	25-35	NP-10
	12-26	Stratified loamy fine sand to silt loam.	ML	A-4	0	100	100	90-100	50-70	25-35	NP-10
	26-71	Clay, silty clay, silty clay loam.	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-40
123*: Meloland----------	0-12	Loam----------	ML	A-4	0	95-100	95-100	95-100	55-85	25-35	NP-10
	12-26	Stratified loamy fine sand to silt loam.	ML	A-4	0	100	100	90-100	50-70	25-35	NP-10
	26-38	Clay, silty clay, silty clay loam.	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-40
	38-60	Stratified silt loam to loamy fine sand.	SM, ML	A-4	0	100	100	75-100	35-55	25-35	NP-10
Holtville---------	0-12	Loam----------	ML	A-4	0	100	100	85-100	55-95	25-35	NP-10
	12-24	Clay, silty clay	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-35
	24-36	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	55-85	25-35	NP-10
	36-60	Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55	---	NP
124, 125---------- Niland	0-23	Gravelly sand---	SM, SP-SM	A-2, A-3	0	90-100	70-95	50-65	5-25	---	NP
	23-60	Silty clay, clay, clay loam.	CL, CH	A-7	0	100	100	85-100	80-95	40-65	20-40
126---------- Niland	0-23	Fine sand-------	SM, SP-SM	A-2, A-3	0	90-100	90-100	50-65	5-25	---	NP
	23-60	Silty clay------	CL, CH	A-7	0	100	100	85-100	80-95	40-65	20-40
127---------- Niland	0-23	Loamy fine sand	SM	A-2	0	90-100	90-100	50-65	15-30	---	NP
	23-60	Silty clay------	CL, CH	A-7	0	100	100	85-100	80-95	40-65	20-40
128*: Niland----------	0-23	Gravelly sand---	SM, SP-SM	A-2, A-3	0	90-100	70-95	50-65	5-25	---	NP
	23-60	Silty clay, clay, clay loam.	CL, CH	A-7	0	100	100	85-100	80-100	40-65	20-40
Imperial----------	0-12	Silty clay------	CH	A-7	0	100	100	100	85-95	50-70	25-45
	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
129*: Pits											
130, 131---------- Rositas	0-27	Sand----------	SP-SM	A-3, A-1, A-2	0	100	80-100	40-70	5-15	---	NP
	27-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP

See footnote at end of table.

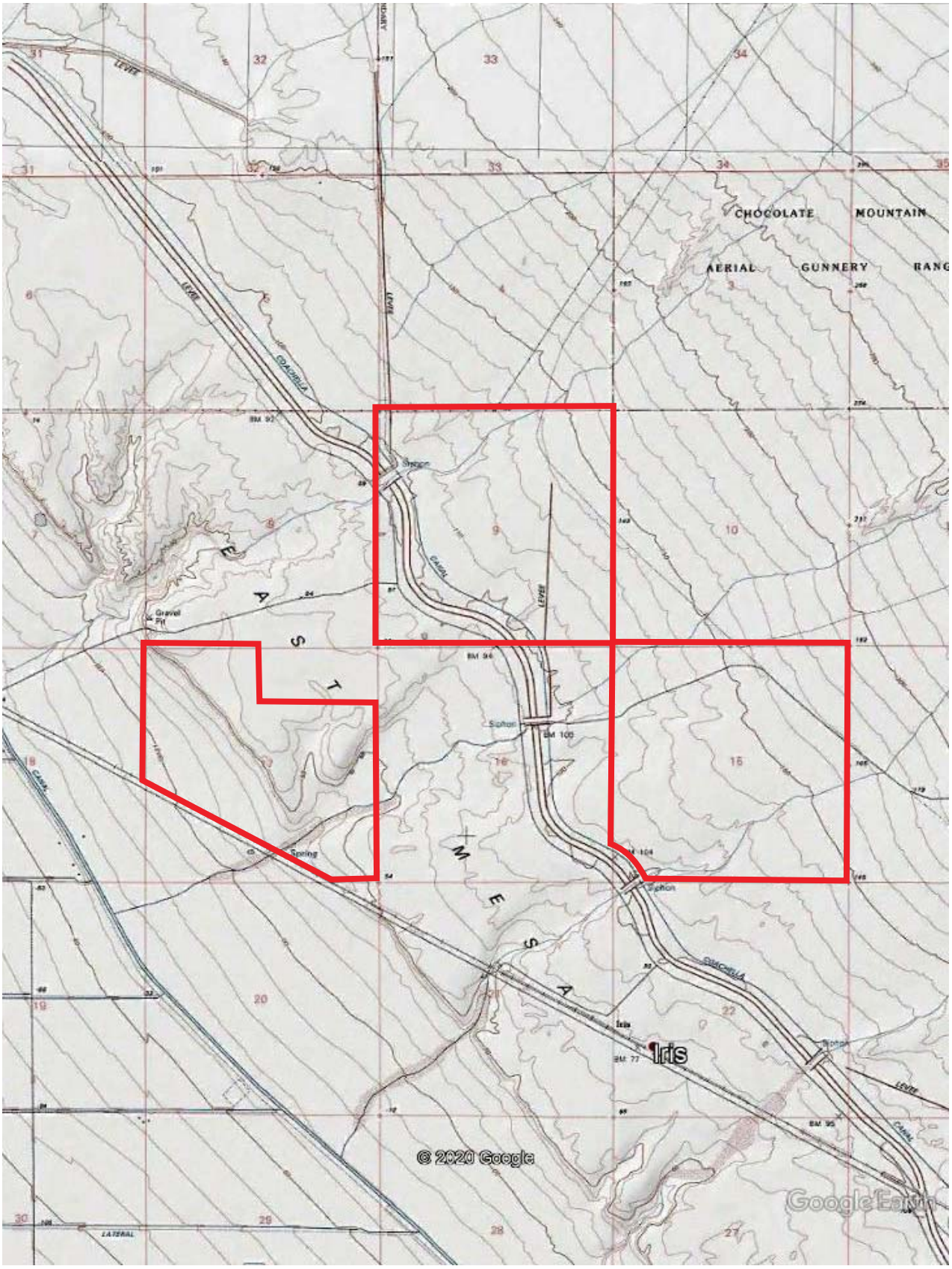
PC ORIGINAL PKG

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
132, 133, 134, 135-Rositas	0-9	Fine sand-------	SM	A-3, A-2	0	100	80-100	50-80	10-25	---	NP
	9-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
136----------	0-4	Loamy fine sand	SM	A-1, A-2	0	100	80-100	40-85	10-35	---	NP
Rositas	4-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
137----------	0-12	Silt loam-------	ML	A-4	0	100	100	90-100	70-90	20-30	NP-5
Rositas	12-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
138*:											
Rositas----------	0-4	Loamy fine sand	SM	A-1, A-2	0	100	80-100	40-85	10-35	---	NP
	4-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
Superstition------	0-6	Loamy fine sand	SM	A-2	0	100	95-100	70-85	15-25	---	NP
	6-60	Loamy fine sand, fine sand, sand.	SM	A-2	0	100	95-100	70-85	15-25	---	NP
139----------	0-6	Loamy fine sand	SM	A-2	0	100	95-100	70-85	15-25	---	NP
Superstition	6-60	Loamy fine sand, fine sand, sand.	SM	A-2	0	100	95-100	70-85	15-25	---	NP
140*:											
Torriorthents											
Rock outcrop											
141*:											
Torriorthents											
Orthids											
142----------	0-10	Loamy very fine sand.	SM, ML	A-4	0	100	100	85-95	40-65	15-25	NP-5
Vint	10-60	Loamy fine sand	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
143----------	0-12	Fine sandy loam	ML, CL-ML, SM, SM-SC	A-4	0	100	100	75-85	45-55	15-25	NP-5
Vint	12-60	Loamy sand, loamy fine sand.	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
144*:											
Vint----------	0-10	Very fine sandy loam.	SM, ML	A-4	0	100	100	85-95	40-65	15-25	NP-5
	10-40	Loamy fine sand	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
	40-60	Silty clay------	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
Indio----------	0-12	Very fine sandy loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	12-40	Stratified loamy very fine sand to silt loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	40-72	Silty clay------	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35

* See description of the map unit for composition and behavior characteristics of the map unit.

PC ORIGINAL PKG



GS Lyon Project No.: GS2020	Topographic Map	Plate 4

PC ORIGINAL PKG

APPENDIX C

PC ORIGINAL PKG

Cedar Solar 2

NEC Schrimpf and Wiest Rd. Imperial County

Calipatria, CA 92233

Inquiry Number: 6171651.2

September 01, 2020

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

Date EDR Searched Historical Sources:

Aerial Photography September 01, 2020

Target Property:

NEC Schrimpf and Wiest Rd. Imperial County

Calipatria, CA 92233

Year	Scale	Details	Source
1937	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1937	USDA
1940	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1940	USDA
1953	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1953	USDA
1976	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1976	USGS
1984	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1984	USGS
1996	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1996	USGS/DOQQ
2005	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2005	USDA/NAIP
2009	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2009	USDA/NAIP
2012	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2012	USDA/NAIP
2016	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2016	USDA/NAIP

PC ORIGINAL PKG

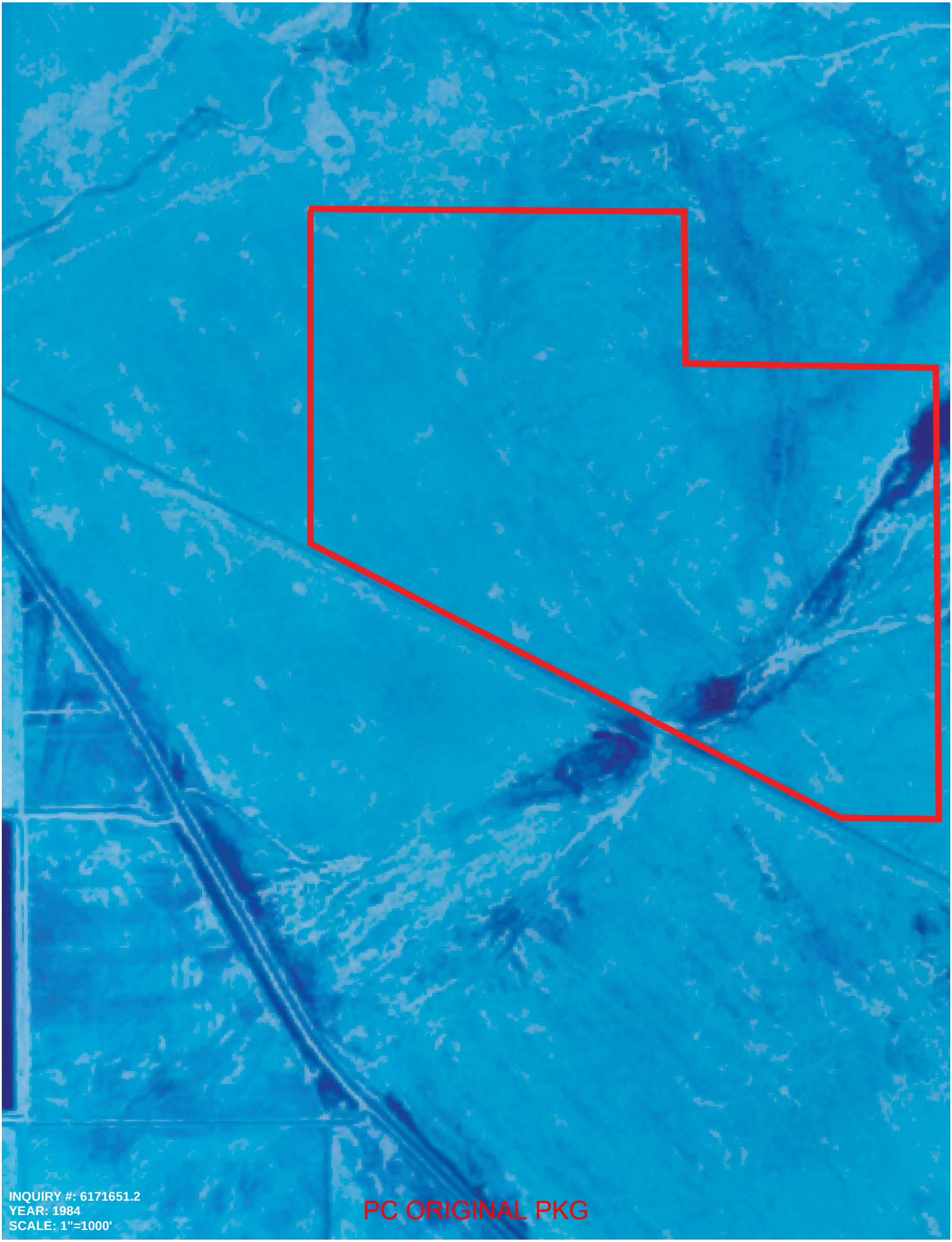
INQUIRY #: 6171651.2
YEAR: 1937
SCALE: 1"=1000'
PC ORIGINAL PKG

INQUIRY #: 6171651.2
YEAR: 1940
SCALE: 1"=1000'
PC ORIGINAL PKG

INQUIRY #: 6171651.2
YEAR: 1953
SCALE: 1"=1000'
PC ORIGINAL PKG

INQUIRY #: 6171651.2
YEAR: 1976
SCALE: 1"=1000'

PC ORIGINAL PKG



INQUIRY #: 6171651.2
YEAR: 1984
SCALE: 1"=1000'

PC ORIGINAL PKG

INQUIRY #: 6171651.2
YEAR: 1996
SCALE: 1"=1000'
PC ORIGINAL PKG

INQUIRY #: 6171651.2
YEAR: 2005
SCALE: 1"=1000'
PC ORIGINAL PKG

INQUIRY #: 6171651.2
YEAR: 2009
SCALE: 1"=1000'
PC ORIGINAL PKG

INQUIRY #: 6171651.2
YEAR: 2012
SCALE: 1"=1000'
PC ORIGINAL PKG

INQUIRY #: 6171651.2
YEAR: 2016
SCALE: 1"=1000'
PC ORIGINAL PKG

Vega 2/3

Flowing Wells Road

Winterhaven, CA 92283

Inquiry Number: 6210343.11

September 30, 2020

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

EDR Aerial Photo Decade Package

09/30/20

Site Name:

Vega 2/3
Flowing Wells Road
Winterhaven, CA 92283
EDR Inquiry # 6210343.11

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Steven Williams

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Search Results:

Year	Scale	Details	Source
2016	1"=750'	Flight Year: 2016	USDA/NAIP
2012	1"=750'	Flight Year: 2012	USDA/NAIP
2009	1"=750'	Flight Year: 2009	USDA/NAIP
2006	1"=750'	Flight Year: 2006	USDA/NAIP
1996	1"=750'	Acquisition Date: January 01, 1996	DOQQ
1984	1"=750'	Flight Date: January 01, 1984	USGS
1976	1"=750'	Flight Date: October 12, 1976	USGS
1953	1"=750'	Flight Date: April 29, 1953	USDA
1940	1"=750'	Flight Date: February 17, 1940	USDA
1937	1"=750'	Flight Date: November 21, 1937	USDA

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PC ORIGINAL PKG

INQUIRY #: 6210343.11

YEAR: 1937

= 750'

N

EDR

PC ORIGINAL PKG

INQUIRY #: 6210343.11

YEAR: 1940

= 750'

N

EDR

PC ORIGINAL PKG

INQUIRY #: 6210343.11

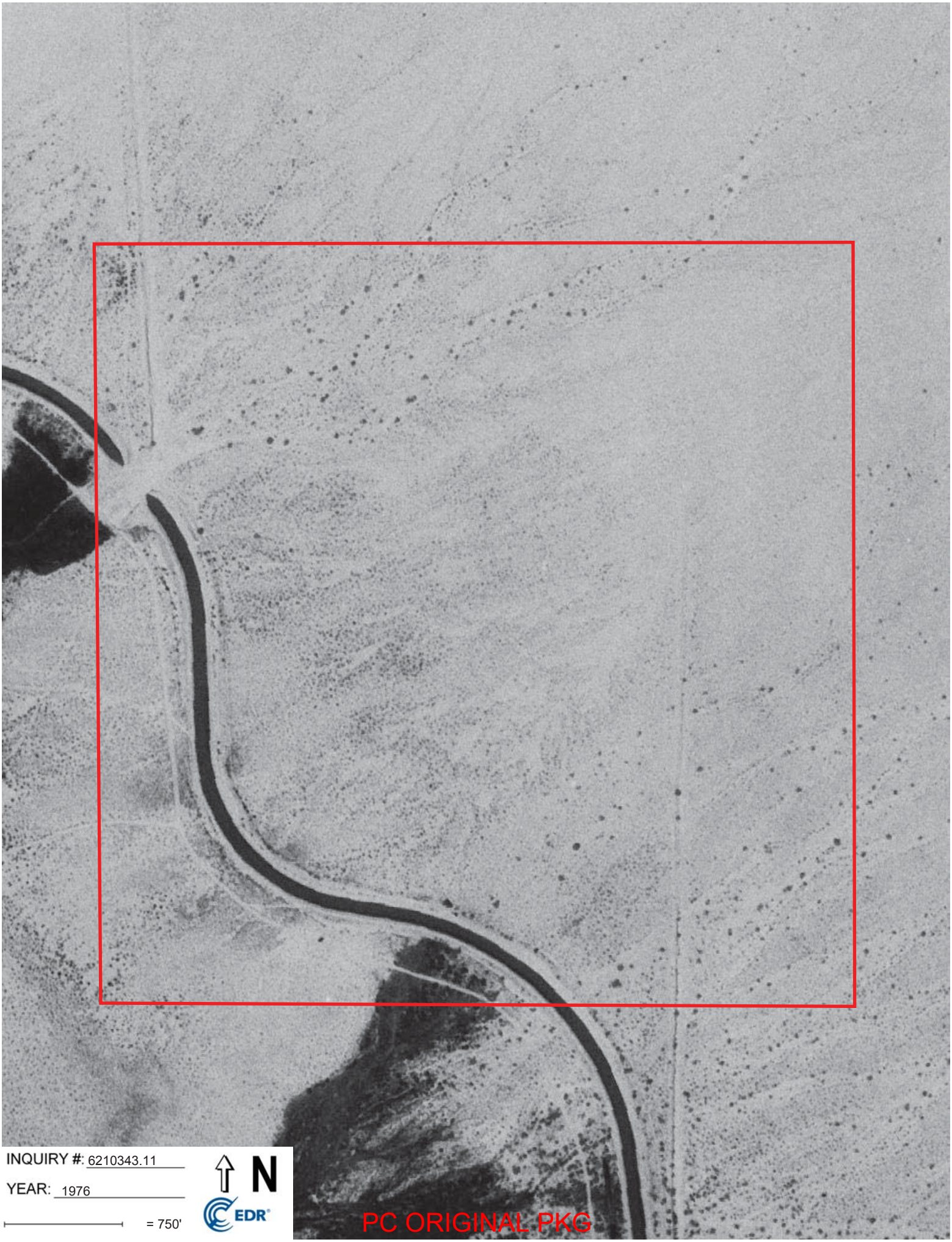
YEAR: 1953

= 750'

N

EDR

PC ORIGINAL PKG



INQUIRY #: 6210343.11

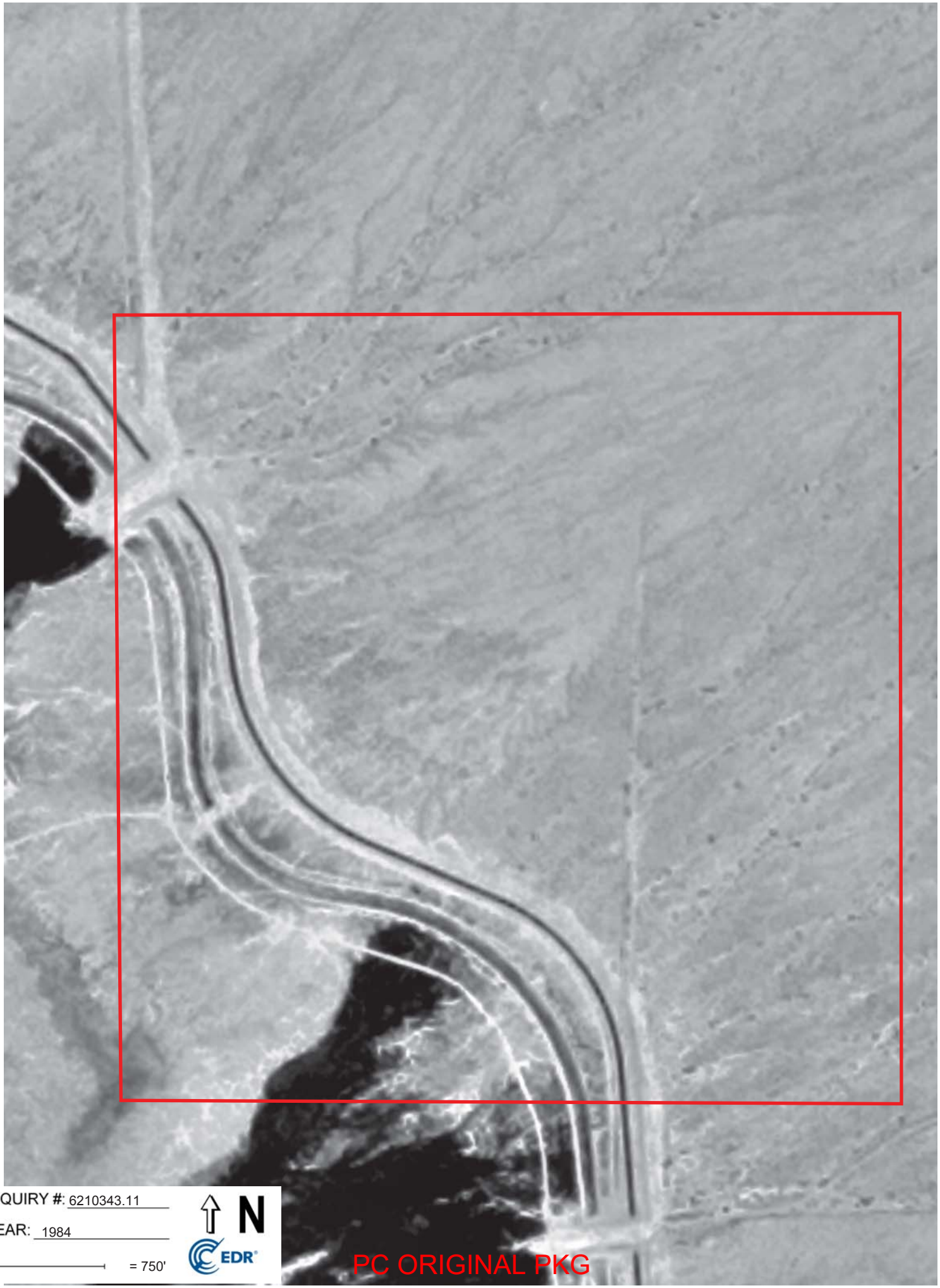
YEAR: 1976

= 750'

N

EDR

PC ORIGINAL PKG



INQUIRY #: 6210343.11

YEAR: 1984

= 750'

N

EDR

PC ORIGINAL PKG

INQUIRY #: 6210343.11

YEAR: 1996

= 750'

N

EDR

PC ORIGINAL PKG

INQUIRY #: 6210343.11
YEAR: 2006
= 750'
N
EDR
PC ORIGINAL PKG

INQUIRY #: 6210343.11
YEAR: 2009
= 750'
N
EDR
PC ORIGINAL PKG

INQUIRY #: 6210343.11

YEAR: 2012

= 750'

N

EDR

PC ORIGINAL PKG

INQUIRY #: 6210343.11

YEAR: 2016

= 750'

N

EDR

PC ORIGINAL PKG

Vega 2B

Ted Kipf Road

Winterhaven, CA 92283

Inquiry Number: 6210349.11

September 30, 2020

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

EDR Aerial Photo Decade Package

09/30/20

Site Name:

Vega 2B
Ted Kipf Road
Winterhaven, CA 92283
EDR Inquiry # 6210349.11

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Steven Williams

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Search Results:

Year	*Scale*	*Details*	*Source*
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2009	1"=750'	Flight Year: 2009	USDA/NAIP
2006	1"=750'	Flight Year: 2006	USDA/NAIP
1996	1"=750'	Acquisition Date: January 01, 1996	DOQQ
1984	1"=750'	Flight Date: January 01, 1984	USGS
1976	1"=750'	Flight Date: October 12, 1976	USGS
1953	1"=750'	Flight Date: April 29, 1953	USDA
1940	1"=750'	Flight Date: February 17, 1940	USDA
1937	1"=750'	Flight Date: November 21, 1937	USDA

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PC ORIGINAL PKG

INQUIRY #: 6210349.11

YEAR: 1937

= 750'

N

EDR

PC ORIGINAL PKG

INQUIRY #: 6210349.11

YEAR: 1940

= 750'

N

EDR

PC ORIGINAL PKG

INQUIRY #: 6210349.11
YEAR: 1953
= 750'
N
EDR
PC ORIGINAL PKG

INQUIRY #: 6210349.11
YEAR: 1976
= 750'
N
EDR
PC ORIGINAL PKG

INQUIRY #: 6210349.11

YEAR: 1984

= 750'

N

EDR

PC ORIGINAL PKG

INQUIRY #: 6210349.11

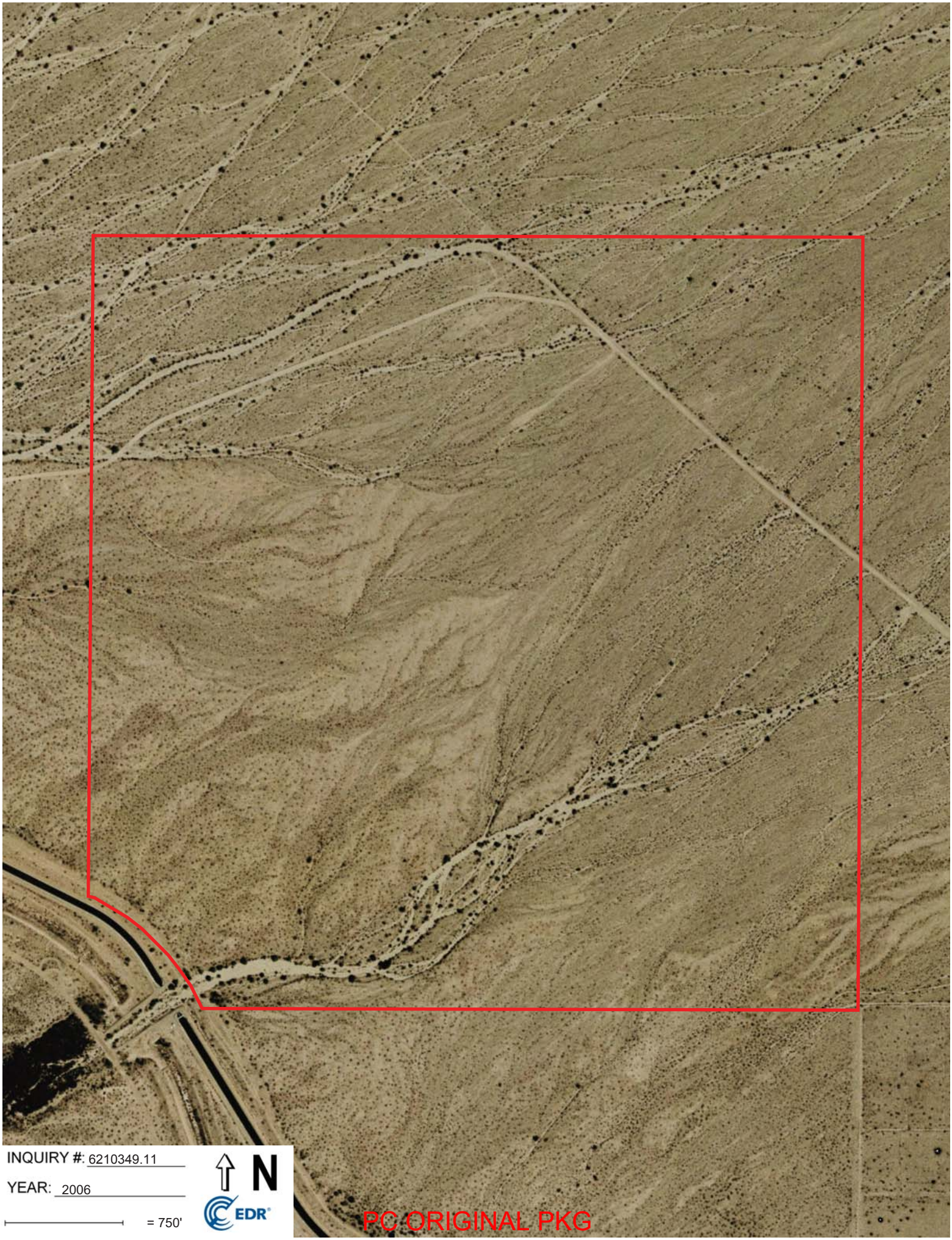
YEAR: 1996

= 750'

N

EDR

PC ORIGINAL PKG


INQUIRY #: 6210349.11
YEAR: 2006
= 750'
N
EDR
PC ORIGINAL PKG

INQUIRY #: 6210349.11
YEAR: 2009
= 750'
N
EDR
PC ORIGINAL PKG

INQUIRY #: 6210349.11
YEAR: 2012
= 750'
N
EDR
PC ORIGINAL PKG

INQUIRY #: 6210349.11
YEAR: 2016
= 750'
N
EDR
PC ORIGINAL PKG

APPENDIX D

PC ORIGINAL PKG

Cedar Solar 2

NEC Schrimpf and Wiest Rd. Imperial County

Calipatria, CA 92233

Inquiry Number: 6171651.1

August 28, 2020

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

EDR Historical Topo Map Report

08/28/20

Site Name:

Cedar Solar 2
NEC Schrimpf and Wiest Rd. Ir
Calipatria, CA 92233
EDR Inquiry # 6171651.1

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Peter E. Labrucherie

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by GS Lyon Consultants were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# NA
Project: GS2016

Coordinates:

Latitude:	33.208248 33° 12' 30" North
Longitude:	-115.438914 -115° 26' 20" West
UTM Zone:	Zone 11 North
UTM X Meters:	645493.86
UTM Y Meters:	3675459.43
Elevation:	-4.02' below sea level

Maps Provided:

2012	1940
2002	
1992	
1976	
1965	
1956	
1947	
1945	

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PC ORIGINAL PKG

Topo Sheet Key

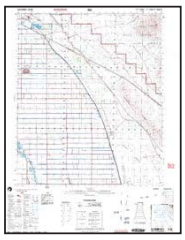
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets

Iris

7.5-minute, 24000

2002 Source Sheets



Iris

15-minute, 50000

1992 Source Sheets

Iris

7.5-minute, 24000
Aerial Photo Revised 1992

1976 Source Sheets

Iris

7.5-minute, 24000
Aerial Photo Revised 1953

PC ORIGINAL PKG

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1965 Source Sheets

Iris

7.5-minute, 24000
Aerial Photo Revised 1953

1956 Source Sheets

Iris

7.5-minute, 24000
Aerial Photo Revised 1953

1947 Source Sheets

IRIS

15-minute, 50000

1945 Source Sheets

Iris

15-minute, 62500
Aerial Photo Revised 1940

PC ORIGINAL PKG

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1940 Source Sheets

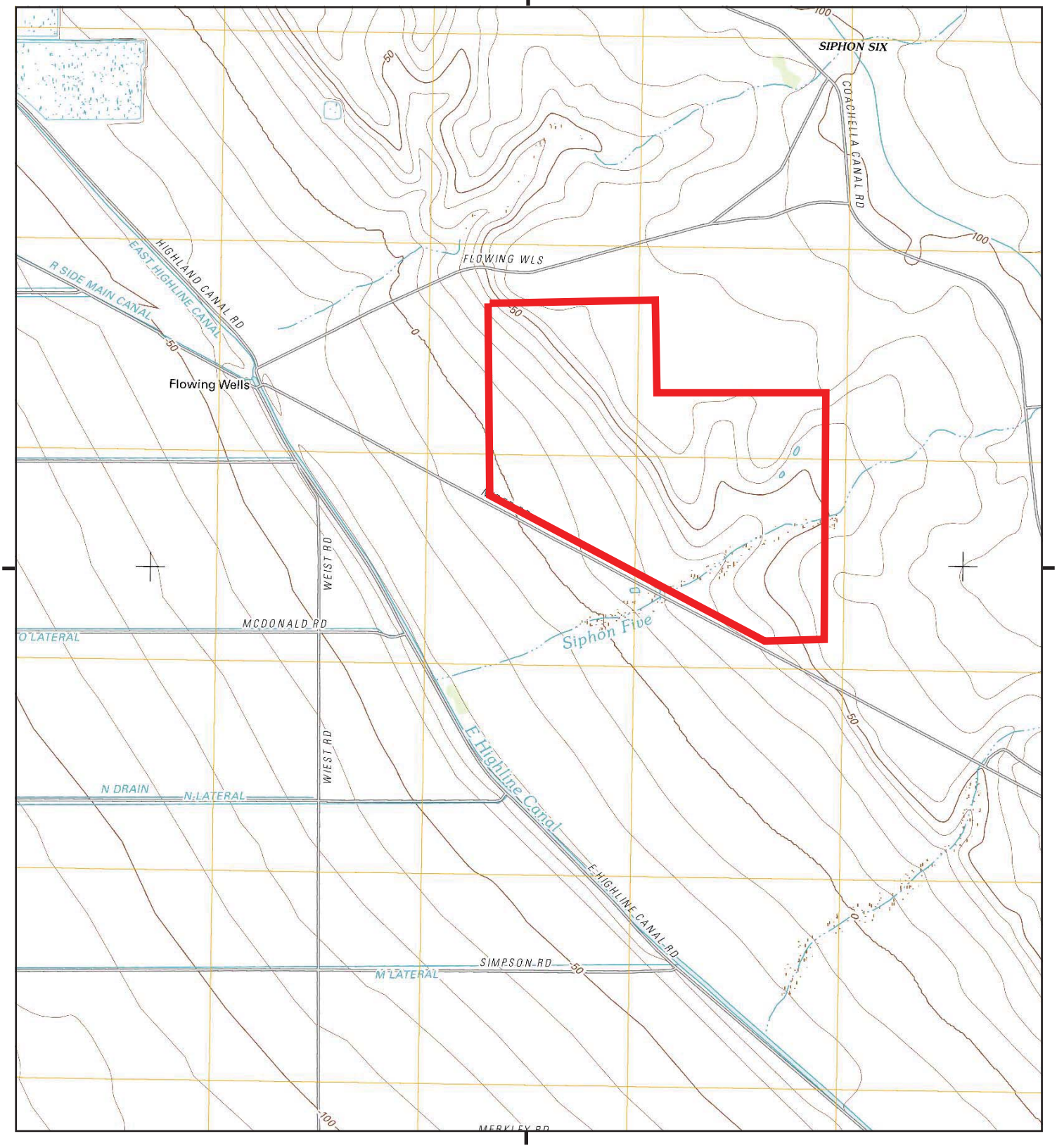
Iris

15-minute, 62500
Aerial Photo Revised 1940

PC ORIGINAL PKG

Historical Topo Map

2012



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

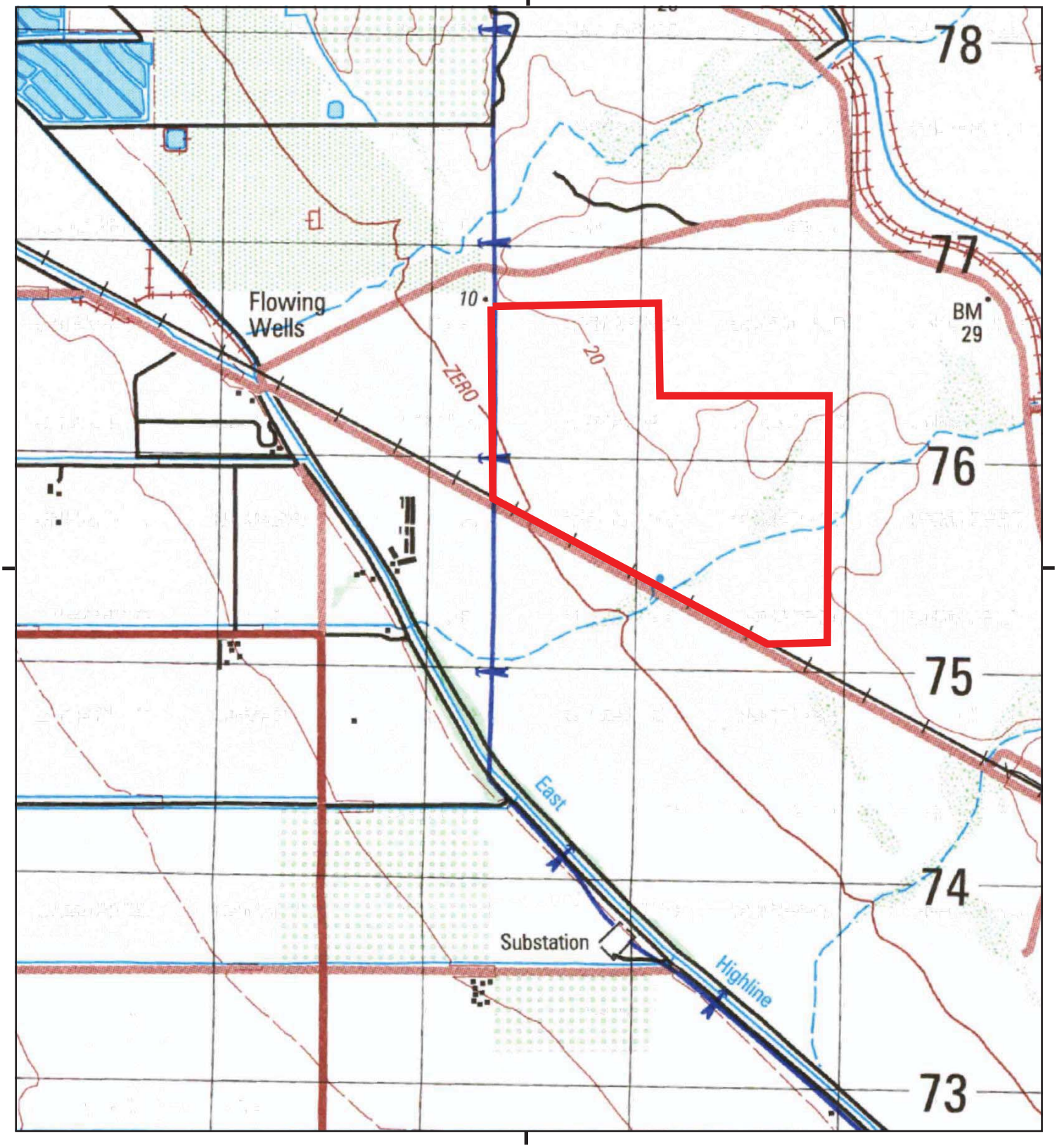
NW N NE
W E
SW S SE

TP, Iris, 2012, 7.5-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 2002, 15-minute

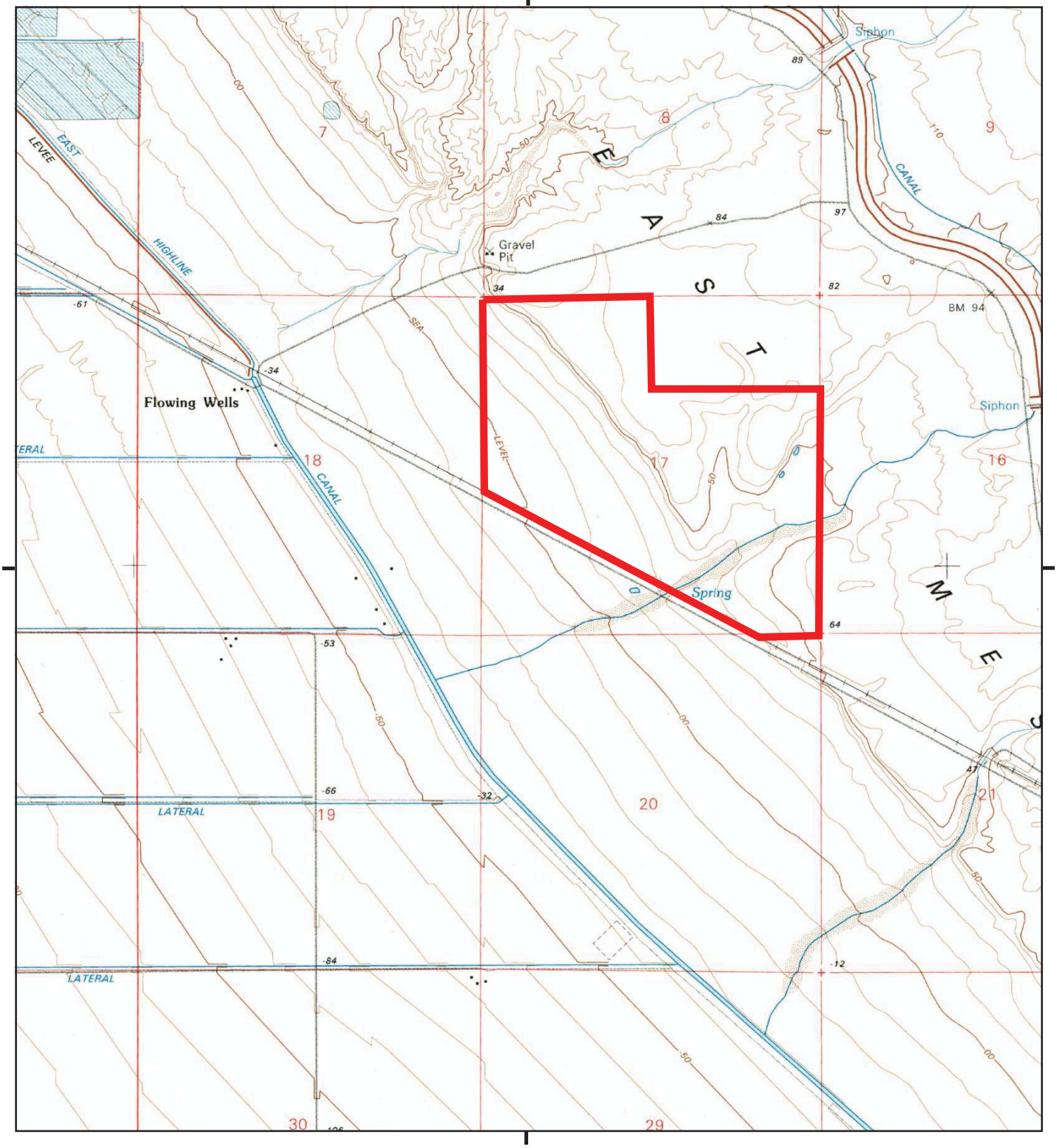
SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1992



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

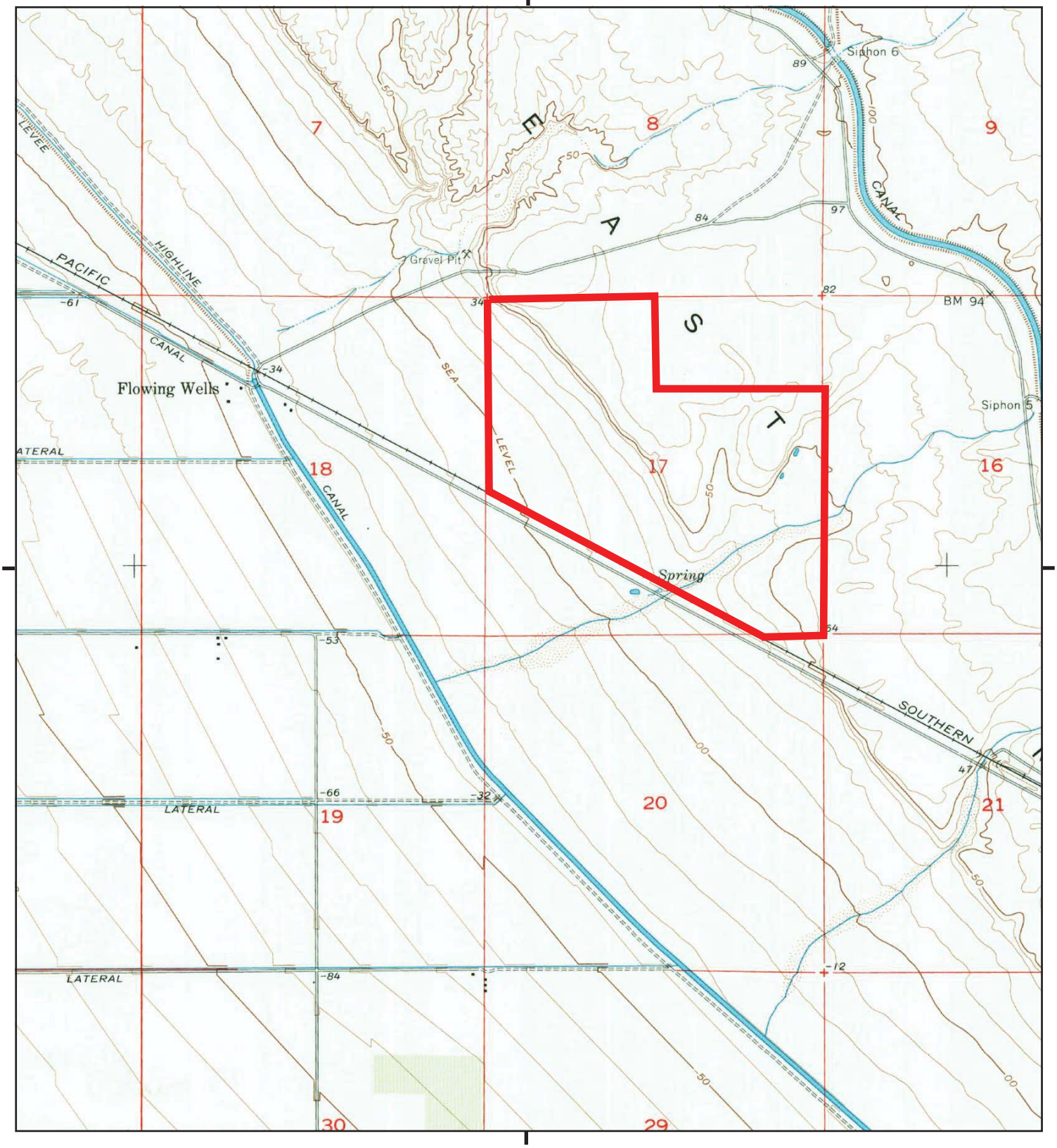
NW N NE
W E
SW S SE

TP, Iris, 1992, 7.5-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



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0 Miles 0.25 0.5 1 1.5

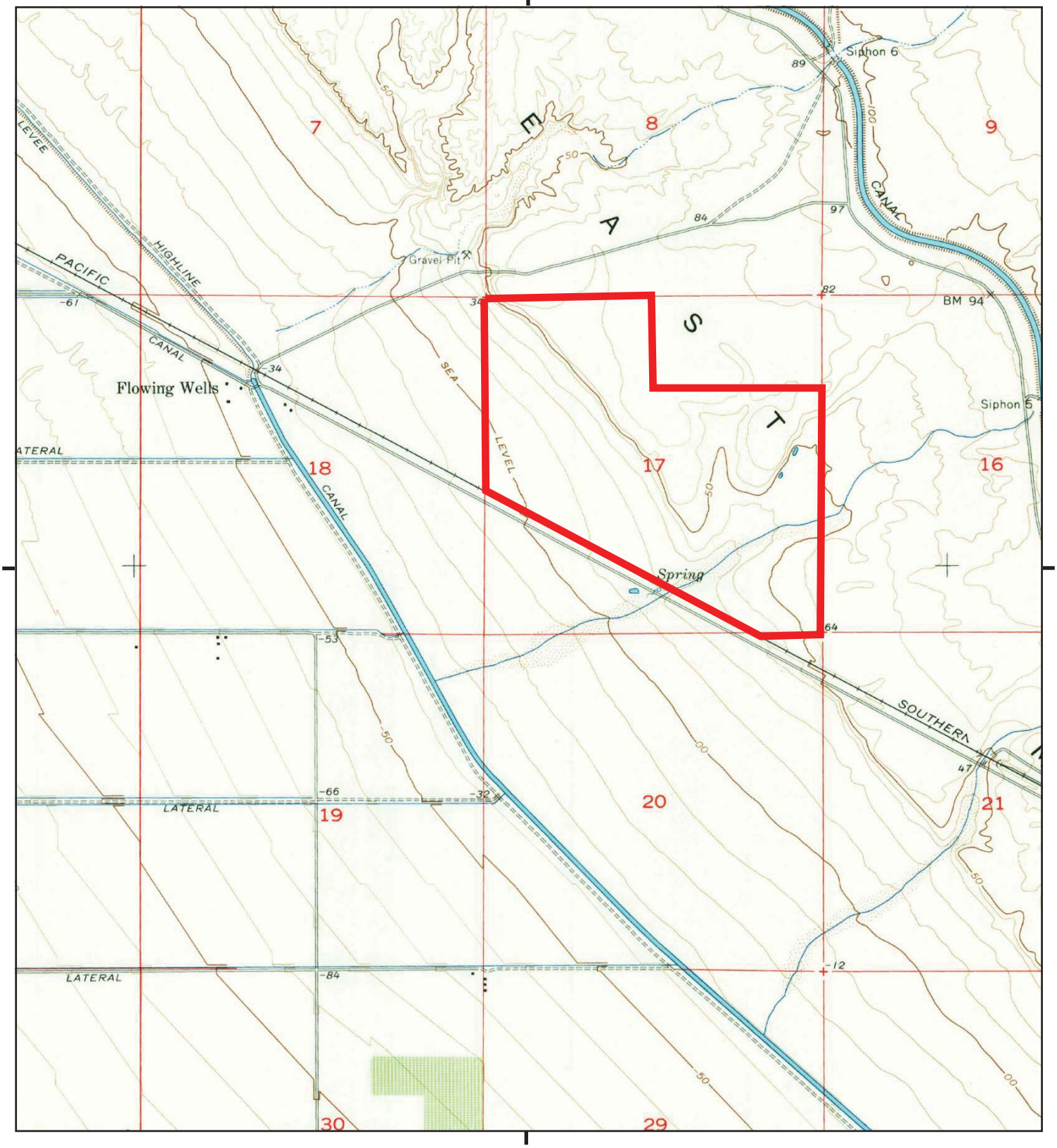
NW N NE
W E
SW S SE

TP, Iris, 1976, 7.5-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1965, 7.5-minute

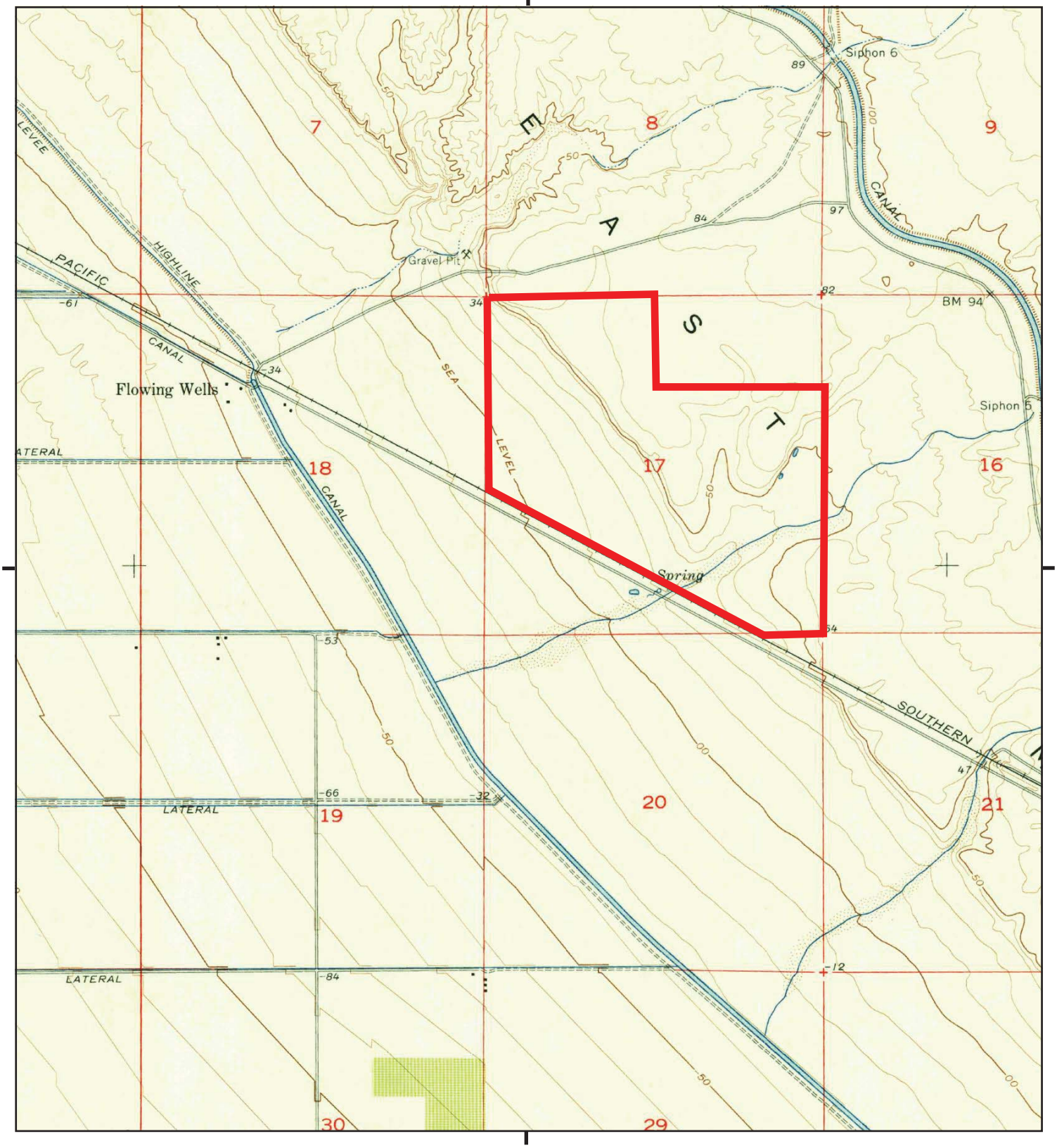
SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1956



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

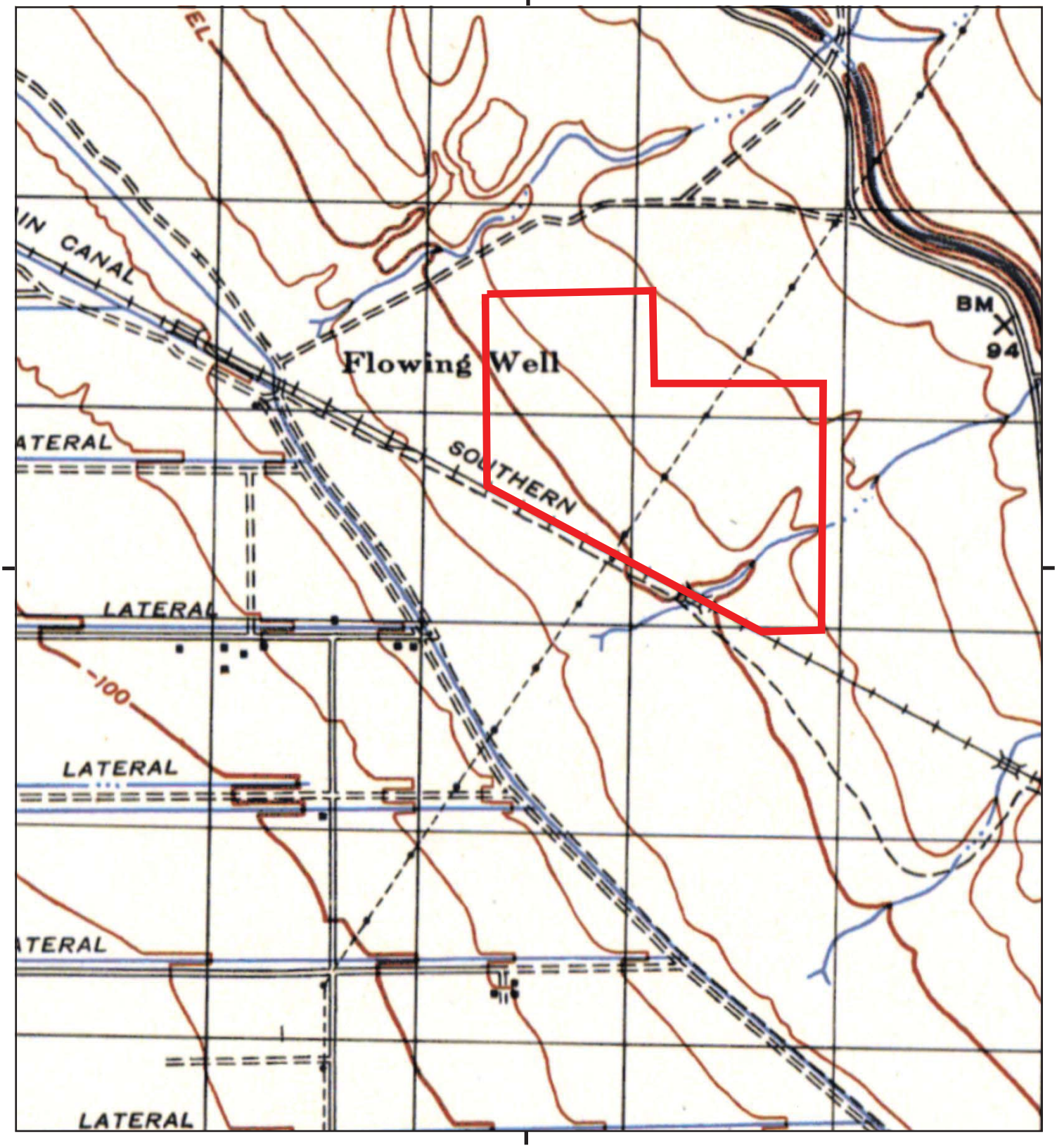
NW N NE
W E
SW S SE

TP, Iris, 1956, 7.5-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

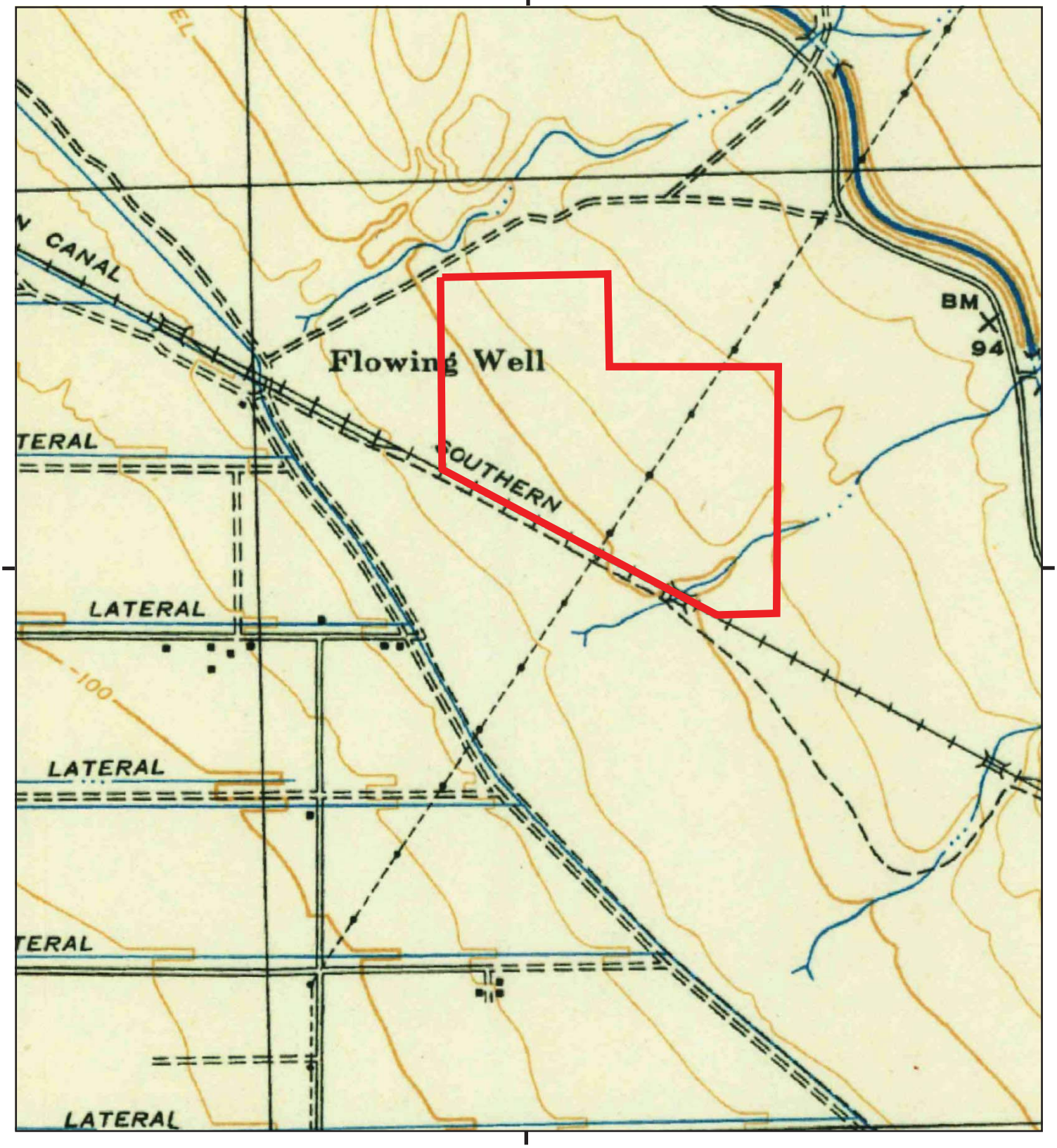
NW N NE
W E
SW S SE

TP, IRIS, 1947, 15-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

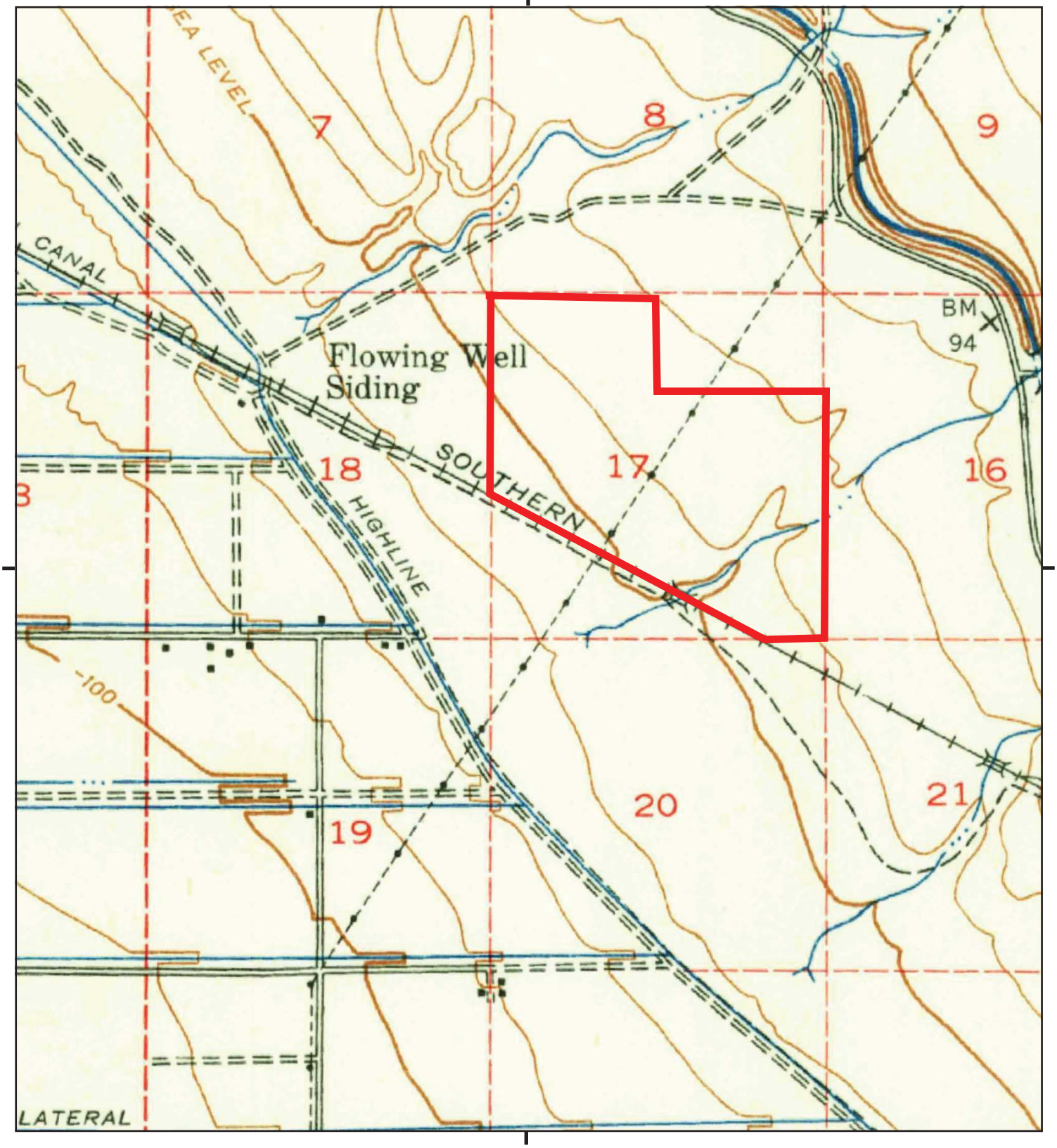
NW N NE
W E
SW S SE

TP, Iris, 1945, 15-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1940, 15-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Vega 2/3
Flowing Wells Road
Winterhaven, CA 92283

Inquiry Number: 6210343.4
September 30, 2020

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

EDR Historical Topo Map Report

09/30/20

Site Name:

Vega 2/3
Flowing Wells Road
Winterhaven, CA 92283
EDR Inquiry # 6210343.4

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Steven Williams

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Search Results:

P.O.# GS2022
Project: Vega 2/3 Solar

Coordinates:

Latitude:	33.2282 33° 13' 42" North
Longitude:	-115.4143 -115° 24' 51" West
UTM Zone:	Zone 11 North
UTM X Meters:	647754.58
UTM Y Meters:	3677706.25
Elevation:	126.00' above sea level

Maps Provided:

2012	1940
2002	
1992	
1976	
1965	
1956	
1947	
1945	

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PC ORIGINAL PKG

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets

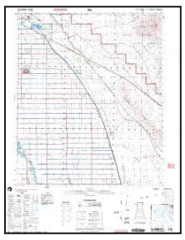
Iris

7.5-minute, 24000

Iris Wash

7.5-minute, 24000

2002 Source Sheets



Iris

15-minute, 50000

1992 Source Sheets

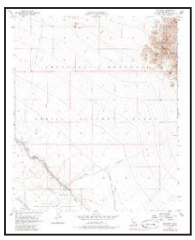
Iris

7.5-minute, 24000
Aerial Photo Revised 1992

1976 Source Sheets

Iris

7.5-minute, 24000
Aerial Photo Revised 1953



Iris Wash

7.5-minute, 24000
Aerial Photo Revised 1953

PC ORIGINAL PKG

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1965 Source Sheets

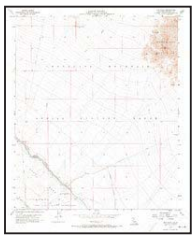
Iris

7.5-minute, 24000
Aerial Photo Revised 1953

1956 Source Sheets

Iris

7.5-minute, 24000
Aerial Photo Revised 1953



Iris Wash

7.5-minute, 24000
Aerial Photo Revised 1953

1947 Source Sheets

IRIS

15-minute, 50000

IRIS PASS

15-minute, 50000

1945 Source Sheets

Iris

15-minute, 62500
Aerial Photo Revised 1940

PC ORIGINAL PKG

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1940 Source Sheets

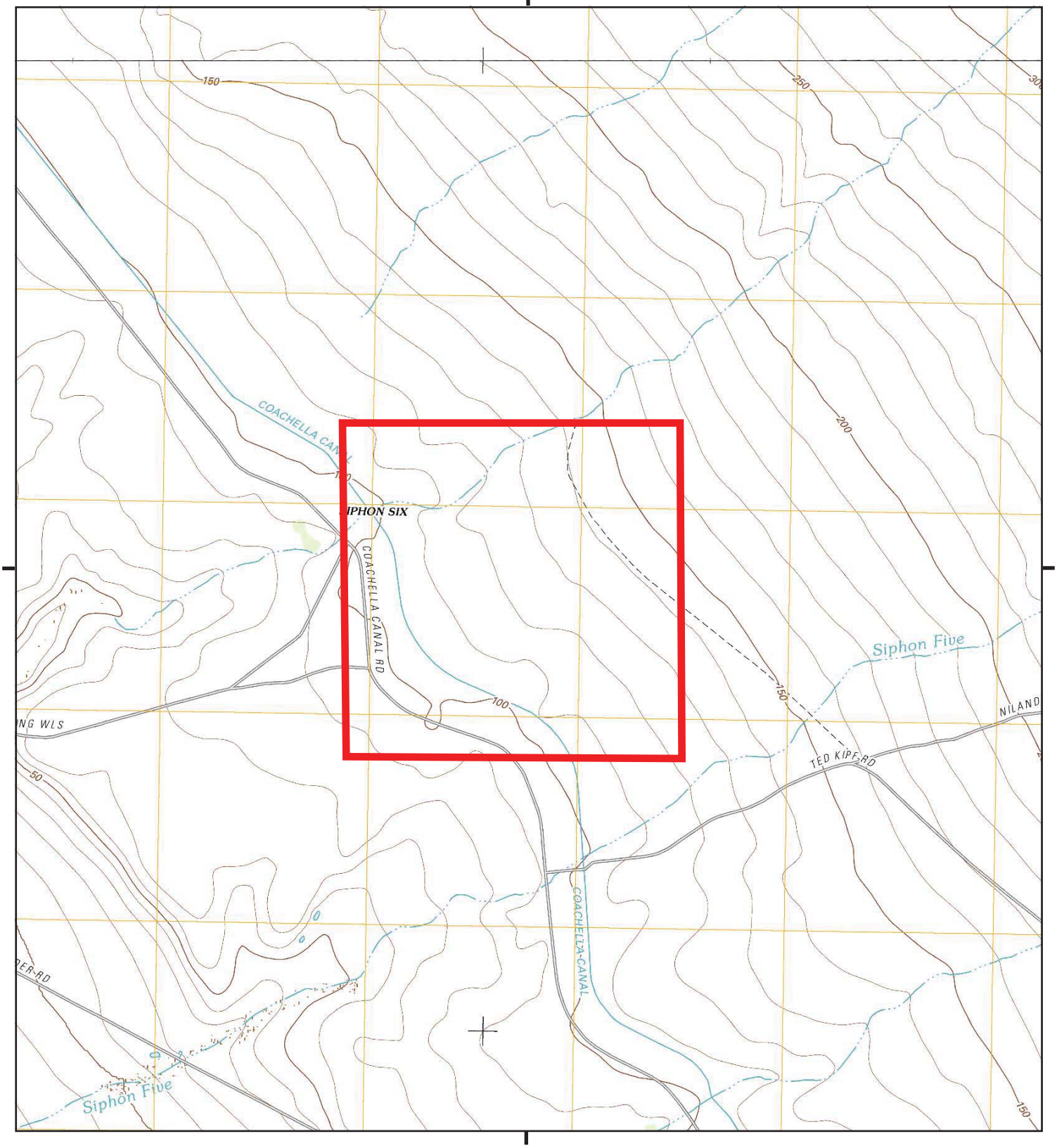
Iris

15-minute, 62500
Aerial Photo Revised 1940

Iris Pass

15-minute, 62500
Aerial Photo Revised 1940

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

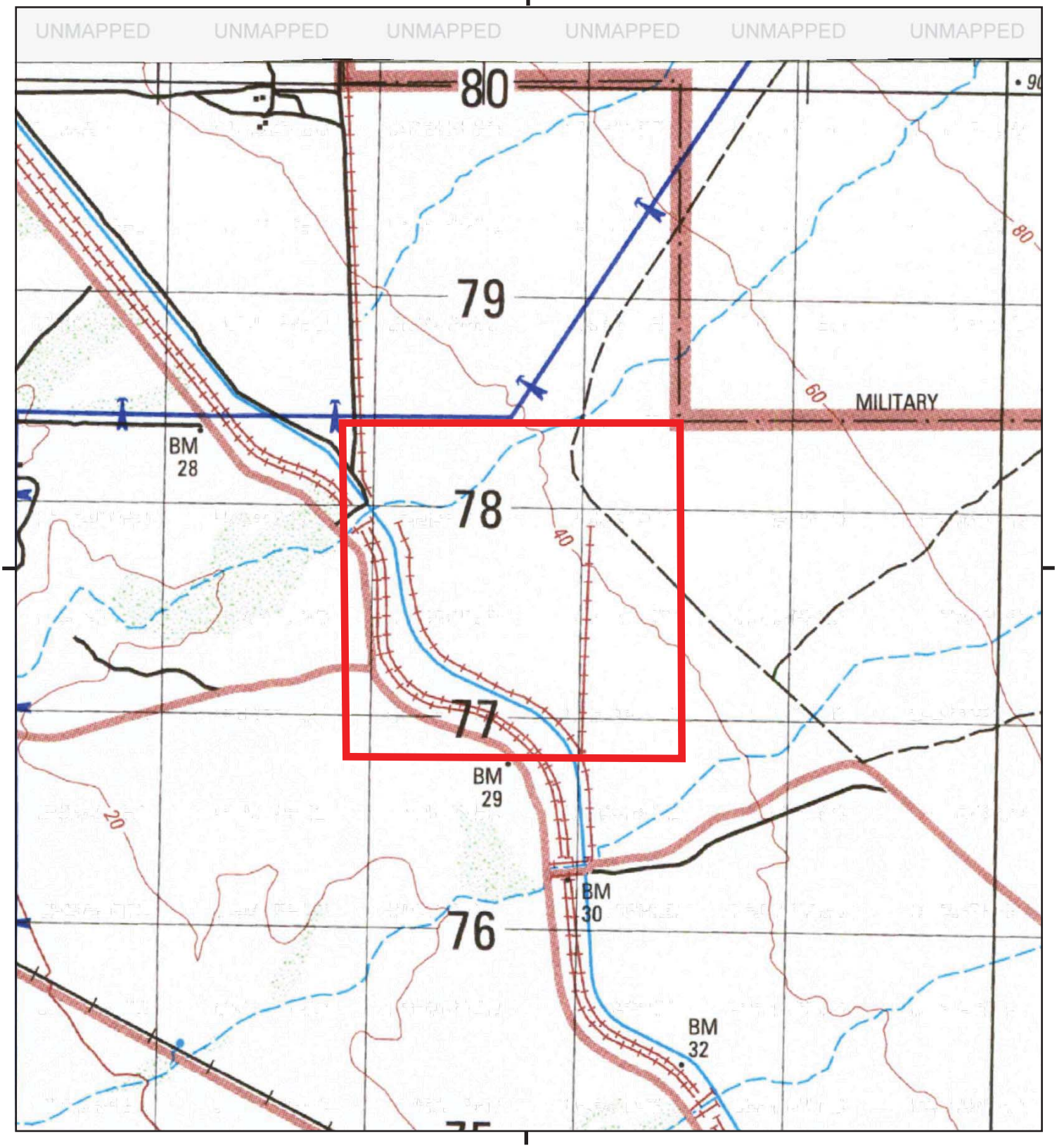
NW N NE
W E
SW S SE

TP, Iris, 2012, 7.5-minute
N, Iris Wash, 2012, 7.5-minute

SITE NAME: Vega 2/3
ADDRESS: Flowing Wells Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

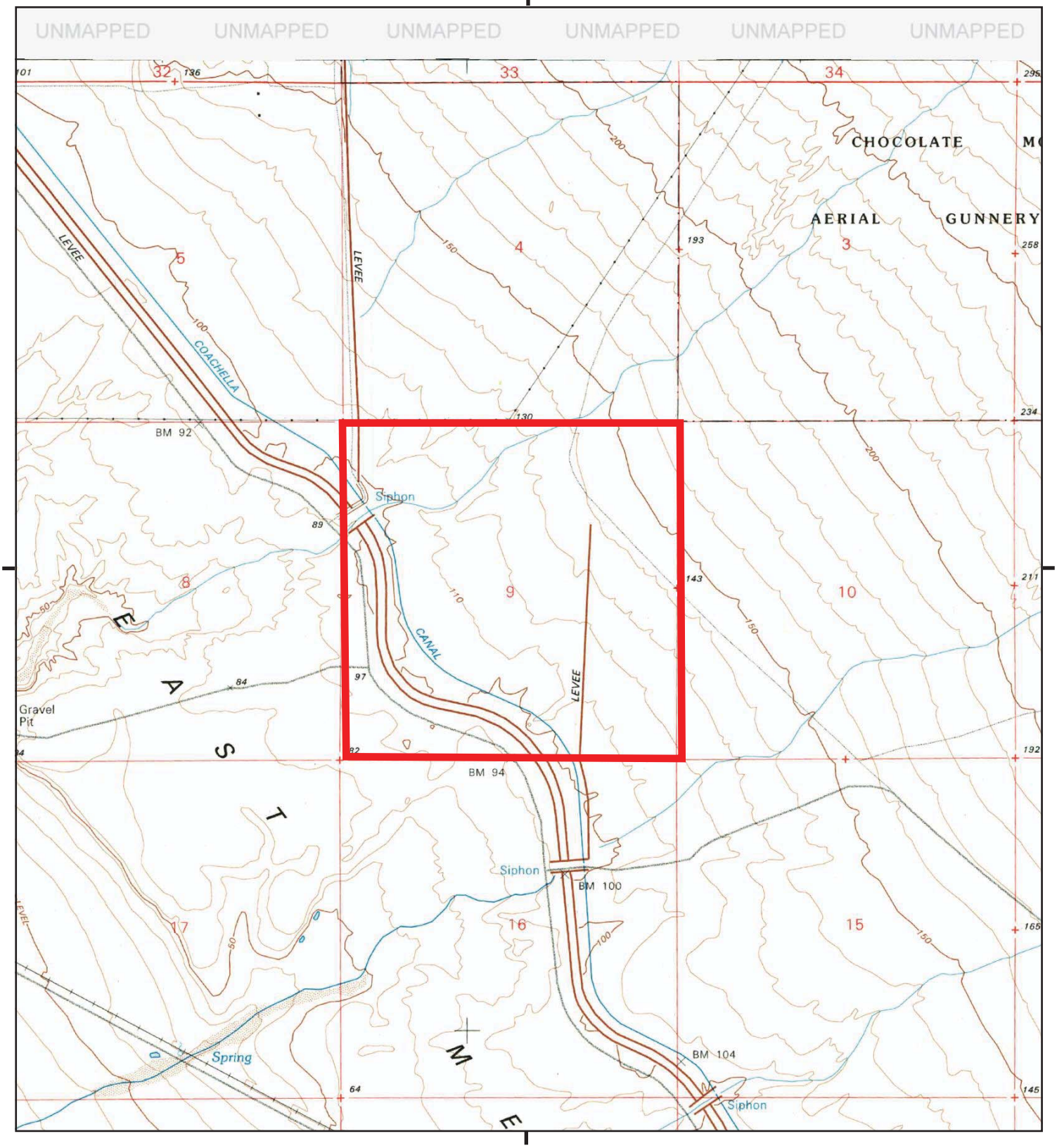
NW N NE
W E
SW S SE

TP, Iris, 2002, 15-minute

SITE NAME: Vega 2/3
ADDRESS: Flowing Wells Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1992, 7.5-minute

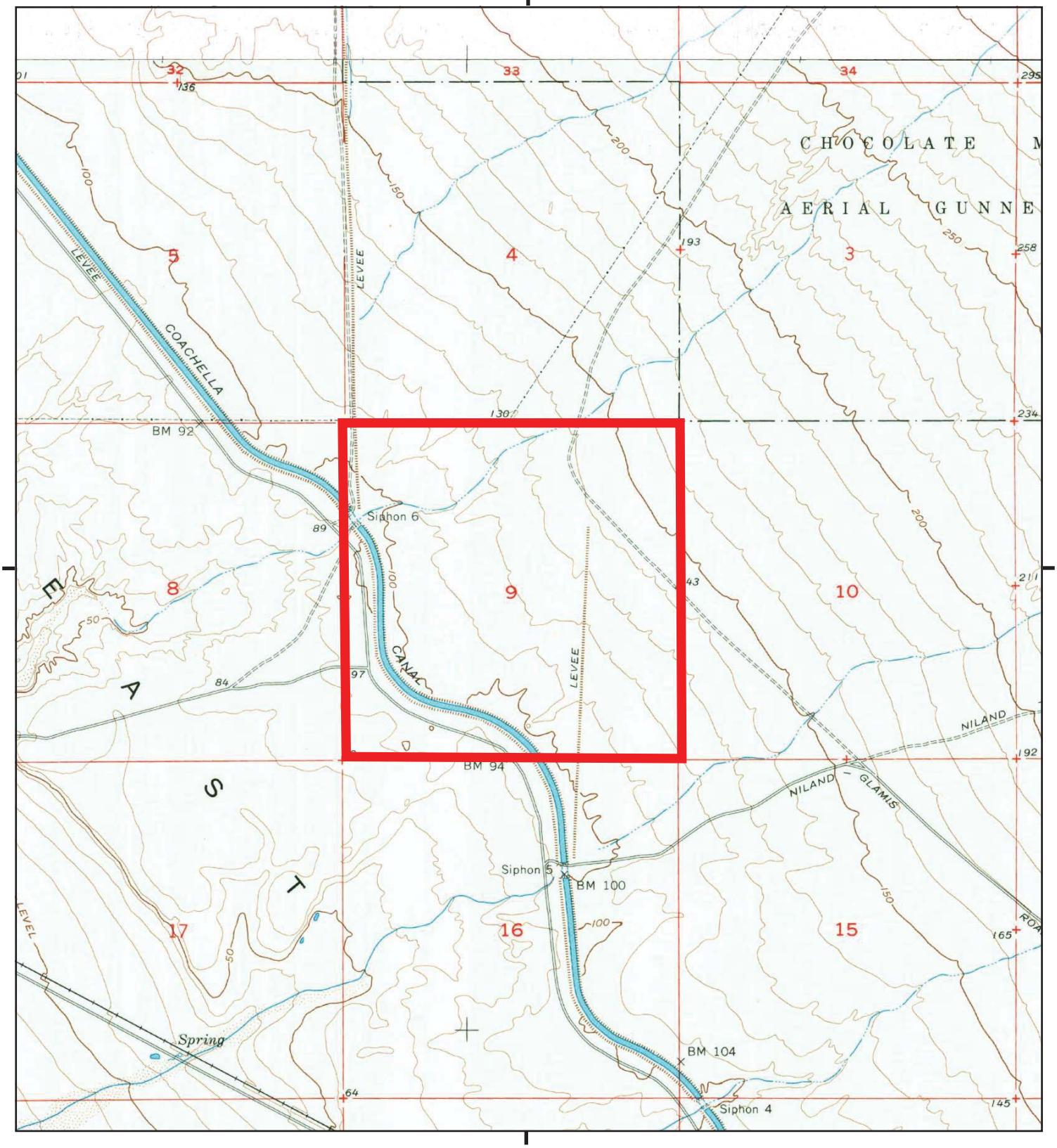
SITE NAME: Vega 2/3
ADDRESS: Flowing Wells Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1976



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

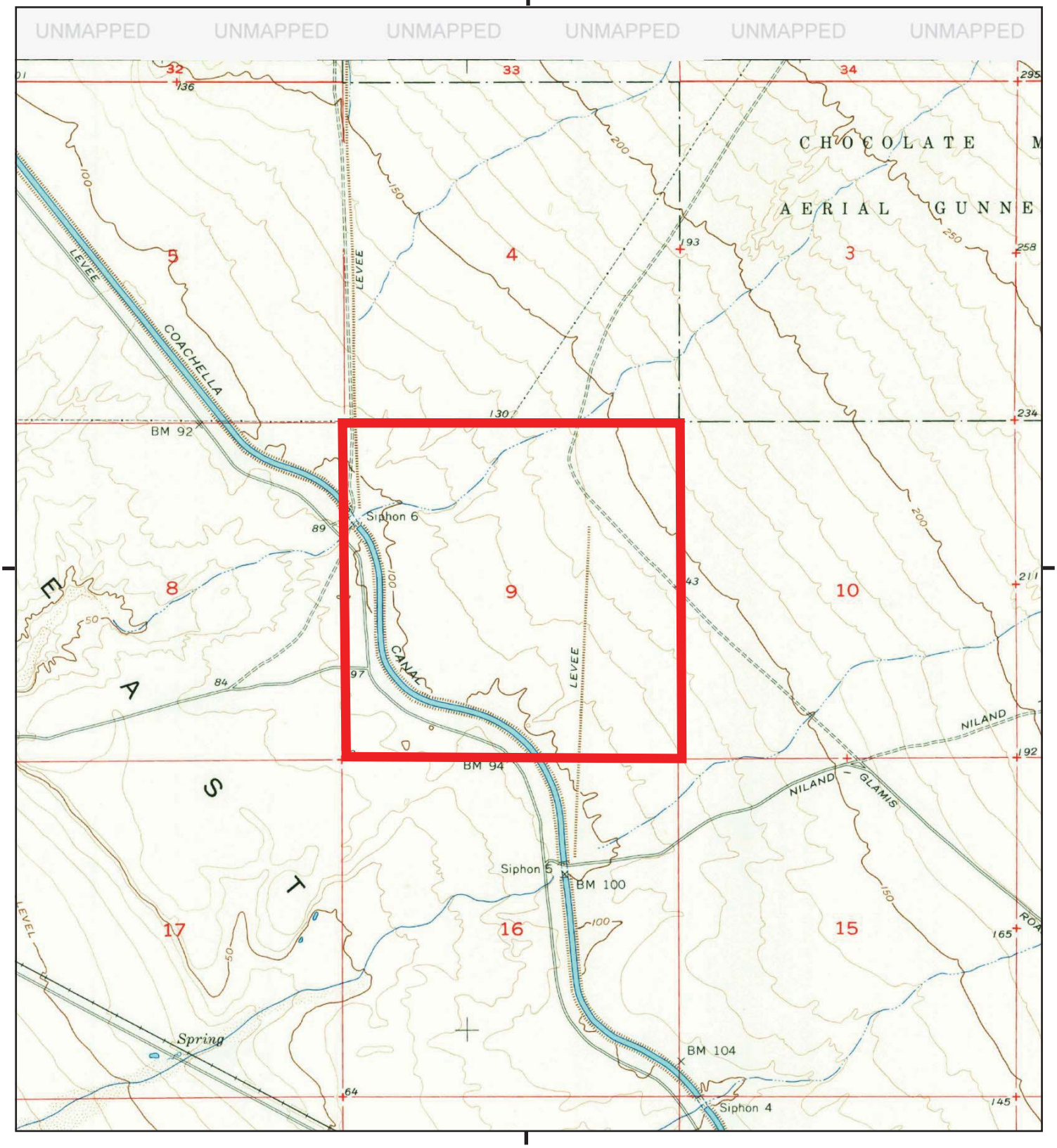
NW N NE
W E
SW S SE

TP, Iris, 1976, 7.5-minute
N, Iris Wash, 1976, 7.5-minute

SITE NAME: Vega 2/3
ADDRESS: Flowing Wells Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

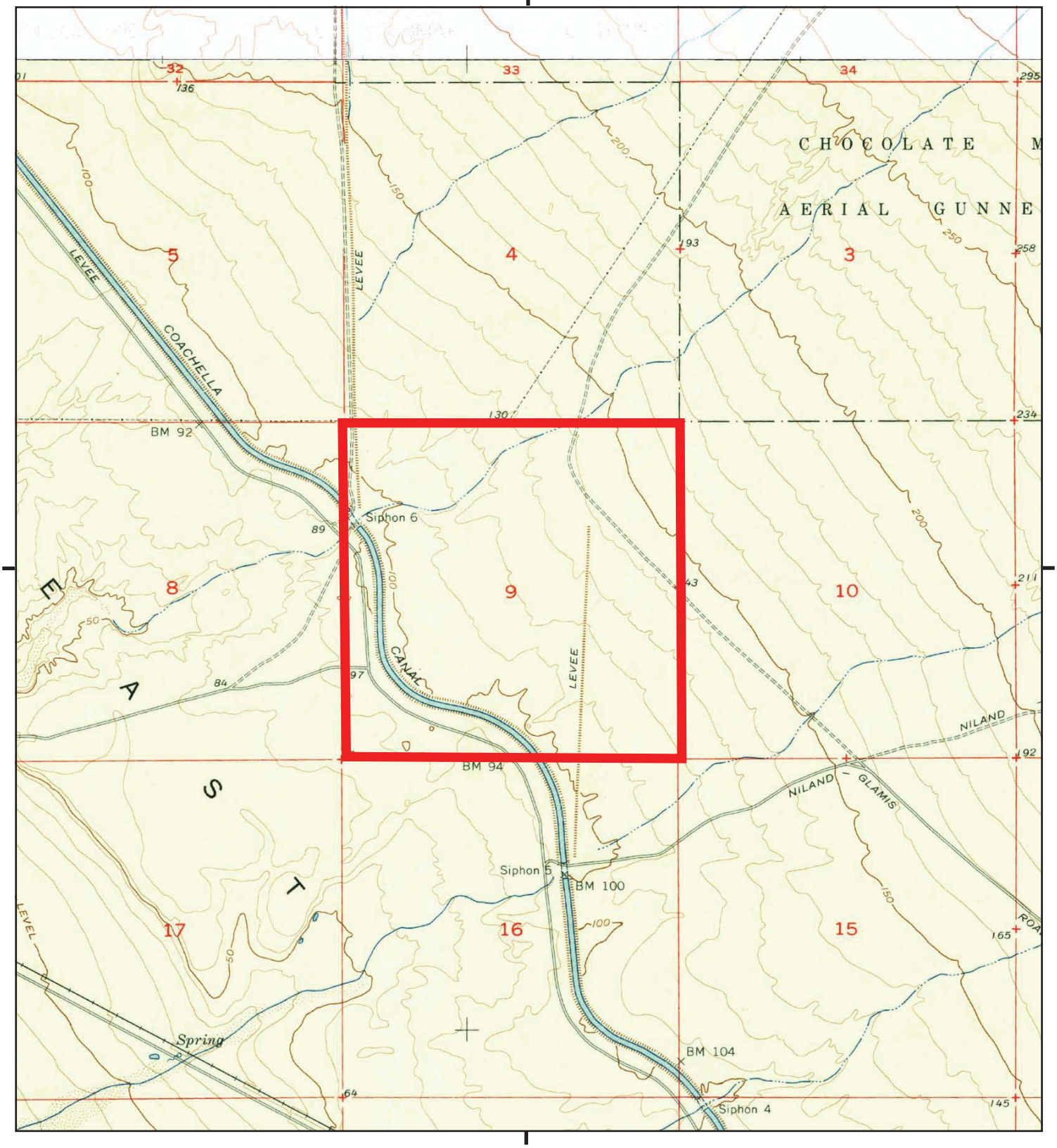
NW N NE
W E
SW S SE

TP, Iris, 1965, 7.5-minute

SITE NAME: Vega 2/3
ADDRESS: Flowing Wells Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

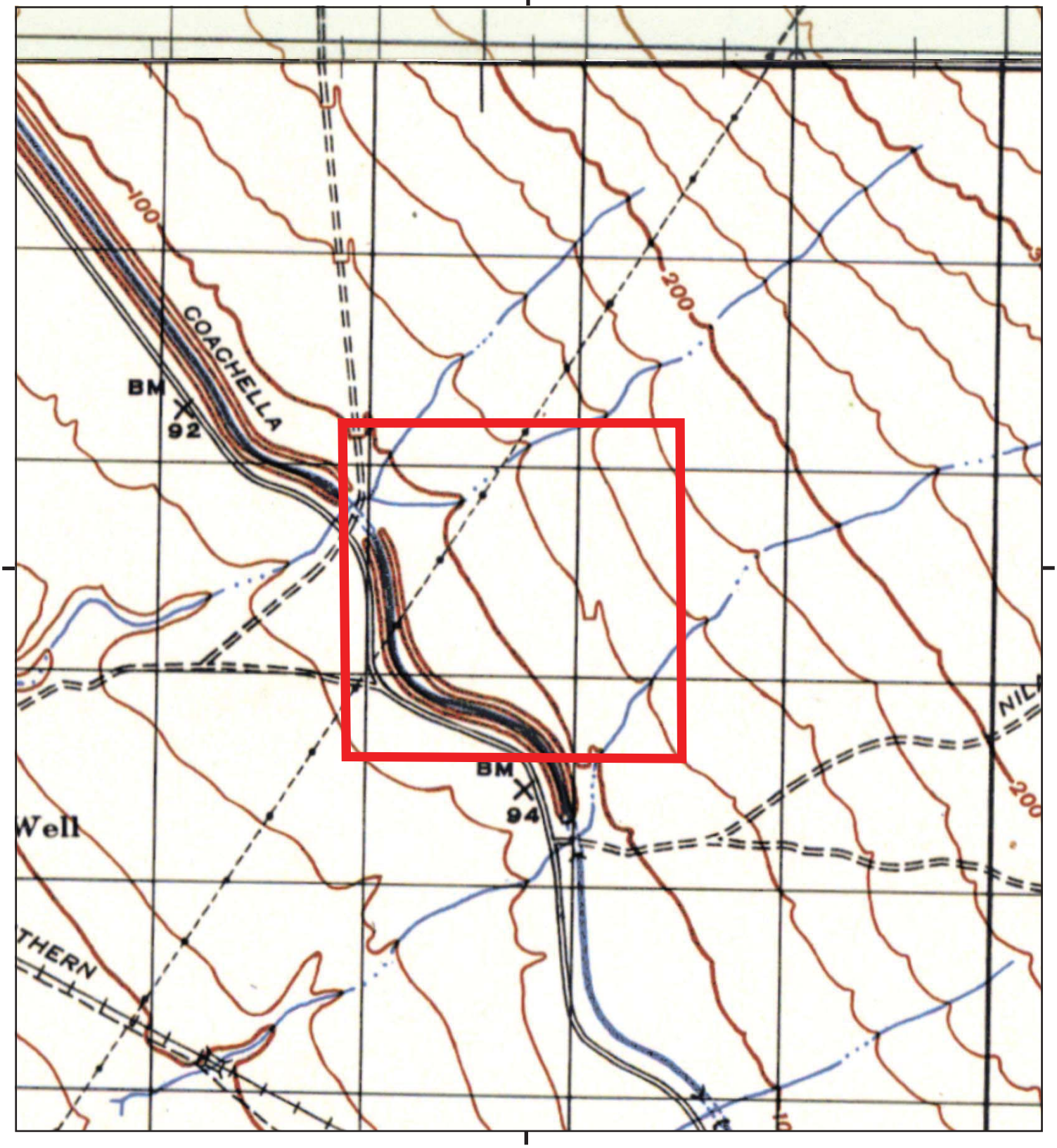
NW N NE
W E
SW S SE

TP, Iris, 1956, 7.5-minute
N, Iris Wash, 1956, 7.5-minute

SITE NAME: Vega 2/3
ADDRESS: Flowing Wells Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

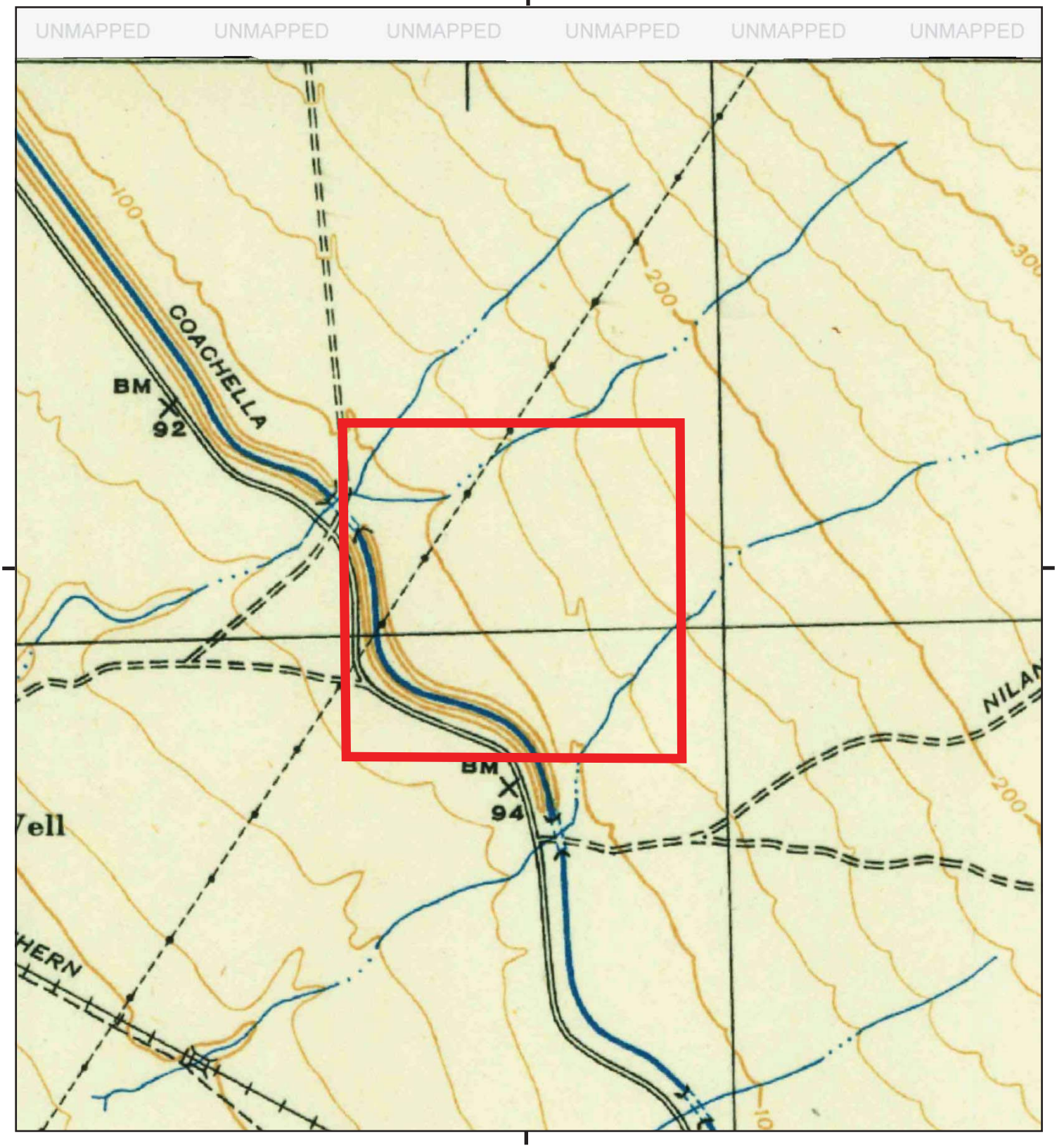
NW N NE
W E
SW S SE

TP, IRIS, 1947, 15-minute
N, IRIS PASS, 1947, 15-minute

SITE NAME: Vega 2/3
ADDRESS: Flowing Wells Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

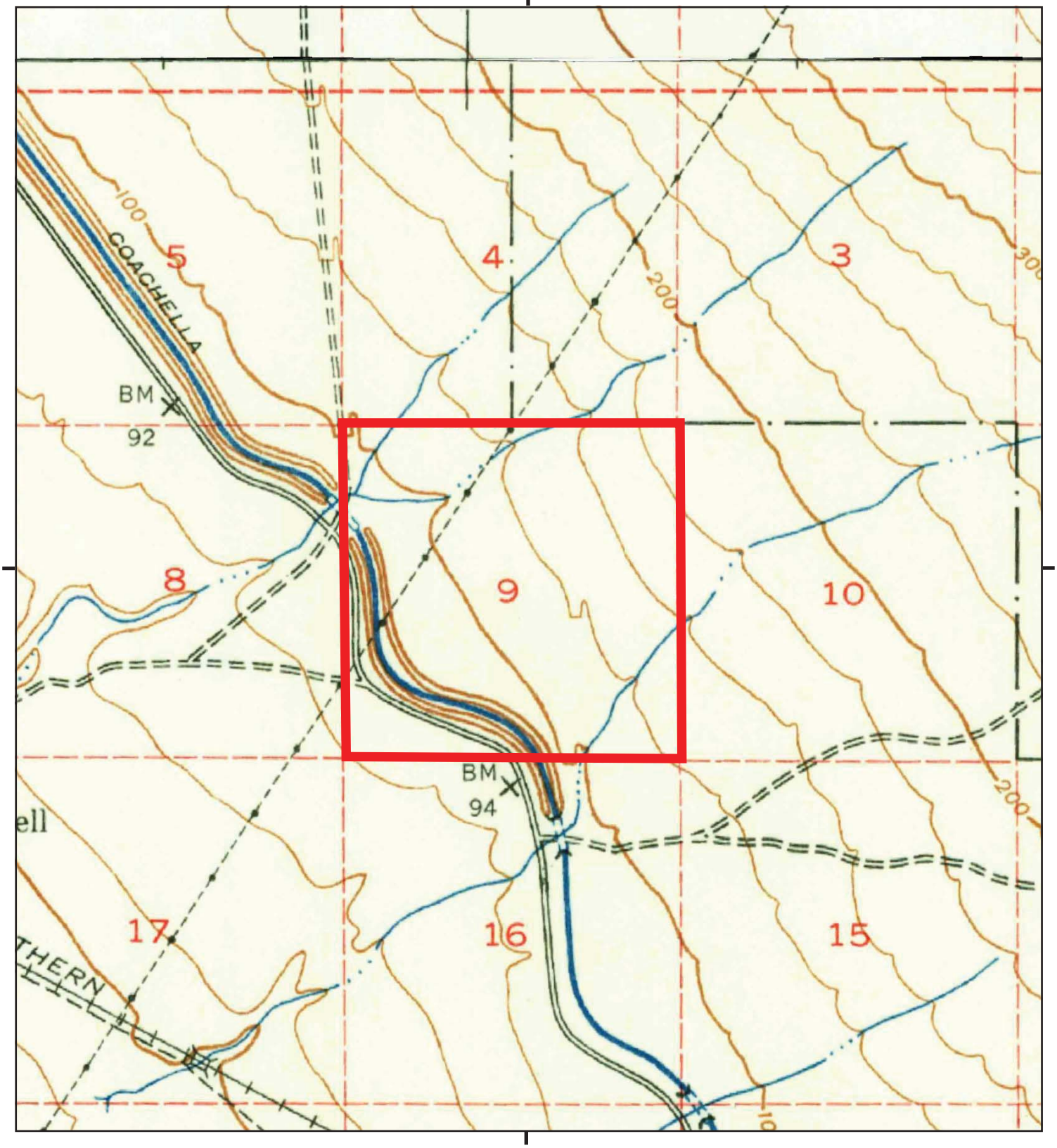
NW N NE
W E
SW S SE

TP, Iris, 1945, 15-minute

SITE NAME: Vega 2/3
ADDRESS: Flowing Wells Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1940, 15-minute
N, Iris Pass, 1940, 15-minute

SITE NAME: Vega 2/3
ADDRESS: Flowing Wells Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Vega 2B
Ted Kipf Road
Winterhaven, CA 92283

Inquiry Number: 6210349.4
September 30, 2020

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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EDR Historical Topo Map Report

09/30/20

Site Name:

Vega 2B
Ted Kipf Road
Winterhaven, CA 92283
EDR Inquiry # 6210349.4

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Steven Williams

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Search Results:

P.O.# GS2021

Project: Vega 2B Solar

Coordinates:

Latitude:	33.212863 33° 12' 46" North
Longitude:	-115.397771 -115° 23' 52" West
UTM Zone:	Zone 11 North
UTM X Meters:	649320.96
UTM Y Meters:	3676029.15
Elevation:	145.01' above sea level

Maps Provided:

2012
2002
1992, 1995
1976
1965
1955, 1956
1947
1945
1940

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets

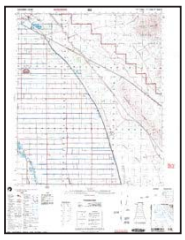
Iris

7.5-minute, 24000

Tortuga

7.5-minute, 24000

2002 Source Sheets



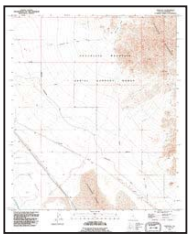
Iris

15-minute, 50000

1992, 1995 Source Sheets

Iris

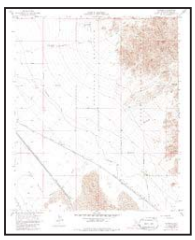
7.5-minute, 24000
Aerial Photo Revised 1992



Tortuga

7.5-minute, 24000
Aerial Photo Revised 1992

1976 Source Sheets



Tortuga

7.5-minute, 24000
Aerial Photo Revised 1953

Iris

7.5-minute, 24000
Aerial Photo Revised 1953

PC ORIGINAL PKG

Topo Sheet Key

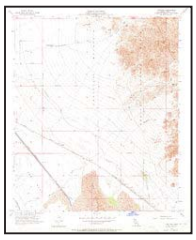
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1965 Source Sheets

Iris

7.5-minute, 24000
Aerial Photo Revised 1953

1955, 1956 Source Sheets



Tortuga

7.5-minute, 24000
Aerial Photo Revised 1953

Iris

7.5-minute, 24000
Aerial Photo Revised 1953

1947 Source Sheets

IRIS

15-minute, 50000

1945 Source Sheets

Iris

15-minute, 62500
Aerial Photo Revised 1940

PC ORIGINAL PKG

Topo Sheet Key

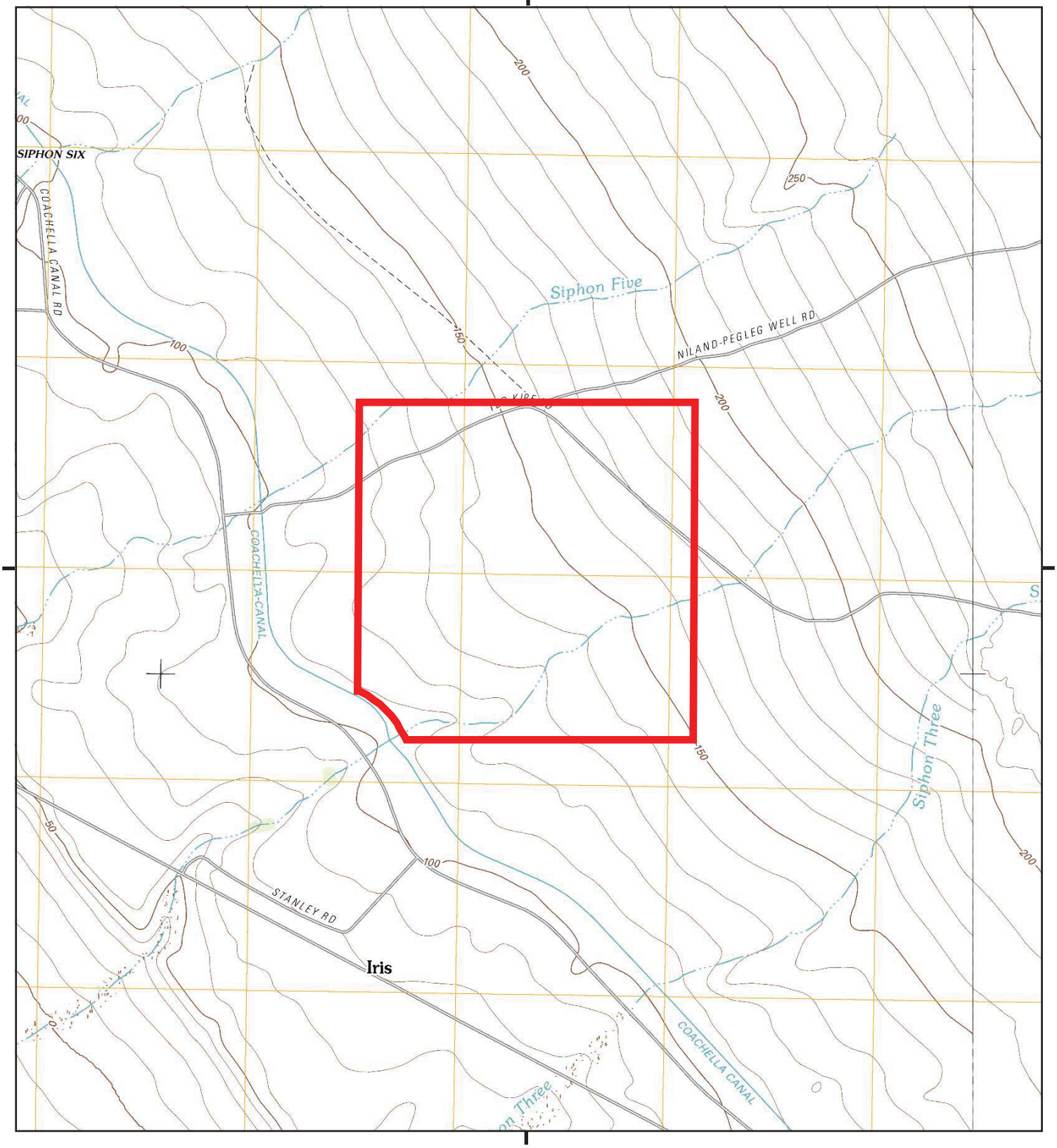
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1940 Source Sheets

Iris

15-minute, 62500
Aerial Photo Revised 1940

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 2012, 7.5-minute
E, Tortuga, 2012, 7.5-minute

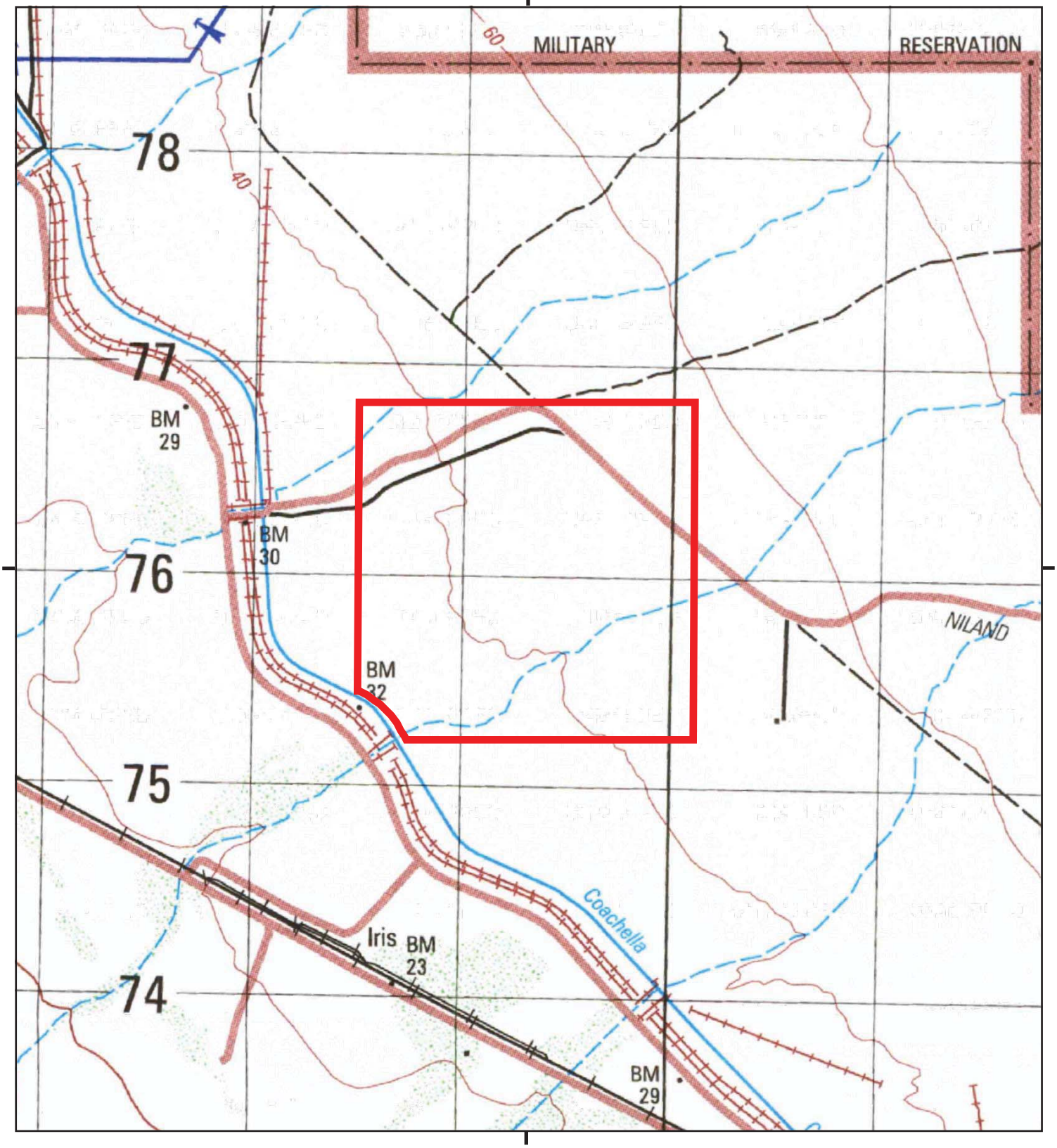
SITE NAME: Vega 2B
ADDRESS: Ted Kipf Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

2002



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 2002, 15-minute

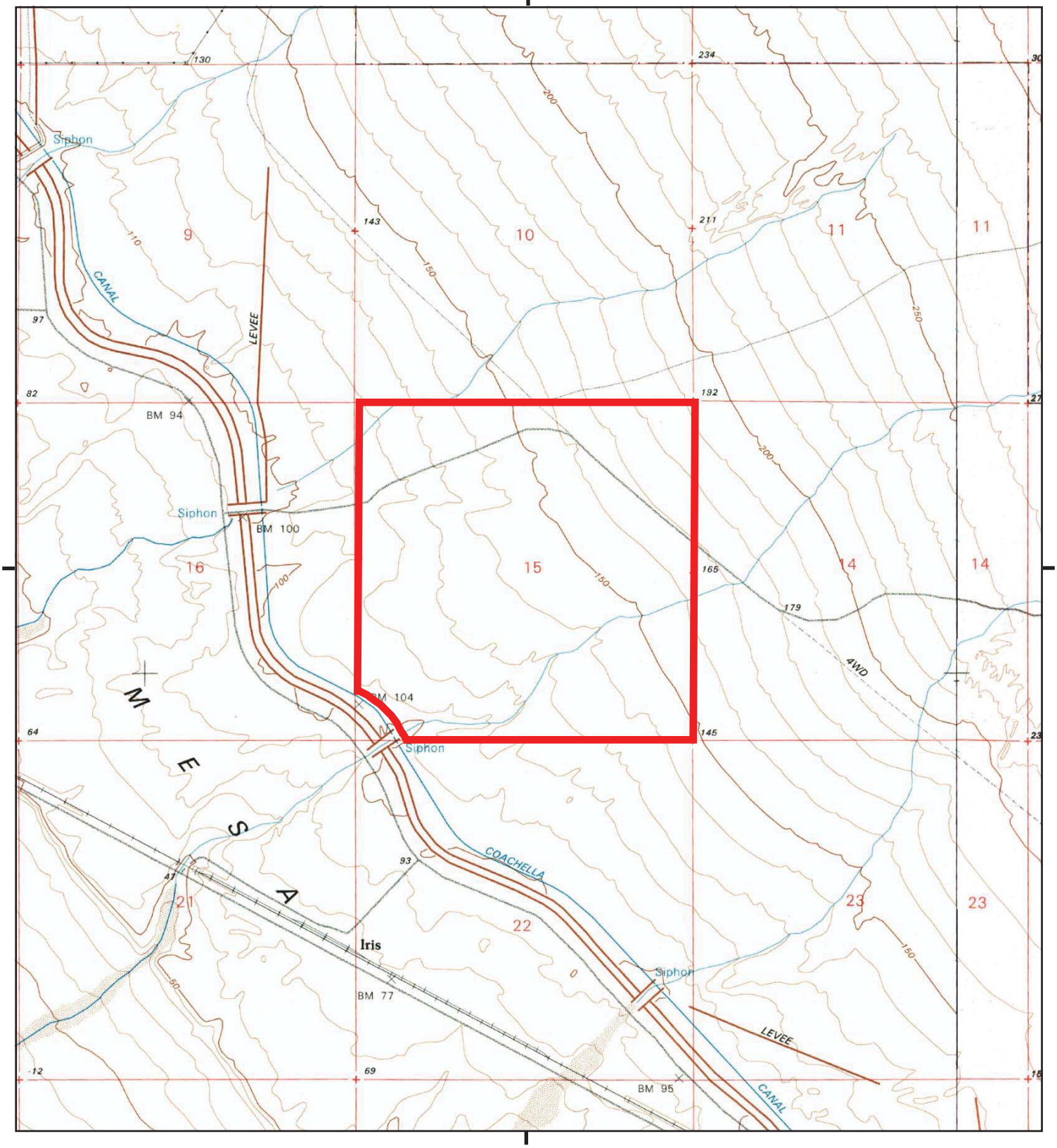
SITE NAME: Vega 2B
ADDRESS: Ted Kipf Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1992, 1995



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1992, 7.5-minute
E, Tortuga, 1995, 7.5-minute

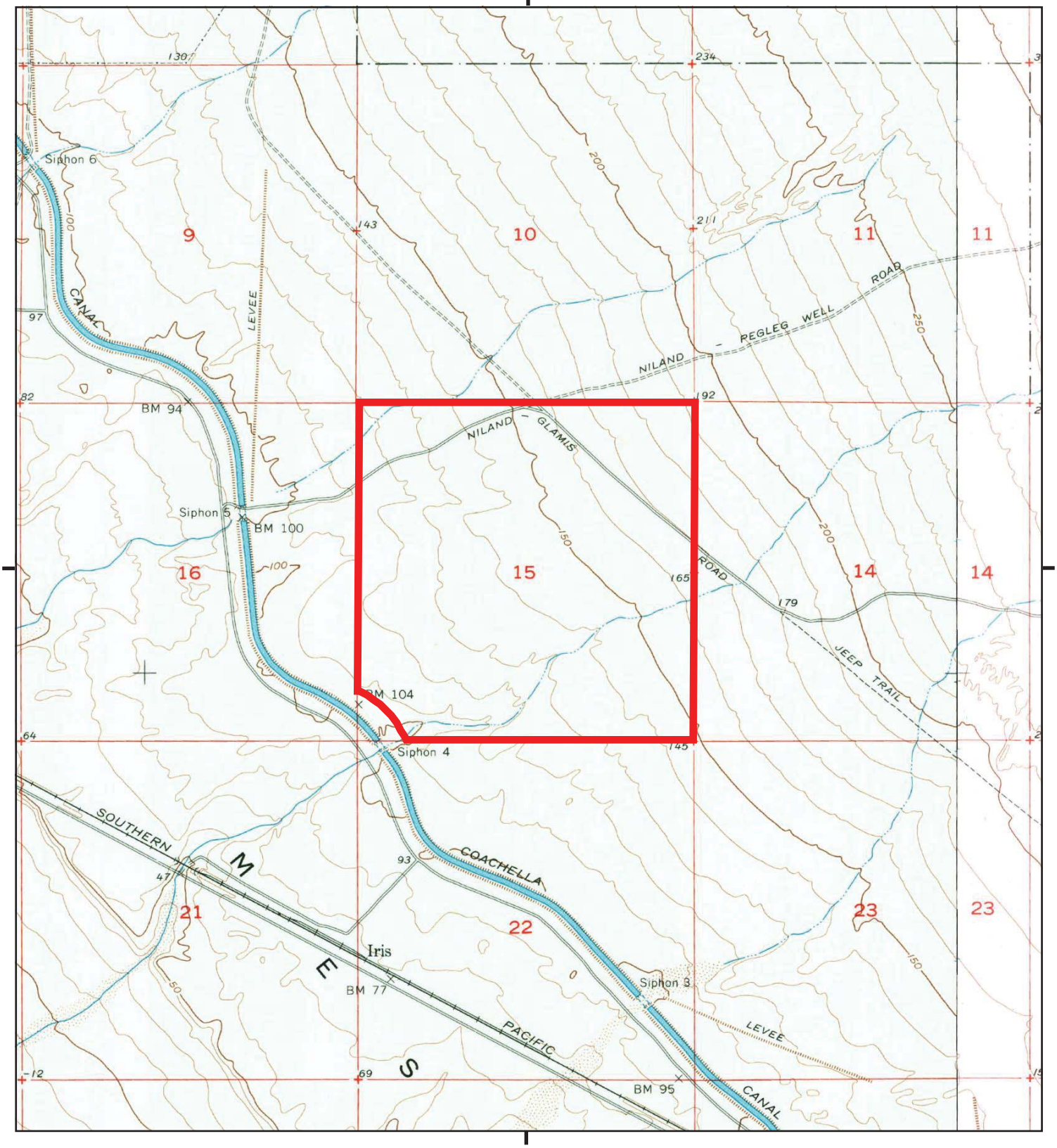
SITE NAME: Vega 2B
ADDRESS: Ted Kipf Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1976



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

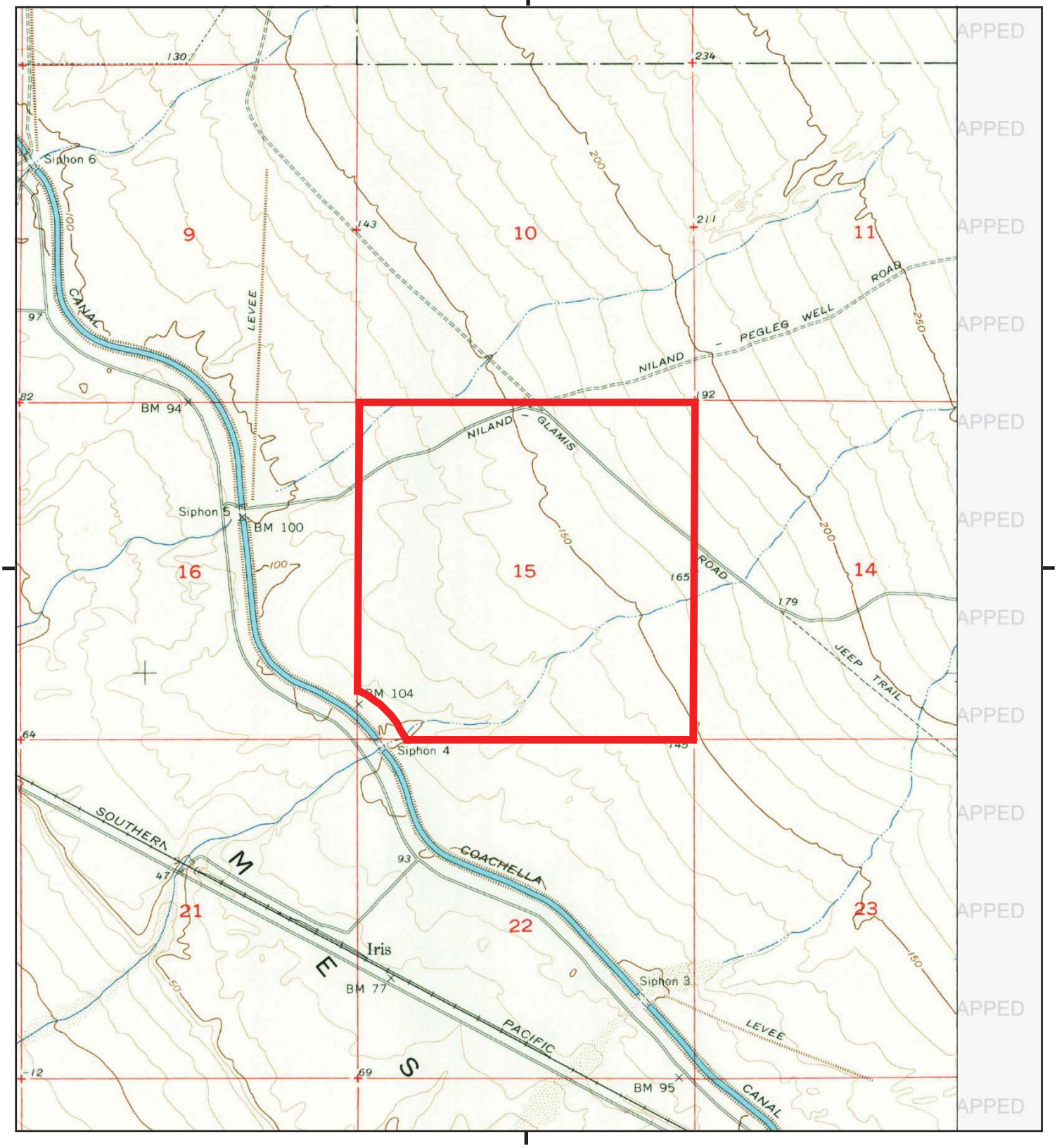
NW N NE
W E
SW S SE

TP, Iris, 1976, 7.5-minute
E, Tortuga, 1976, 7.5-minute

SITE NAME: Vega 2B
ADDRESS: Ted Kipf Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

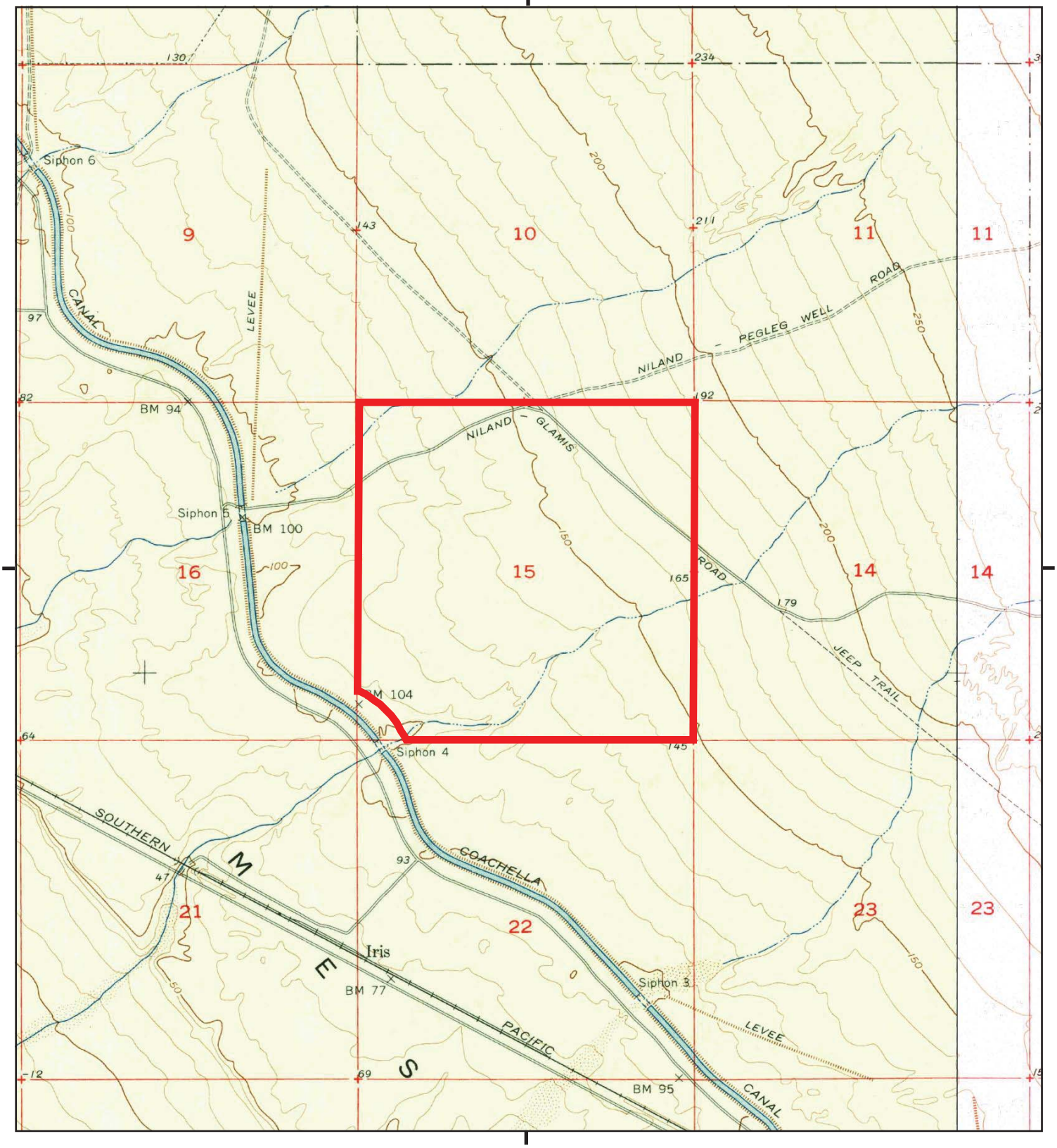
NW N NE
W E
SW S SE

TP, Iris, 1965, 7.5-minute

SITE NAME: Vega 2B
ADDRESS: Ted Kipf Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1956, 7.5-minute
E, Tortuga, 1955, 7.5-minute

SITE NAME: Vega 2B
ADDRESS: Ted Kipf Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

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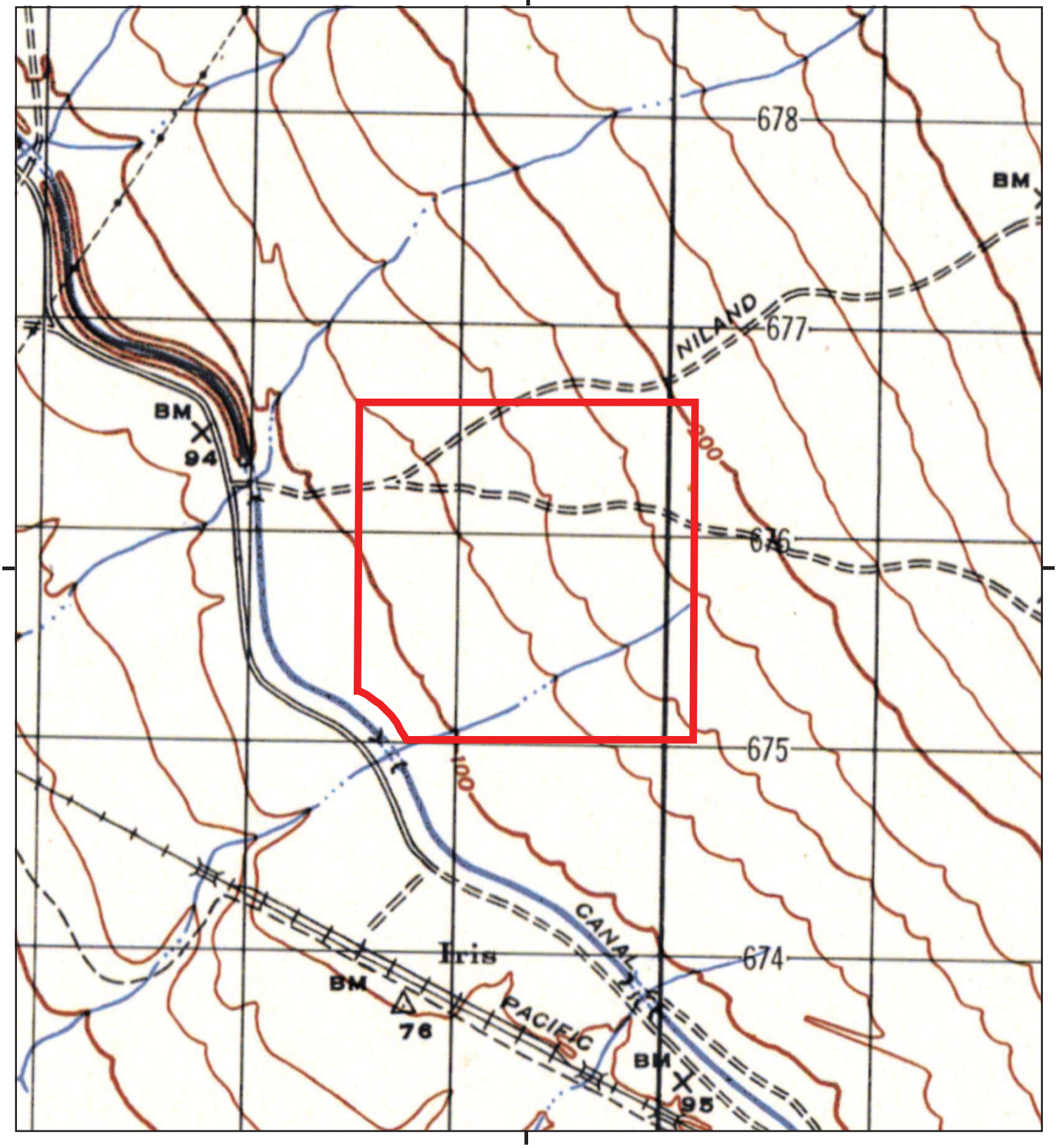
PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

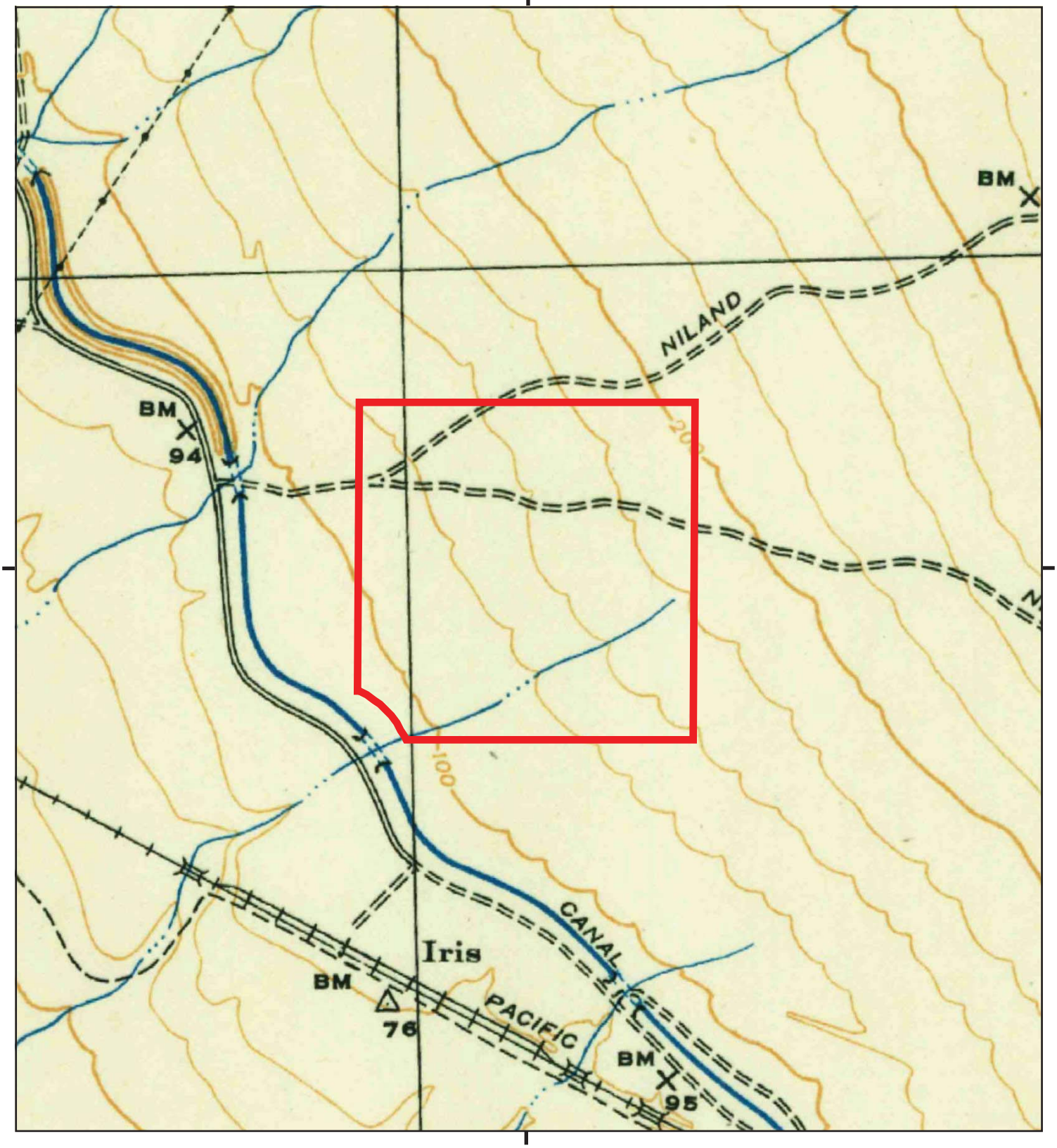
NW N NE
W E
SW S SE

TP, IRIS, 1947, 15-minute

SITE NAME: Vega 2B
ADDRESS: Ted Kipf Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

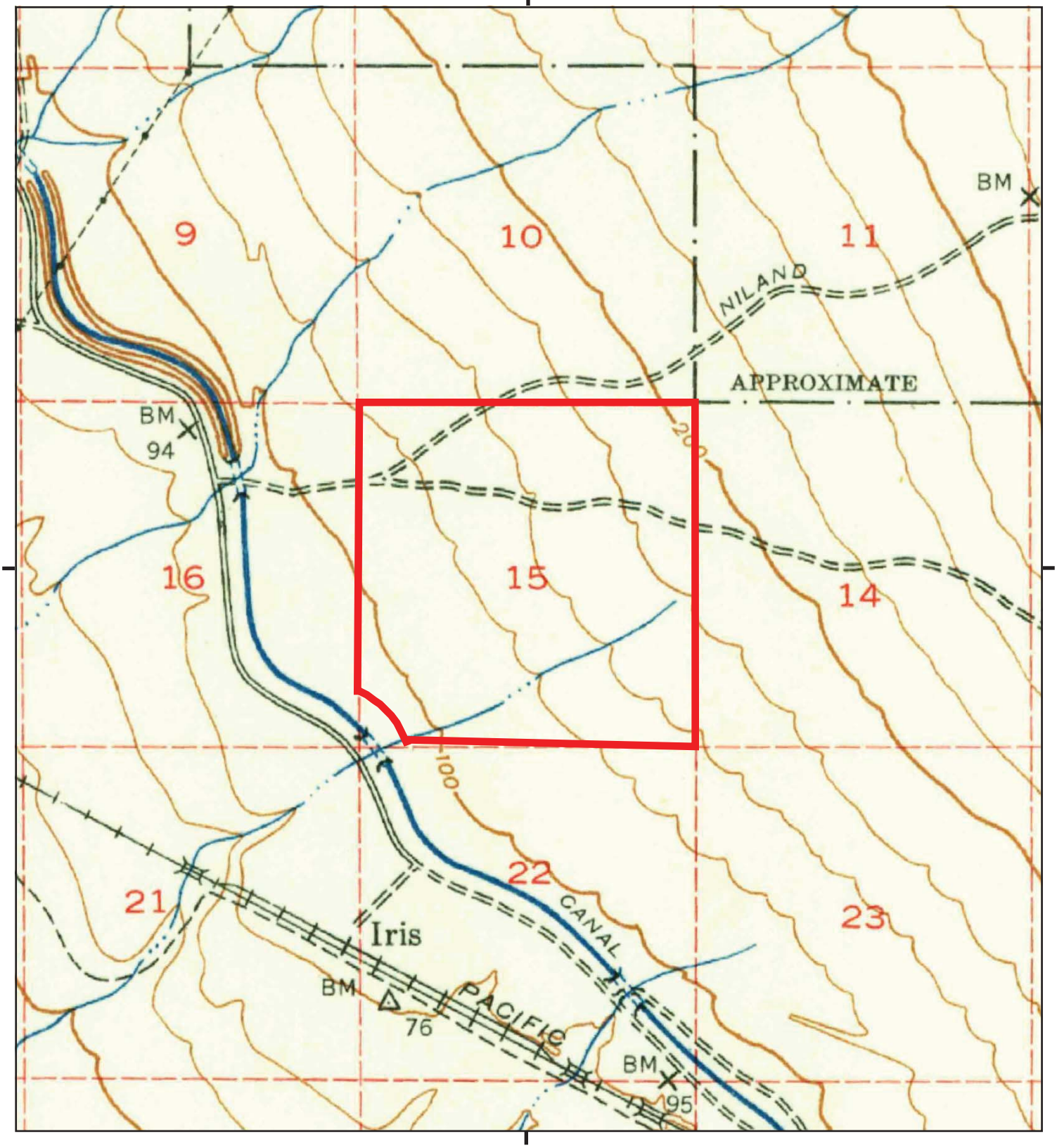
NW N NE
W E
SW S SE

TP, Iris, 1945, 15-minute

SITE NAME: Vega 2B
ADDRESS: Ted Kipf Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1940, 15-minute

SITE NAME: Vega 2B
ADDRESS: Ted Kipf Road
Winterhaven, CA 92283
CLIENT: GS Lyon Consultants

N

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APPENDIX E

PC ORIGINAL PKG

Vega 2/3
Flowing Wells Road
Winterhaven, CA 92283

Inquiry Number: 6210343.3
September 30, 2020

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

Certified Sanborn® Map Report

09/30/20

Site Name:

Vega 2/3
Flowing Wells Road
Winterhaven, CA 92283
EDR Inquiry # 6210343.3

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Steven Williams

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Certified Sanborn Results:

Certification # A692-41B2-923E

PO # GS2022

Project Vega 2/3 Solar

UNMAPPED PROPERTY

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Sanborn® Library search results

Certification #: A692-41B2-923E

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- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

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PC ORIGINAL PKG

Vega 2B
Ted Kipf Road
Winterhaven, CA 92283

Inquiry Number: 6210349.3
September 30, 2020

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6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

Certified Sanborn® Map Report

09/30/20

Site Name:

Vega 2B
Ted Kipf Road
Winterhaven, CA 92283
EDR Inquiry # 6210349.3

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Steven Williams

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Certified Sanborn Results:

Certification # AC1F-49D9-8869

PO # GS2021

Project Vega 2B Solar

UNMAPPED PROPERTY

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Sanborn® Library search results

Certification #: AC1F-49D9-8869

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✓ Library of Congress
- ✓ University Publications of America
- ✓ EDR Private Collection

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PC ORIGINAL PKG

APPENDIX F

PC ORIGINAL PKG

Cedar Solar 2
NEC Schrimpf and Wiest Rd. Imperial County
Calipatria, CA 92233

Inquiry Number: 6171651.3s
August 27, 2020

EDR Area / Corridor Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

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Mapped Sites Summary	2
Key Map	2
Map Findings Summary	3
Focus Maps	8
Map Findings	26
Orphan Summary	OR-1
Government Records Searched/Data Currency Tracking	GR-1

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Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

SUBJECT PROPERTY INFORMATION

ADDRESS

NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

TARGET PROPERTY SEARCH RESULTS

The Target Property was identified in the following databases.

Page Numbers and Map Identifcations refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

MINES: Mines Site Location Listing

A review of the MINES list, as provided by EDR, and dated 06/08/2020 has revealed that there is 1 MINES site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
FLOWING WELLS	2095 HIGHWAY 111	2 / 5	26

MINES MRDS: Mineral Resources Data System

A review of the MINES MRDS list, as provided by EDR, and dated 04/06/2018 has revealed that there is 1 MINES MRDS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
FLOWING WELLS PIT		1 / 5	25

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

PC ORIGINAL PKG

EXECUTIVE SUMMARY

Page Numbers and Map Identifcations refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

A review of the MINES list, as provided by EDR, and dated 06/08/2020 has revealed that there is 1 MINES site within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
FLOWING WELLS		N 0 - 1/8 (0.073 mi.)	3 / 2	26

PC ORIGINAL PKG

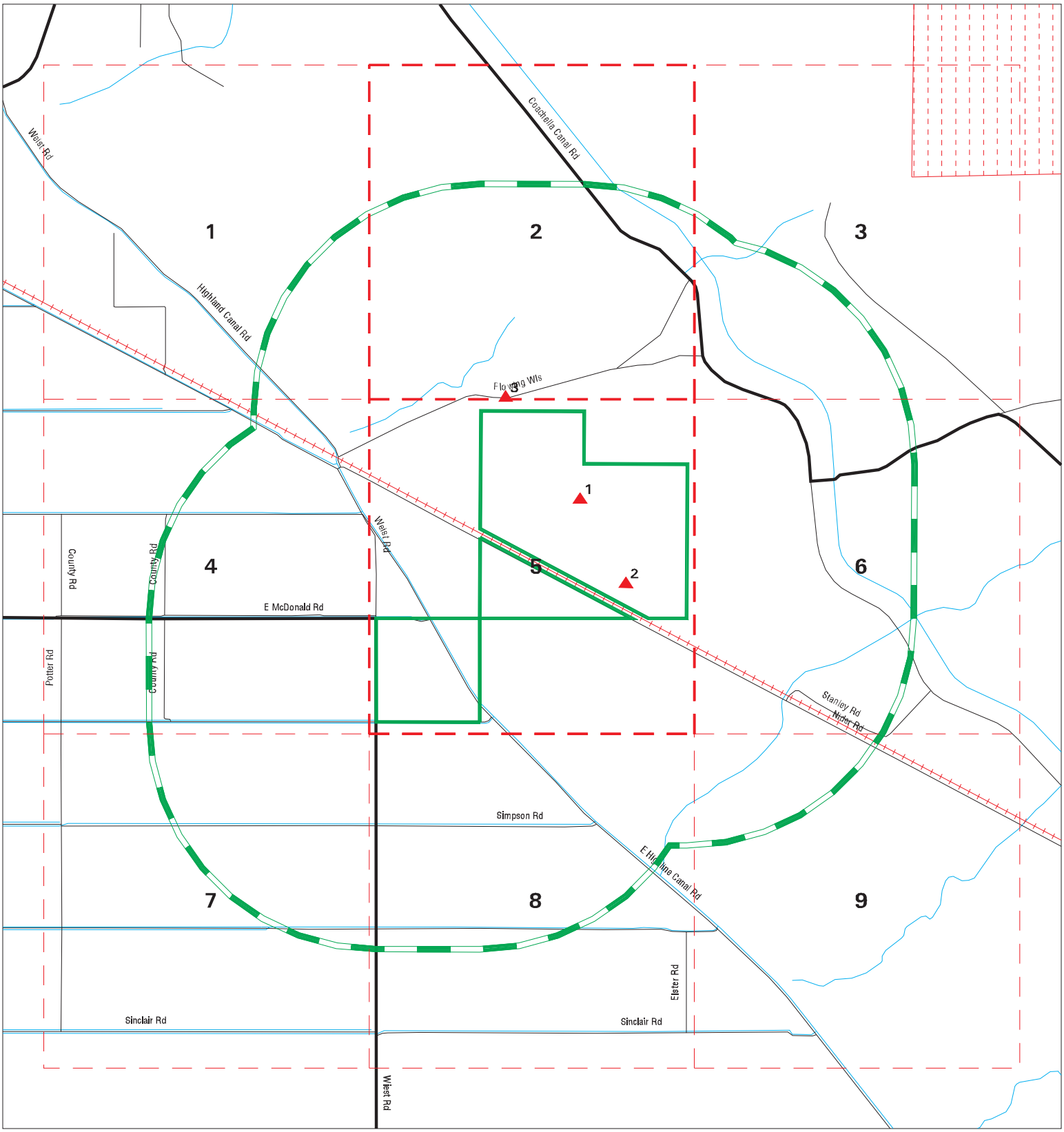
MAPPED SITES SUMMARY

Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
1 / 5	FLOWING WELLS PIT		MINES MRDS	TP
2 / 5	FLOWING WELLS	2095 HIGHWAY 111	MINES	TP
3 / 2	FLOWING WELLS		MINES	388 0.073 North

PC ORIGINAL PKG

Key Map - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20 4:50 PM

PC ORIGINAL PKG

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250	1	1	0	NR	NR	NR	2
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
WDR	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
CERS	TP		NR	NR	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
MINES MRDS	TP	1	NR	NR	NR	NR	NR	1
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		2	1	0	0	0	0	3

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

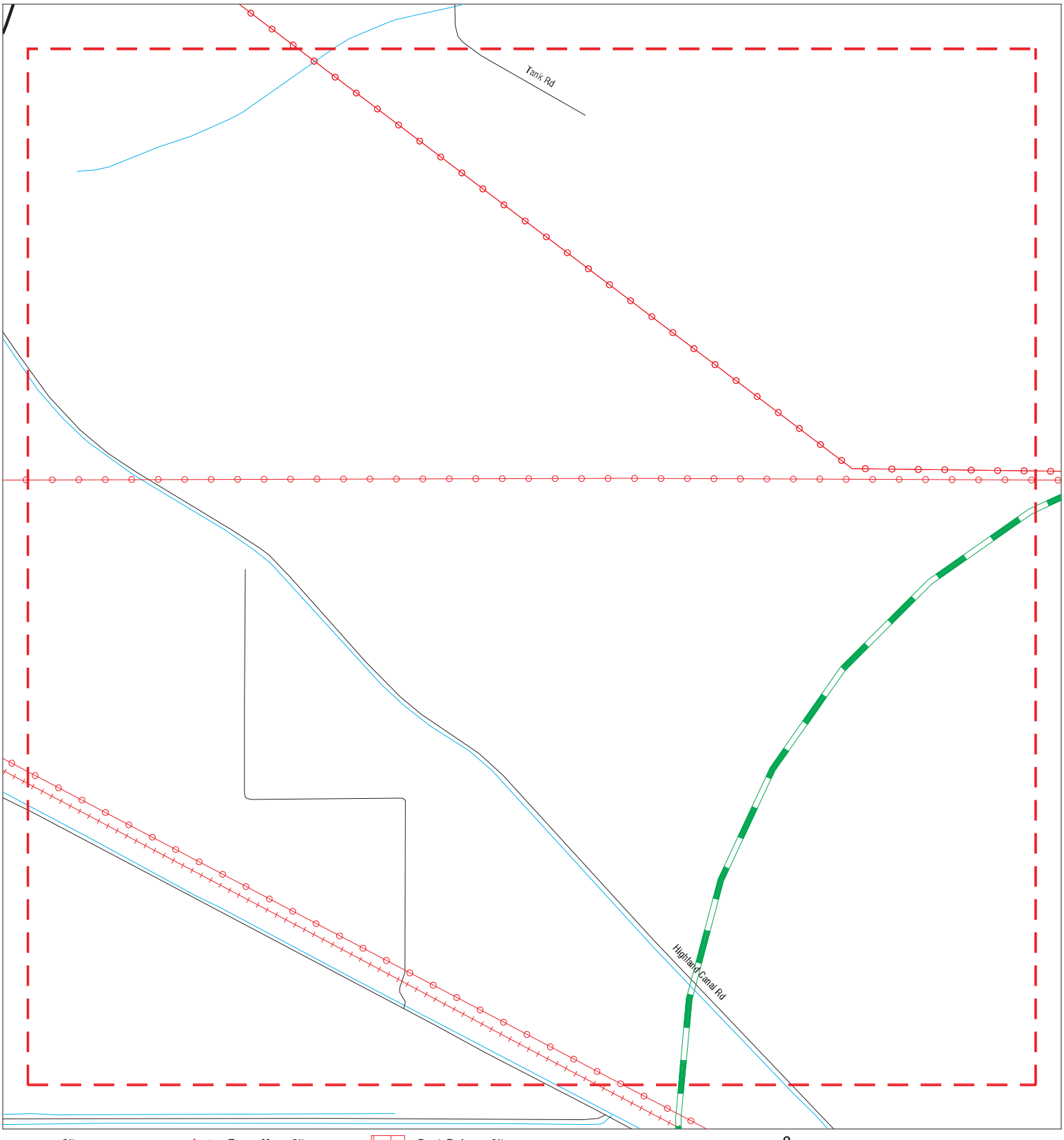
TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

PC ORIGINAL PKG

Focus Map - 1 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 1

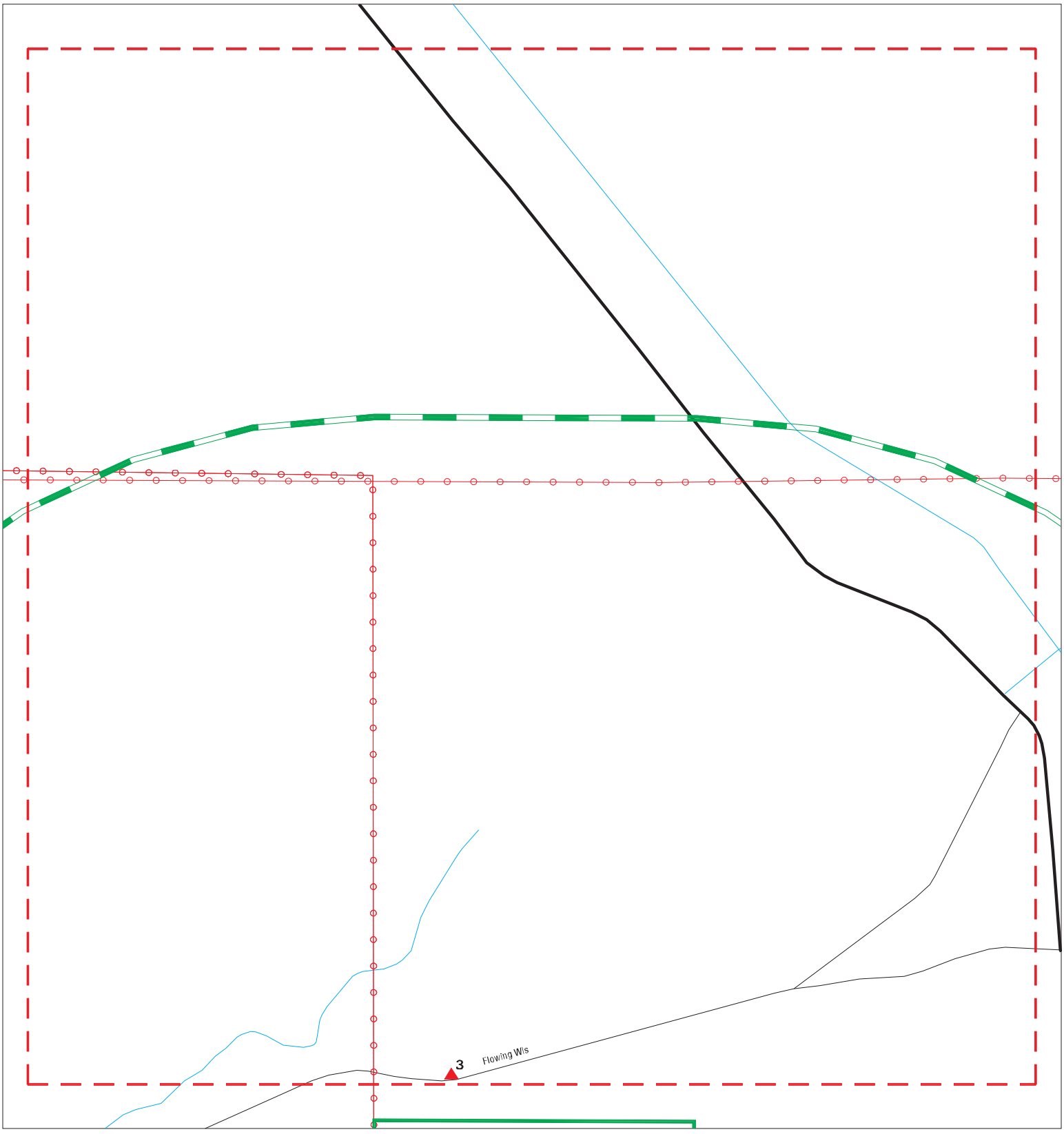
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 2 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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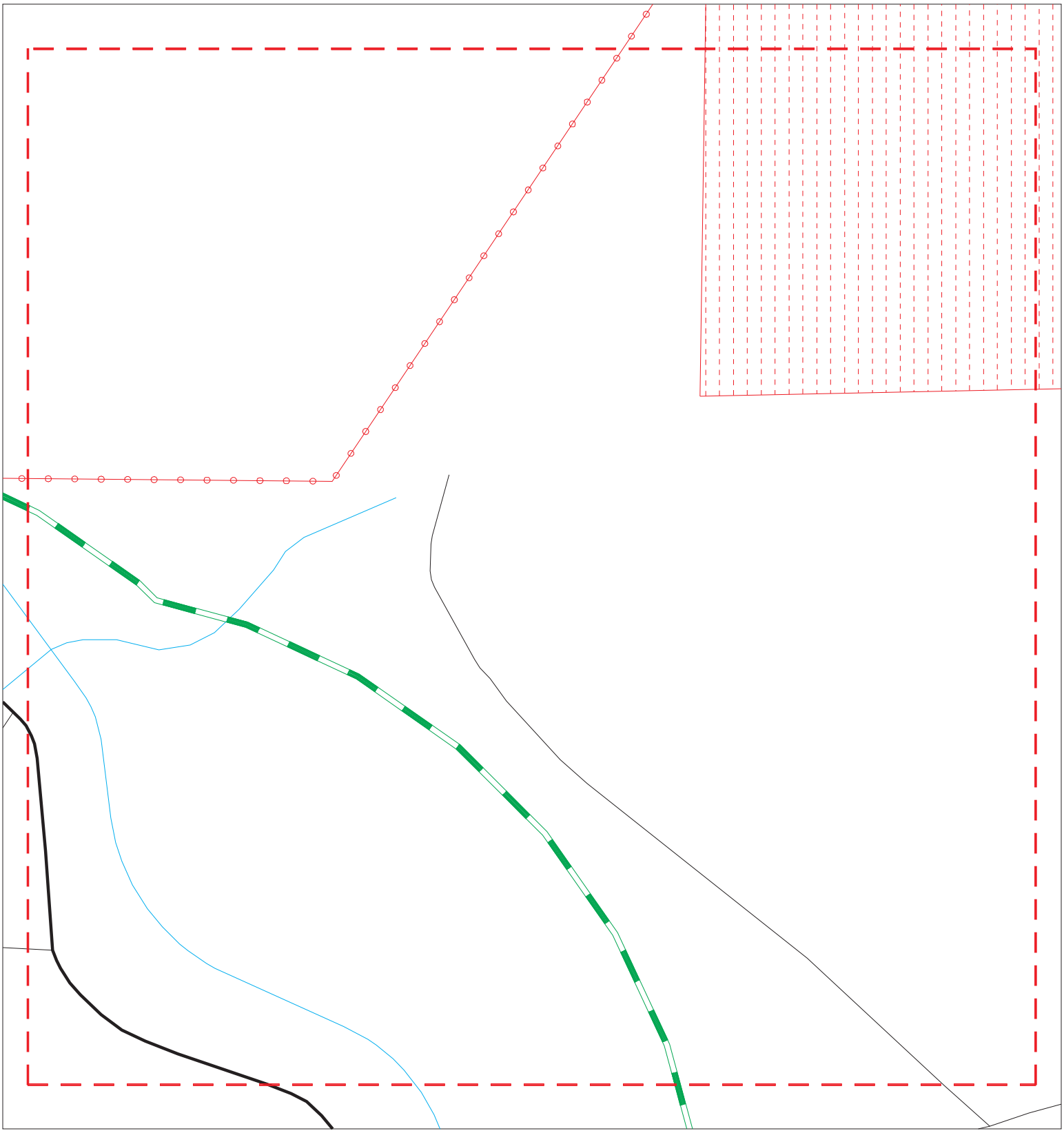
MAPPED SITES SUMMARY - FOCUS MAP 2

Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
3 / 2	FLOWING WELLS		MINES	388 0.073 North

PC ORIGINAL PKG

Focus Map - 3 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 3

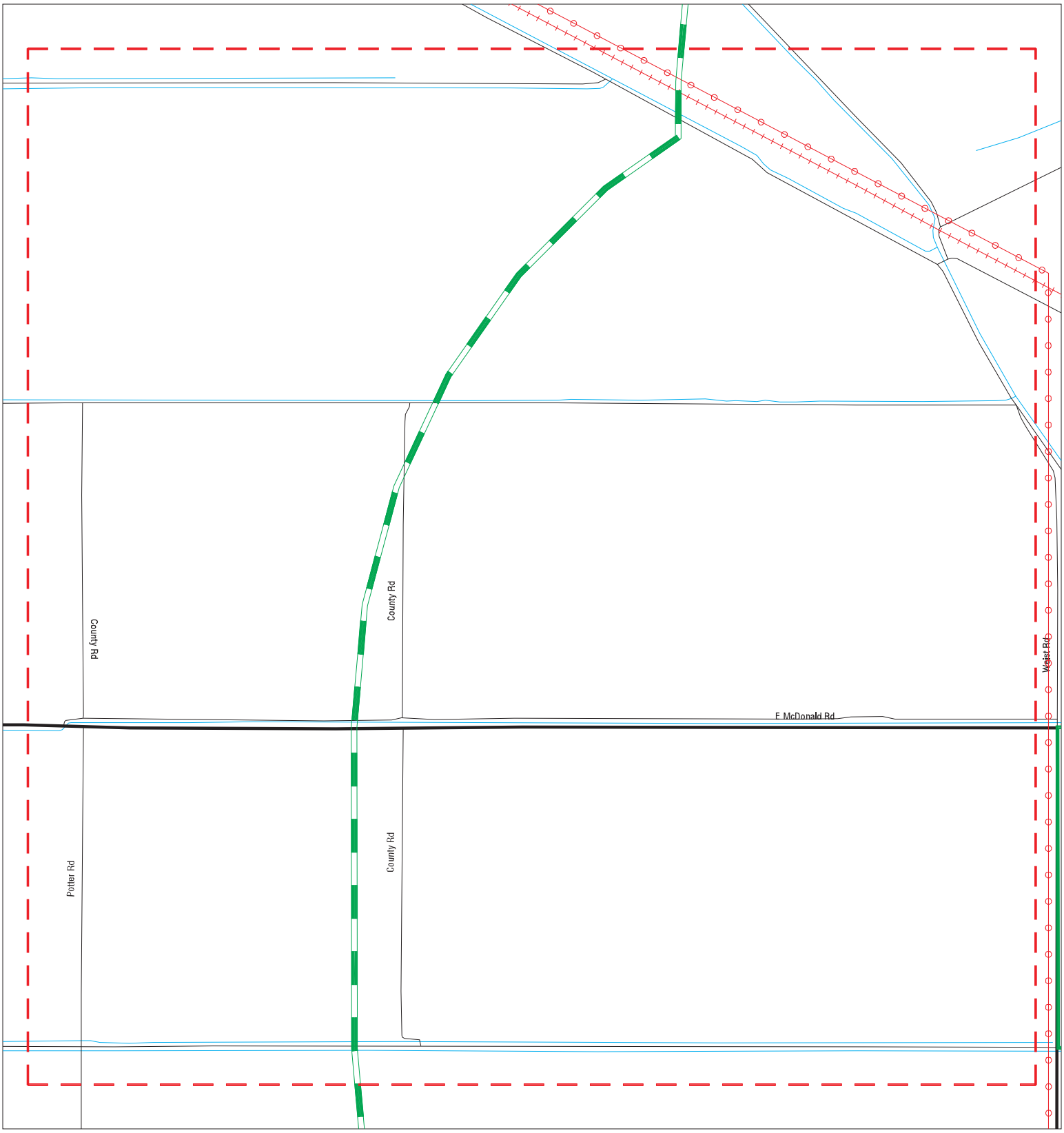
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 4 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 4

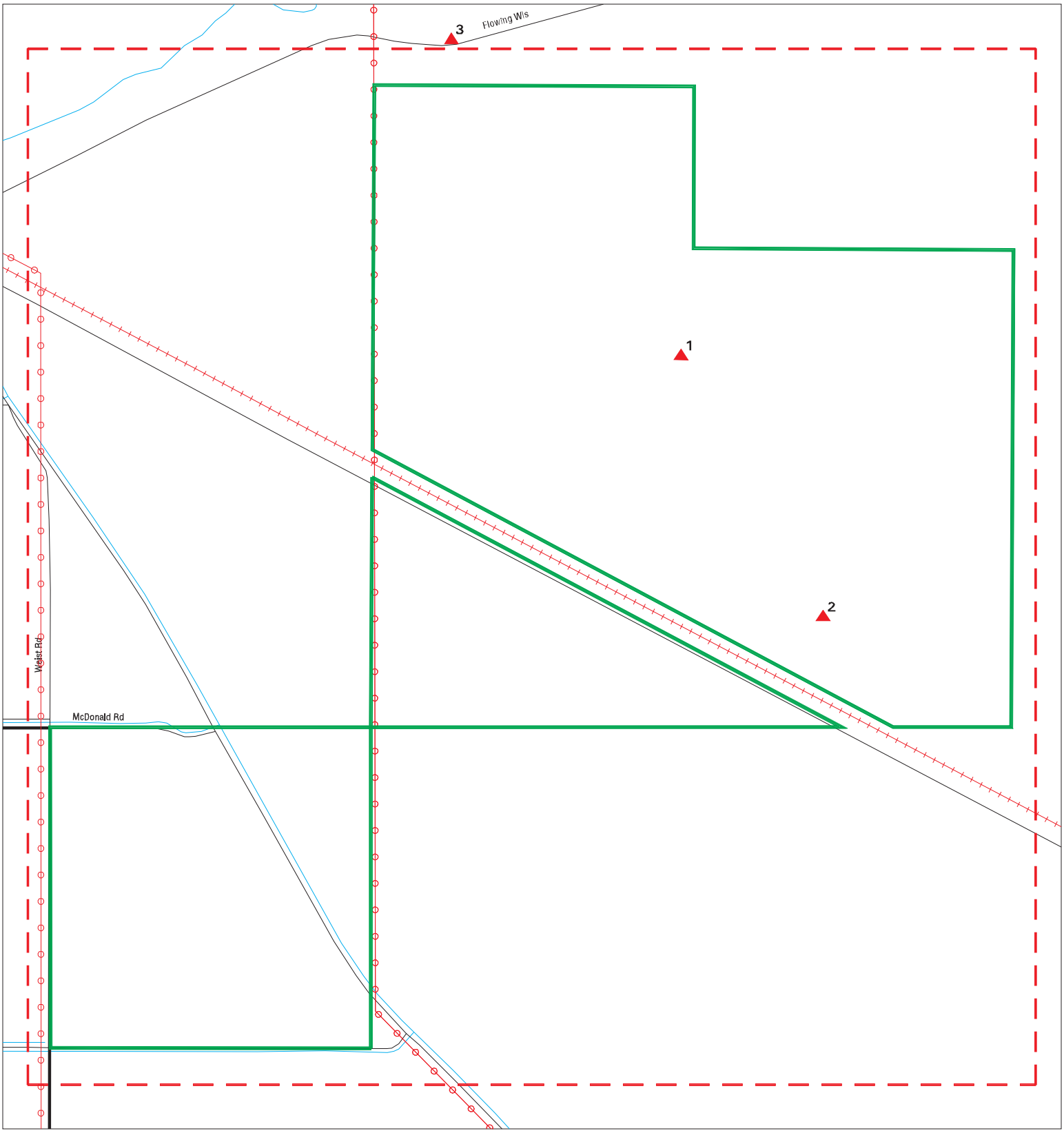
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 5 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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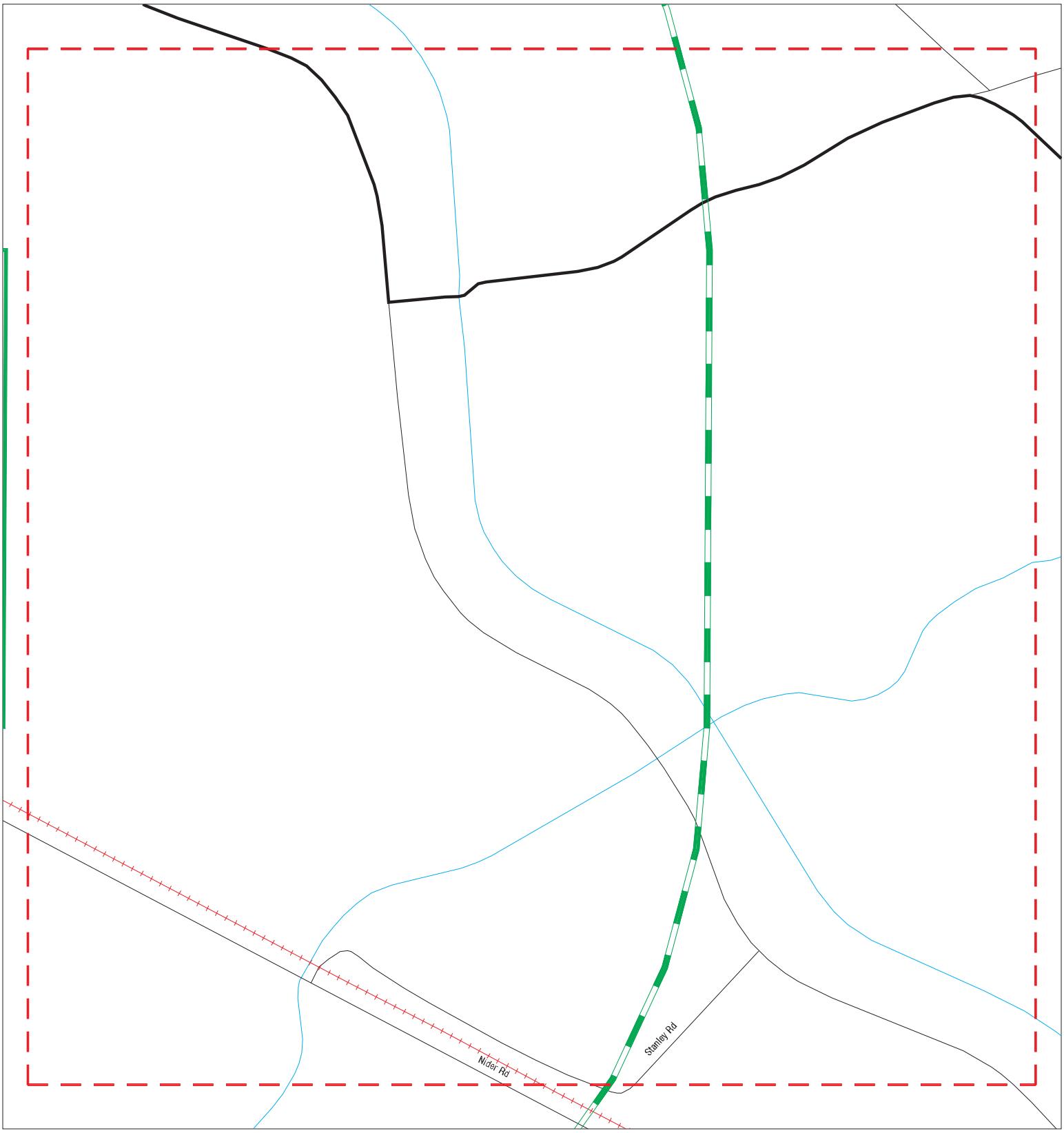
MAPPED SITES SUMMARY - FOCUS MAP 5

Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
1 / 5	FLOWING WELLS PIT		MINES MRDS	TP
2 / 5	FLOWING WELLS	2095 HIGHWAY 111	MINES	TP

PC ORIGINAL PKG

Focus Map - 6 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 6

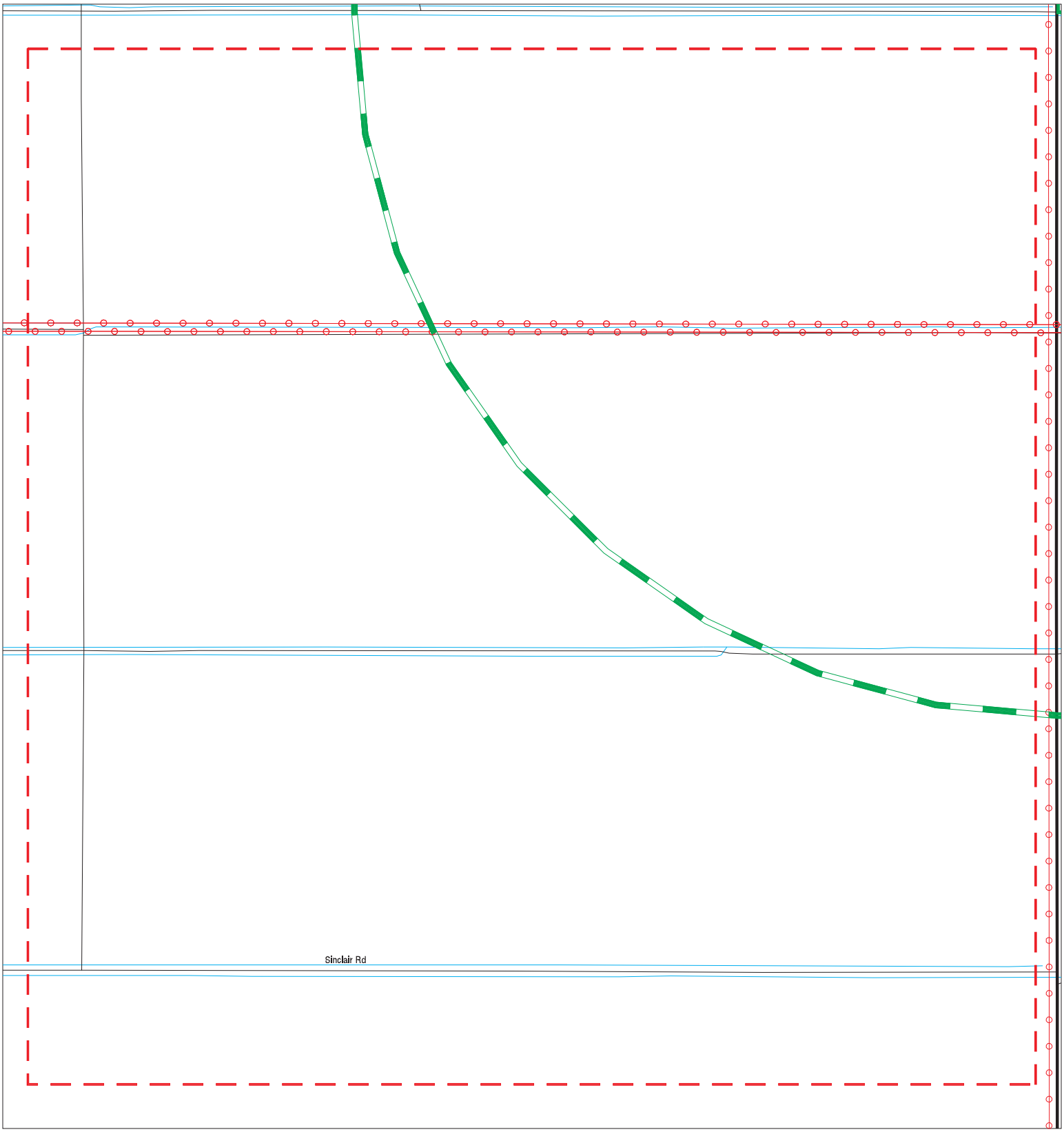
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 7 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 7

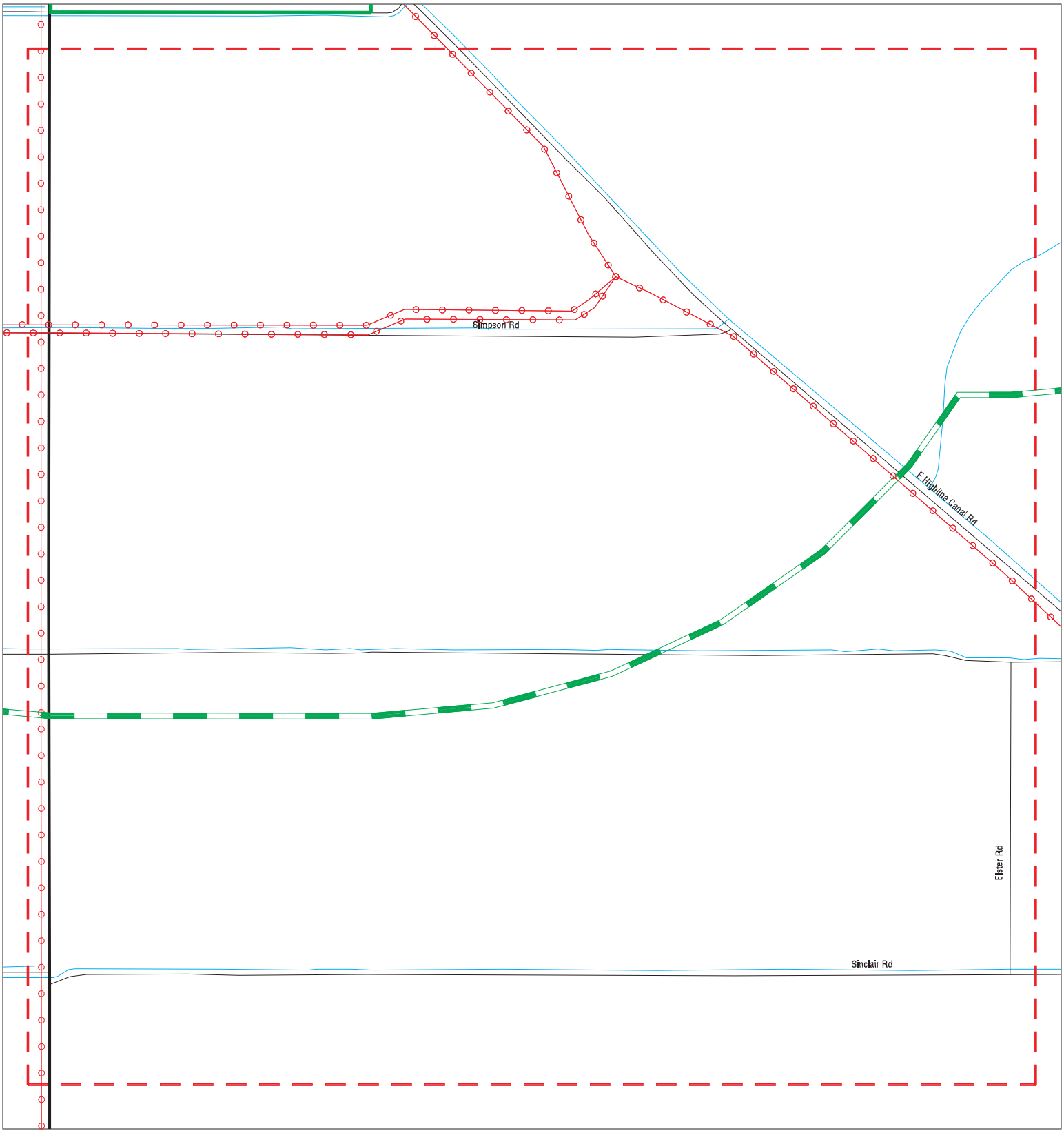
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 8 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 8

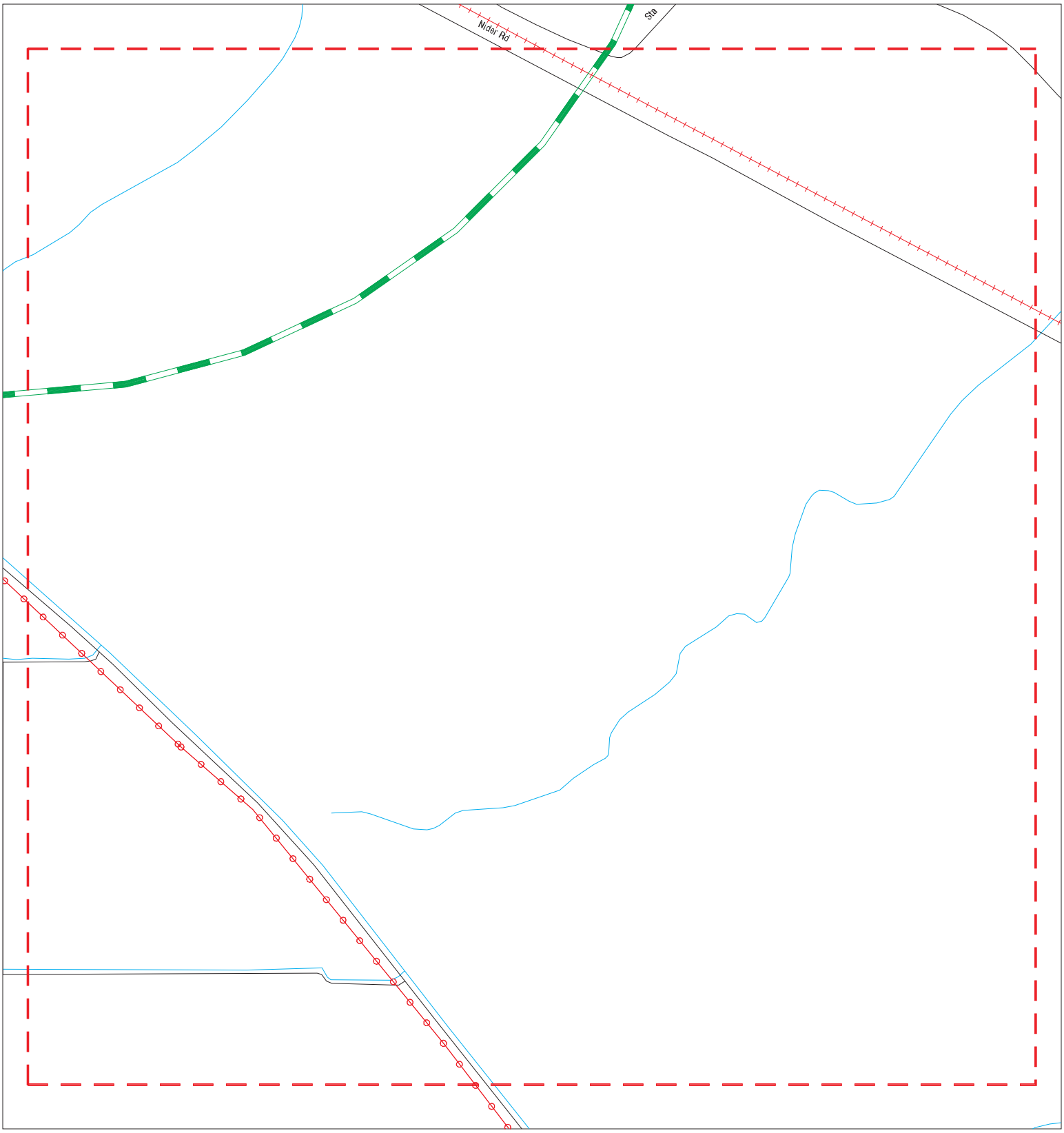
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 9 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 9

Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

1 **FLOWING WELLS PIT** **MINES MRDS** **1025689656**
Target **N/A**
Property **CALIPATRIA, CA 92233**

Actual:
71 ft.

Focus Map:
5

MINES MRDS:

Name:	FLOWING WELLS PIT
Address:	Not reported
Deposit identification Number:	10212004
City,State,Zip:	CALIPATRIA, CALIFORNIA 92233
URL:	https://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10212004
MRDS Identification Number:	Not reported
MAS/MILS Identification Number:	0060250489
Region:	NA
Country:	United States
Primary Commodities:	Sand and Gravel, Construction
Secondary Commodities:	Not reported
Tertiary Commodities:	Not reported
Operation Type:	Surface
Deposit Type:	Not reported
Production Size:	Not reported
Development Status:	Producer
Ore Minerals or Materials:	Not reported
Gangue Minerals or Materials:	Not reported
Other Minerals or Materials:	Not reported
Ore Body Form:	Not reported
Workings Type:	Not reported
Mineral Deposit Model:	Not reported
Alteration Processes:	Not reported
Concentration Processes:	Not reported
Previous Names:	Not reported
Ore Controls:	Not reported
Reporter:	Ridenour, James
Host Rock Unit Name:	Not reported
Host Rock Type:	Not reported
Associated Rock Unit Name:	Not reported
Associated Rock Type Code:	Not reported
Structural Characteristics:	Not reported
Tectonic Setting:	Not reported
References:	Not reported
First Production Year:	Not reported
Began Before/After FPY:	Not reported
Last Production Year:	Not reported
Ended Before/After LPY:	Not reported
Year Discovered:	Not reported
Found Before/After YD:	Not reported
Production History:	Not reported
Discovery Information:	Not reported
Latitude:	33.21396
Longitude:	-115.43271

PC ORIGINAL PKG

2
Target Property
Actual: 32 ft.
Focus Map: 5

FLOWING WELLS
2095 HIGHWAY 111
, CA

MINES **S117661555**
N/A

MINES:

Name:	FLOWING WELLS
Address:	2095 HIGHWAY 111
City,State,Zip:	CA
Latitude:	33.208056
Longitude:	-115.428889
Lead Agency identification code:	13
Lead Agency name:	County of Imperial
Year of the operator supplied annual report:	2004
Type of report submitted by operator:	2
Number of acres disturbed by the mine:	0
Status of mining operation:	RECLAIMED
Status of mine reclamation:	RECLAMATION CERTIFIED COMPLETE BY LEAD AGENCY
Mine operator:	GRANITE CONSTRUCTION COMPANY
Operator Address:	2095 HIGHWAY 111
Operator City, State, Zip:	EL CENTRO, CA 92243
Operator County:	Not reported
Mine owner:	GRANITE CONSTRUCTION COMPANY
Owner Address:	38000 MONROE ST
Owner City, State, Zip:	INDIO, CA 92203
Owner County:	Not reported
Reclamation plan identification number:	Not reported
Primary product produced by the mine:	Sand and Gravel
Other products produced by the mine:	Not reported
Type of mining utilized by mine:	STREAMBED OR GRAVEL BAR SKIMMING AND PITTING
Conditional use permit identification number:	813-88
Number of acres permitted for mining disturbance:	33
Total amount of funds posted by the mine for reclamation:	Not reported
Financial Assurance Cost Estimate for reclamation:	Not reported

---

3
North
< 1/8
0.073 mi.
388 ft.

Actual: 75 ft.
Focus Map: 2

FLOWING WELLS
, CA

MINES **S117661553**
N/A

MINES:

Name:	FLOWING WELLS
Address:	Not reported
City,State,Zip:	CA
Latitude:	33.221111
Longitude:	-115.438889
Lead Agency identification code:	13
Lead Agency name:	County of Imperial
Year of the operator supplied annual report:	1995
Type of report submitted by operator:	2
Number of acres disturbed by the mine:	0
Status of mining operation:	RECLAIMED
Status of mine reclamation:	RECLAMATION CERTIFIED COMPLETE BY LEAD AGENCY
Mine operator:	IMPERIAL COUNTY, DEPARTMENT OF PUBLIC WORKS
Operator Address:	155 S. 11TH STREET
Operator City, State, Zip:	EL CENTRO, CA 92243
Operator County:	Not reported
Mine owner:	IMPERIAL COUNTY, DEPARTMENT OF PUBLIC WORKS
Owner Address:	155 S. 11TH STREET
Owner City, State, Zip:	EL CENTRO, CA 92243

PC ORIGINAL PKG

FLOWING WELLS (Continued) **S117661553**

Owner County:	Not reported
Reclamation plan identification number:	Not reported
Primary product produced by the mine:	Sand and Gravel
Other products produced by the mine:	Not reported
Type of mining utilized by mine:	OPEN PIT
Conditional use permit identification number:	CA 28594
Number of acres permitted for mining disturbance:	0
Total amount of funds posted by the mine for reclamation:	Not reported
Financial Assurance Cost Estimate for reclamation:	Not reported

PC ORIGINAL PKG

Count: 3 records

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CALIPATRIA	S121645096	HUDSON RANCH I GEOTHERMAL PRODUCTION WEL SITE	DAVIS RD & MCDONALD RD INTERSECTION	92233	CIWQS
IMPERIAL COUNTY	S121637080	ENGH FARMS GEOTHERMAL EXPLORATION	MCDONALD ROAD		CIWQS
NILAND	S126114465		MP: 671.3 SUB DIVISION: YUMA ... WEIST RD AND NOFFSINGER RD	92233	CHMIRS

PC ORIGINAL PKG

Vega 2/3
Flowing Wells Road
Winterhaven, CA 92283

Inquiry Number: 6210343.2s
September 30, 2020

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

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GEOCHECK ADDENDUM

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Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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PC ORIGINAL PKG

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

FLOWING WELLS ROAD
WINTERHAVEN, CA 92283

COORDINATES

Latitude (North):	33.2282000 - 33˚ 13' 41.52''
Longitude (West):	115.4143000 - 115˚ 24' 51.48''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	647757.8
UTM Y (Meters):	3677514.2
Elevation:	126 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5640288 IRIS, CA
Version Date:	2012
North Map:	5640292 IRIS WASH, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140606
Source:	USDA

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MAPPED SITES SUMMARY

Target Property Address:
FLOWING WELLS ROAD
WINTERHAVEN, CA 92283

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
Reg	CHOCOLATE MOUNTAIN N		DOD	Same	825, 0.156, NNE

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EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System

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US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROLS..... Institutional Controls Sites List

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE..... State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR..... EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

LUST..... Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
CPS-SLIC..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing
UST..... Active UST Facilities
AST..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing
VCP..... Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT..... Waste Management Unit Database
SWRCY..... Recycler Database
HAULERS..... Registered Waste Tire Haulers Listing
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

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ODI	Open Dump Inventory
IHS OPEN DUMPS	Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL	Delisted National Clandestine Laboratory Register
HIST Cal-Sites	Historical Calsites Database
SCH	School Property Evaluation Program
CDL	Clandestine Drug Labs
Toxic Pits	Toxic Pits Cleanup Act Sites
CERS HAZ WASTE	CERS HAZ WASTE
US CDL	National Clandestine Laboratory Register
PFAS	PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

SWEEPS UST	SWEEPS UST Listing
HIST UST	Hazardous Substance Storage Container Database
CA FID UST	Facility Inventory Database
CERS TANKS	California Environmental Reporting System (CERS) Tanks

Local Land Records

LIENS	Environmental Liens Listing
LIENS 2	CERCLA Lien Information
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
FUDS	Formerly Used Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System

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COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
DOCKET HWC	Hazardous Waste Compliance Docket Listing
ECHO	Enforcement & Compliance History Information
UXO	Unexploded Ordnance Sites
FUELS PROGRAM	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
Cortese	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
HAZNET	Facility and Manifest Data
ICE	ICE
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
WIP	Well Investigation Program Case List
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)
WDR	Waste Discharge Requirements Listing
CIWQS	California Integrated Water Quality System
CERS	CERS
NON-CASE INFO	NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS	OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS	PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT	SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)
HWTS	Hazardous Waste Tracking System
MINES MRDS	Mineral Resources Data System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants

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EDR Hist Auto---------- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner---------- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

DOD: Consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

A review of the DOD list, as provided by EDR, and dated 12/31/2005 has revealed that there is 1 DOD site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CHOCOLATE MOUNTAIN N		NNE 1/8 - 1/4 (0.156 mi.)	0	9

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EXECUTIVE SUMMARY

There were no unmapped sites in this report.

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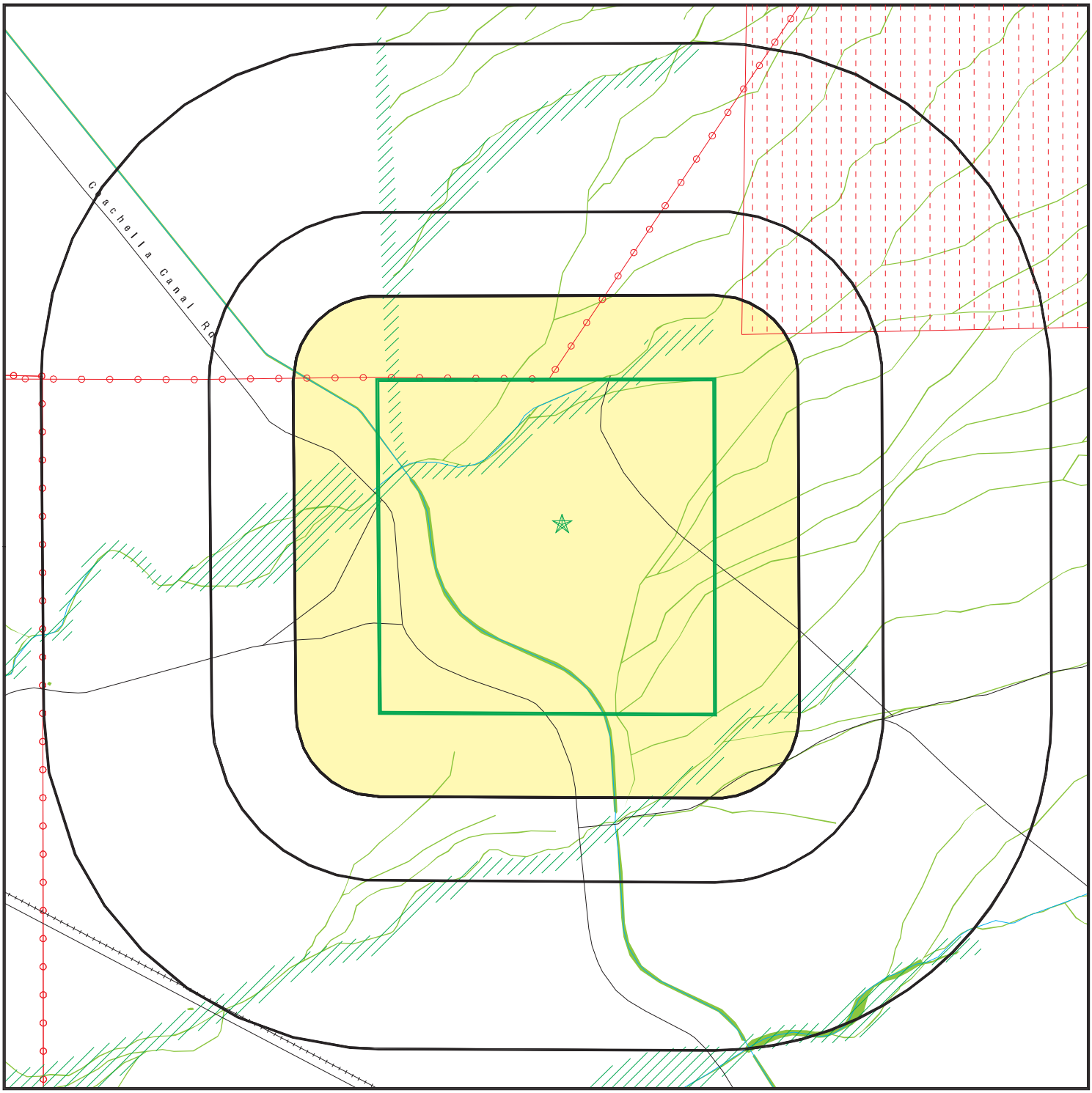
OVERVIEW MAP - 6210343.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites

0 1/4 1/2 1 Miles

- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Vega 2/3	CLIENT: GS Lyon Consultants
ADDRESS: Flowing Wells Road Winterhaven CA 92283	CONTACT: Steven Williams INQUIRY #: 6210343.2s
LAT/LONG: 33.2282 / 115.4143	DATE: September 30, 2020 1:52 pm

PC ORIGINAL PKG

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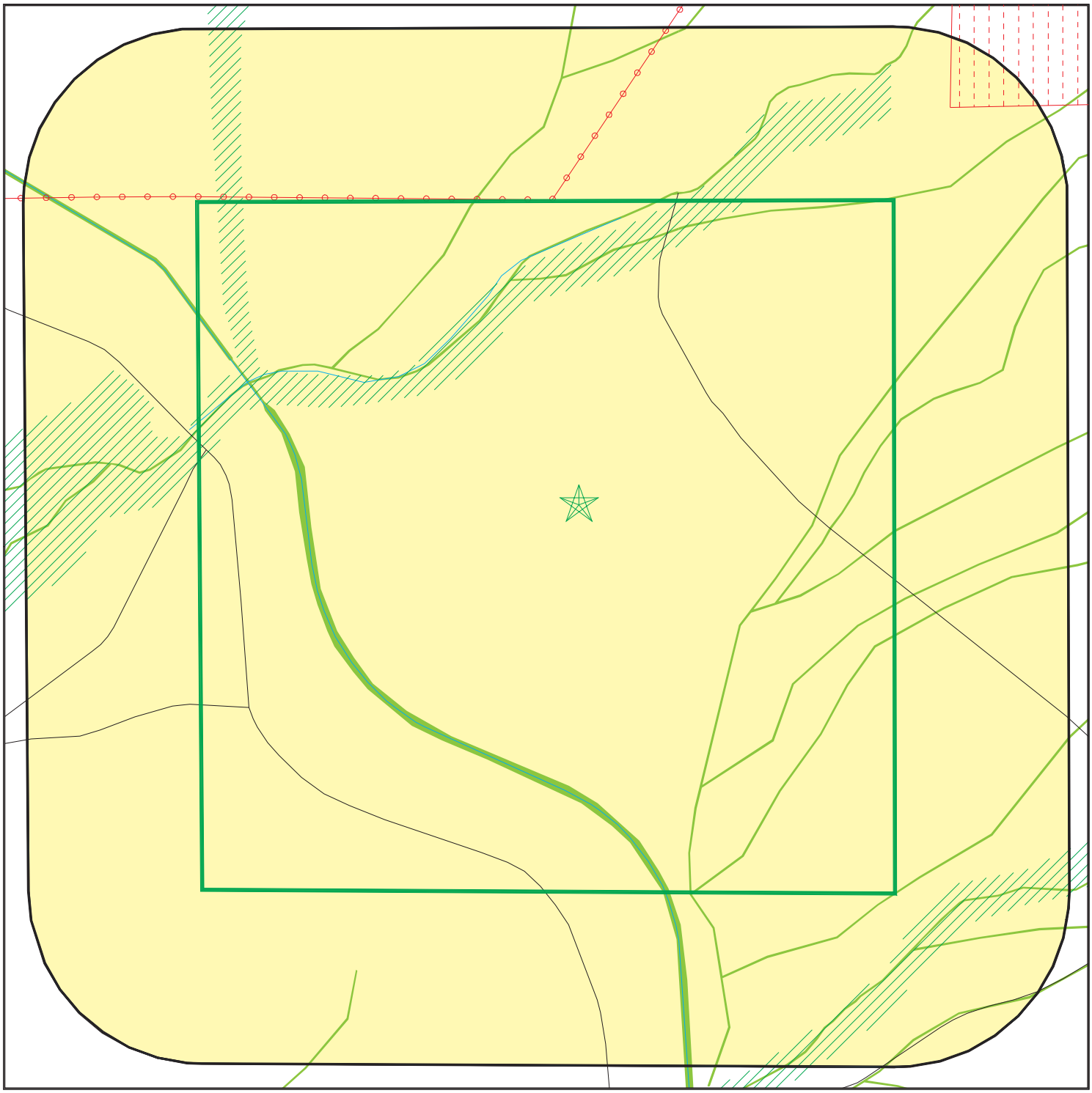
DETAIL MAP - 6210343.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

0 1/8 1/4 1/2 Miles

- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Vega 2/3	CLIENT: GS Lyon Consultants
ADDRESS: Flowing Wells Road Winterhaven CA 92283	CONTACT: Steven Williams
LAT/LONG: 33.2282 / 115.4143	INQUIRY #: 6210343.2s DATE: September 30, 2020 1:52 pm

PC ORIGINAL PKG

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	1	0	0	NR	1
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001		0	NR	NR	NR	NR	0
CERS	0.001		0	NR	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
MINES MRDS	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	0	1	0	0	0	1

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

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DOD
Region
NNE
1/8-1/4
825 ft.

CHOCOLATE MOUNTAIN NAVAL AERIAL GUNNERY RANGE

CHOCOLATE MOUNTAIN NAVAL (County), CA

DOD **CUSA144198**
N/A

DOD:

Feature 1:	Navy DOD
Feature 2:	Not reported
Feature 3:	Not reported
URL:	Not reported
Name 1:	Chocolate Mountain Naval Aerial Gunnery Range
Name 2:	Not reported
Name 3:	Not reported
State:	CA
DOD Site:	Yes
Tile name:	CAIMPERIAL

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Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

VEGA 2/3
FLOWING WELLS ROAD
WINTERHAVEN, CA 92283

TARGET PROPERTY COORDINATES

Latitude (North):	33.2282 - 33° 13' 41.52''
Longitude (West):	115.4143 - 115° 24' 51.48''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	647757.8
UTM Y (Meters):	3677514.2
Elevation:	126 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5640288 IRIS, CA
Version Date:	2012
North Map:	5640292 IRIS WASH, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

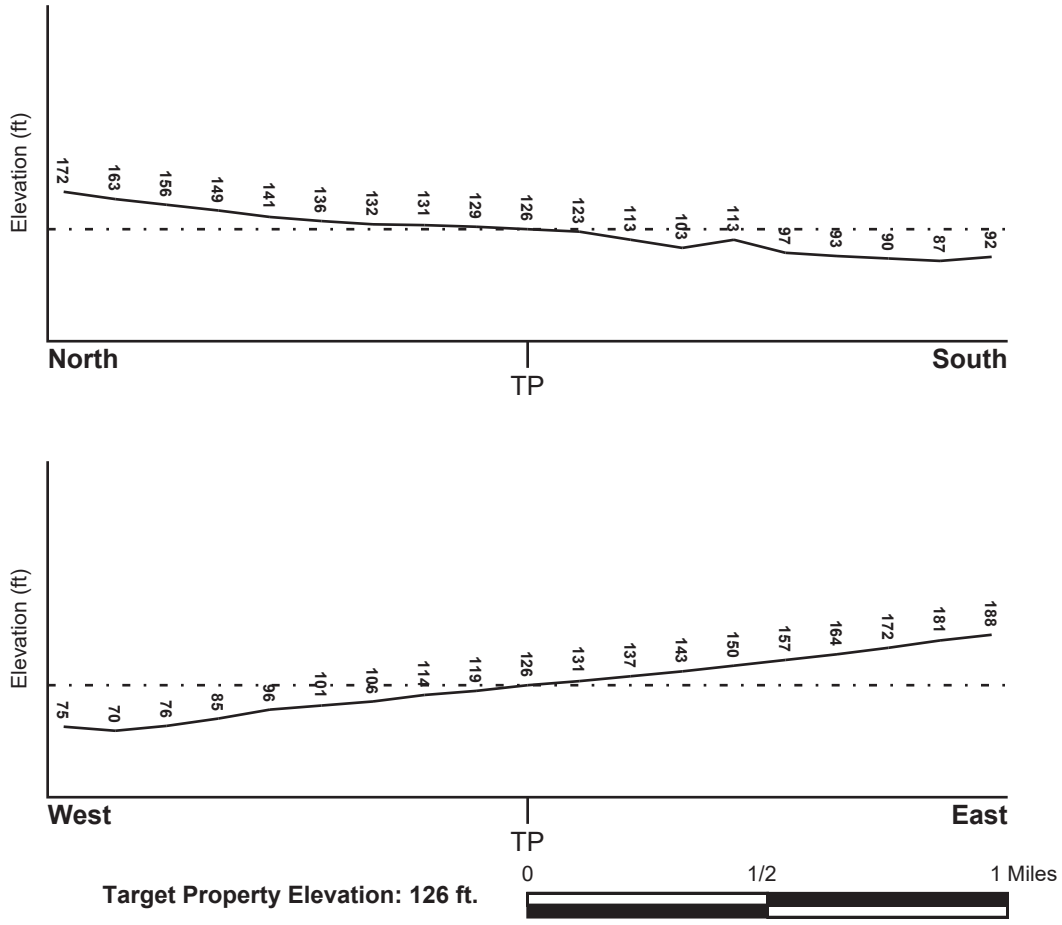
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06025C0750C	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
Not Reported	

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
IRIS	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	CARSITAS
Soil Surface Texture:	gravelly - sand
Hydrologic Group:	Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.
Soil Drainage Class:	Excessively. Soils have very high and high hydraulic conductivity and low water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel:	HIGH
Depth to Bedrock Min:	> 60 inches
Depth to Bedrock Max:	> 60 inches

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	10 inches	gravelly - sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 20.00 Min: 6.00	Max: 8.40 Min: 7.40
2	10 inches	60 inches	gravelly - sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 20.00 Min: 6.00	Max: 8.40 Min: 7.40

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: fine sand
cobbly - sand
stony - sand
very gravelly - sand

Surficial Soil Types: fine sand
cobbly - sand
stony - sand
very gravelly - sand

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: sand
very stony - coarse sand
stratified

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

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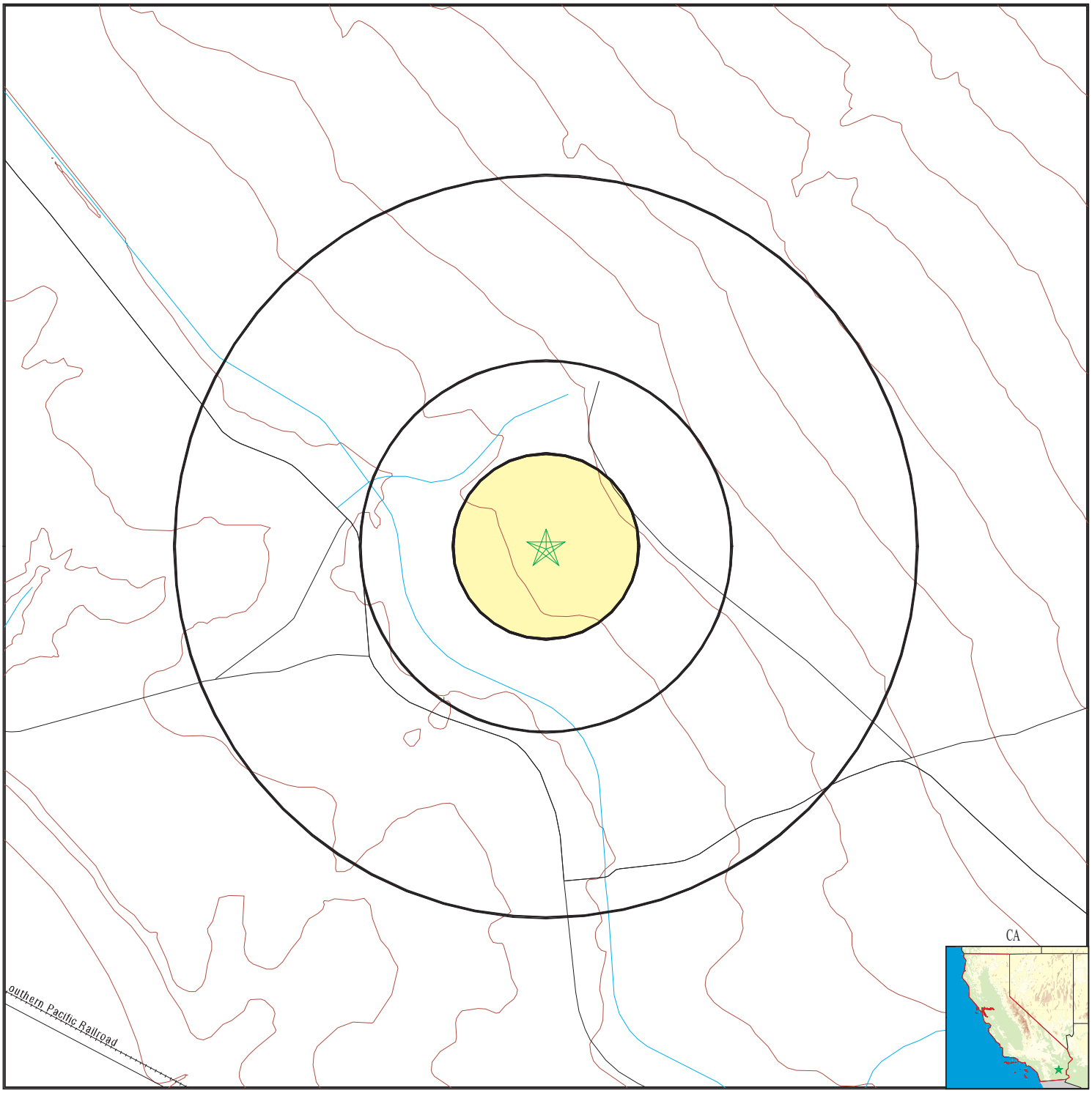
PHYSICAL SETTING SOURCE MAP - 6210343.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Vega 2/3	CLIENT:	GS Lyon Consultants
ADDRESS:	Flowing Wells Road Winterhaven CA 92283	CONTACT:	Steven Williams
		INQUIRY #:	6210343.2s
LAT/LONG:	33.2282 / 115.4143	DATE:	September 30, 2020 1:53 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for IMPERIAL County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for IMPERIAL COUNTY, CA

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.450 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

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PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

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PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

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PHYSICAL SETTING SOURCE RECORDS SEARCHED

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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Vega 2B
Ted Kipf Road
Winterhaven, CA 92283

Inquiry Number: 6210349.2s
September 30, 2020

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

TED KIPF ROAD
WINTERHAVEN, CA 92283

COORDINATES

Latitude (North):	33.2128630 - 33˚ 12' 46.30''
Longitude (West):	115.3977710 - 115˚ 23' 51.97''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	649324.2
UTM Y (Meters):	3675837.2
Elevation:	146 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5640288 IRIS, CA
Version Date:	2012
East Map:	5639796 TORTUGA, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140606
Source:	USDA

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MAPPED SITES SUMMARY

Target Property Address:
TED KIPF ROAD
WINTERHAVEN, CA 92283

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

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EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System

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US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROLS..... Institutional Controls Sites List

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE..... State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR..... EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

LUST..... Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
CPS-SLIC..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing
UST..... Active UST Facilities
AST..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing
VCP..... Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT..... Waste Management Unit Database
SWRCY..... Recycler Database
HAULERS..... Registered Waste Tire Haulers Listing
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

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ODI	Open Dump Inventory
IHS OPEN DUMPS	Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL	Delisted National Clandestine Laboratory Register
HIST Cal-Sites	Historical Calsites Database
SCH	School Property Evaluation Program
CDL	Clandestine Drug Labs
Toxic Pits	Toxic Pits Cleanup Act Sites
CERS HAZ WASTE	CERS HAZ WASTE
US CDL	National Clandestine Laboratory Register
PFAS	PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

SWEEPS UST	SWEEPS UST Listing
HIST UST	Hazardous Substance Storage Container Database
CA FID UST	Facility Inventory Database
CERS TANKS	California Environmental Reporting System (CERS) Tanks

Local Land Records

LIENS	Environmental Liens Listing
LIENS 2	CERCLA Lien Information
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

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MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
DOCKET HWC	Hazardous Waste Compliance Docket Listing
ECHO	Enforcement & Compliance History Information
UXO	Unexploded Ordnance Sites
FUELS PROGRAM	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
Cortese	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
HAZNET	Facility and Manifest Data
ICE	ICE
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
WIP	Well Investigation Program Case List
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)
WDR	Waste Discharge Requirements Listing
CIWQS	California Integrated Water Quality System
CERS	CERS
NON-CASE INFO	NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS	OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS	PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT	SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)
HWTS	Hazardous Waste Tracking System
MINES MRDS	Mineral Resources Data System

PC ORIGINAL PKG

EXECUTIVE SUMMARY

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---------- EDR Proprietary Manufactured Gas Plants
EDR Hist Auto ---------- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner ---------- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF ---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST ---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

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EXECUTIVE SUMMARY

There were no unmapped sites in this report.

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OVERVIEW MAP - 6210349.2S

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites

0 1/4 1/2 1 Miles

- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Vega 2B	CLIENT: GS Lyon Consultants
ADDRESS: Ted Kipf Road Winterhaven CA 92283	CONTACT: Steven Williams
LAT/LONG: 33.212863 / 115.397771	INQUIRY #: 6210349.2s DATE: September 30, 2020 1:50 pm

PC ORIGINAL PKG

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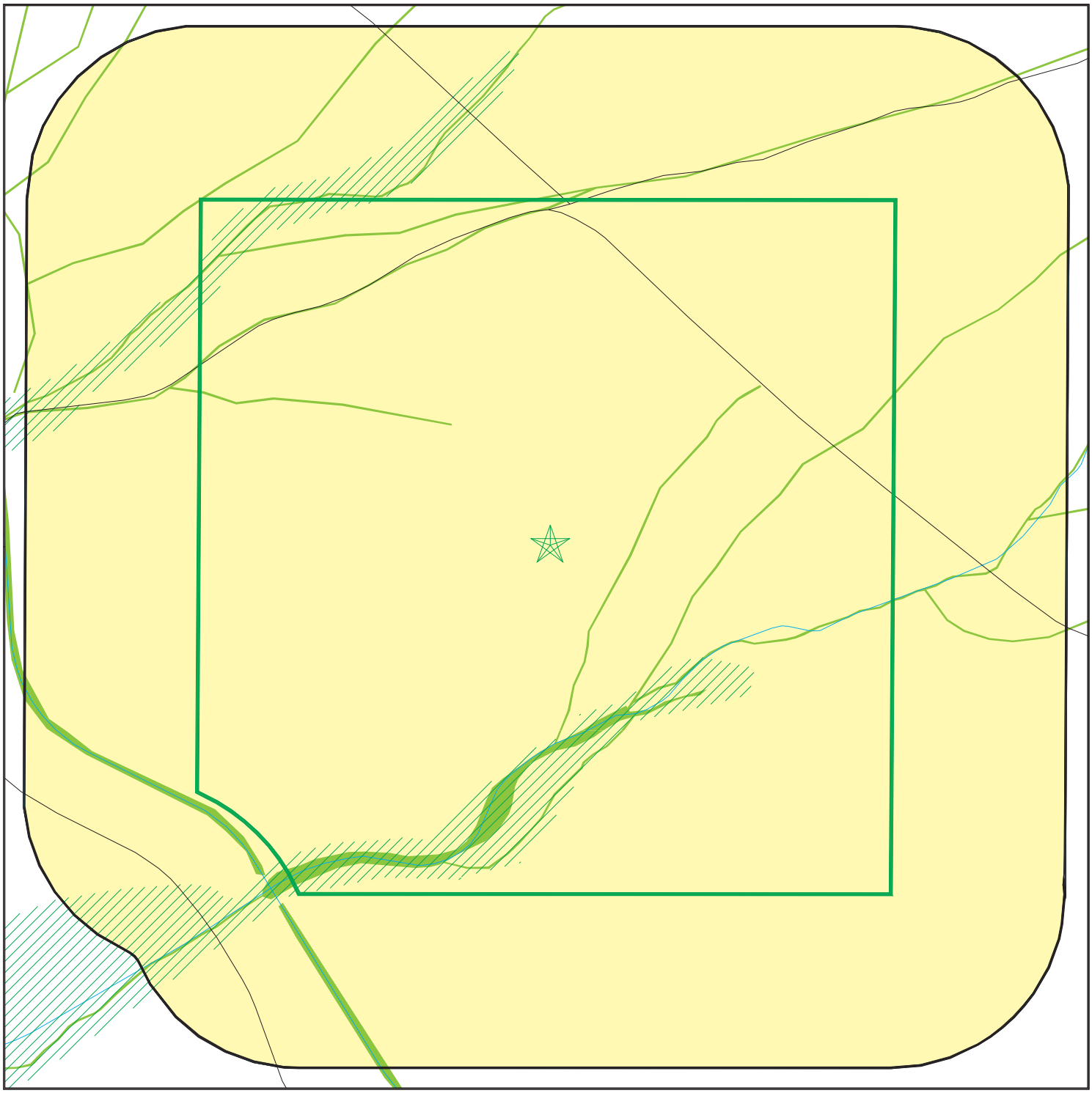
DETAIL MAP - 6210349.2S



Target Property
Sites at elevations higher than or equal to the target property
Sites at elevations lower than the target property
Manufactured Gas Plants
Sensitive Receptors
National Priority List Sites
Dept. Defense Sites

0 1/8 1/4 1/2 Miles

Indian Reservations BIA
Special Flood Hazard Area (1%)
0.2% Annual Chance Flood Hazard
National Wetland Inventory
State Wetlands

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Vega 2B	CLIENT: GS Lyon Consultants
ADDRESS: Ted Kipf Road Winterhaven CA 92283	CONTACT: Steven Williams
LAT/LONG: 33.212863 / 115.397771	INQUIRY #: 6210349.2s DATE: September 30, 2020 1:51 pm

PC ORIGINAL PKG

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001		0	NR	NR	NR	NR	0
CERS	0.001		0	NR	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
MINES MRDS	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	0	0	0	0	0	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

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MAP FINDINGS

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

NO SITES FOUND

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Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

PC ORIGINAL PKG

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

VEGA 2B
TED KIPF ROAD
WINTERHAVEN, CA 92283

TARGET PROPERTY COORDINATES

Latitude (North):	33.212863 - 33° 12' 46.31''
Longitude (West):	115.397771 - 115° 23' 51.98''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	649324.2
UTM Y (Meters):	3675837.2
Elevation:	146 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5640288 IRIS, CA
Version Date:	2012
East Map:	5639796 TORTUGA, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

PC ORIGINAL PKG

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

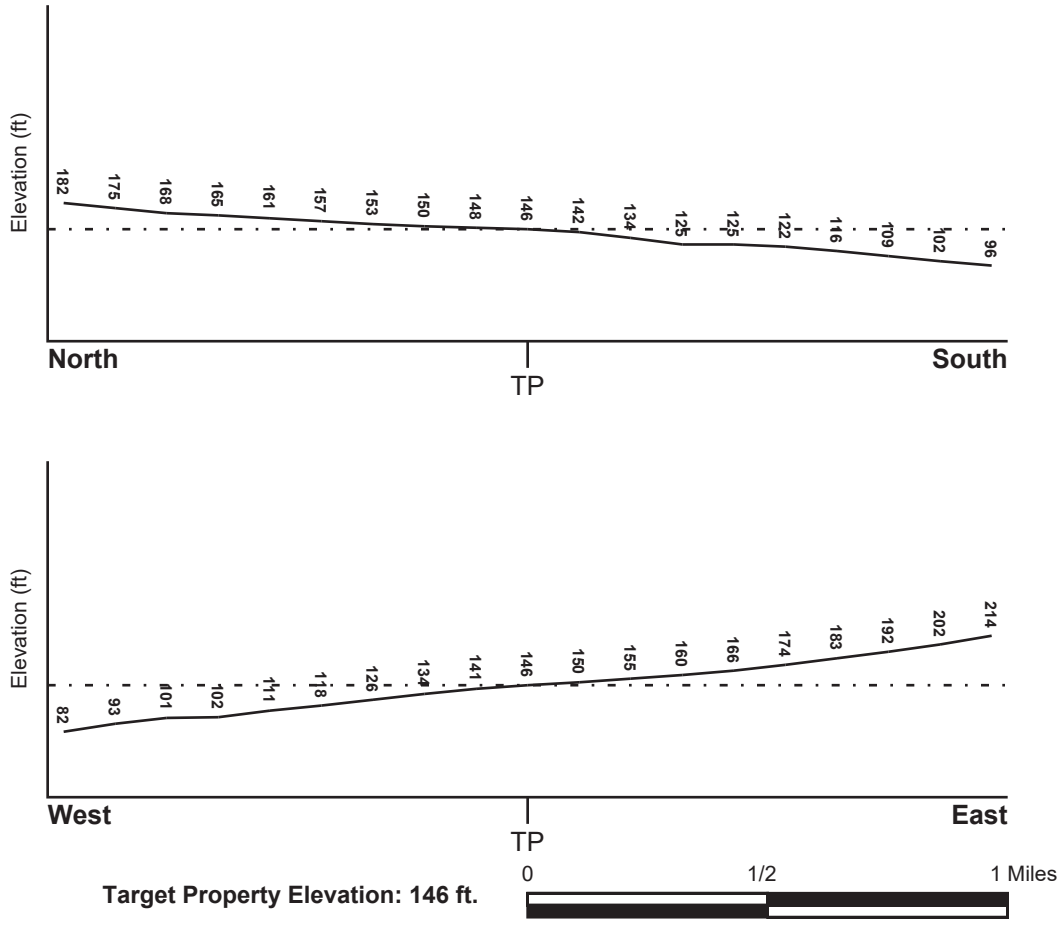
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

PC ORIGINAL PKG

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06025C0750C	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
Not Reported	

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
IRIS	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

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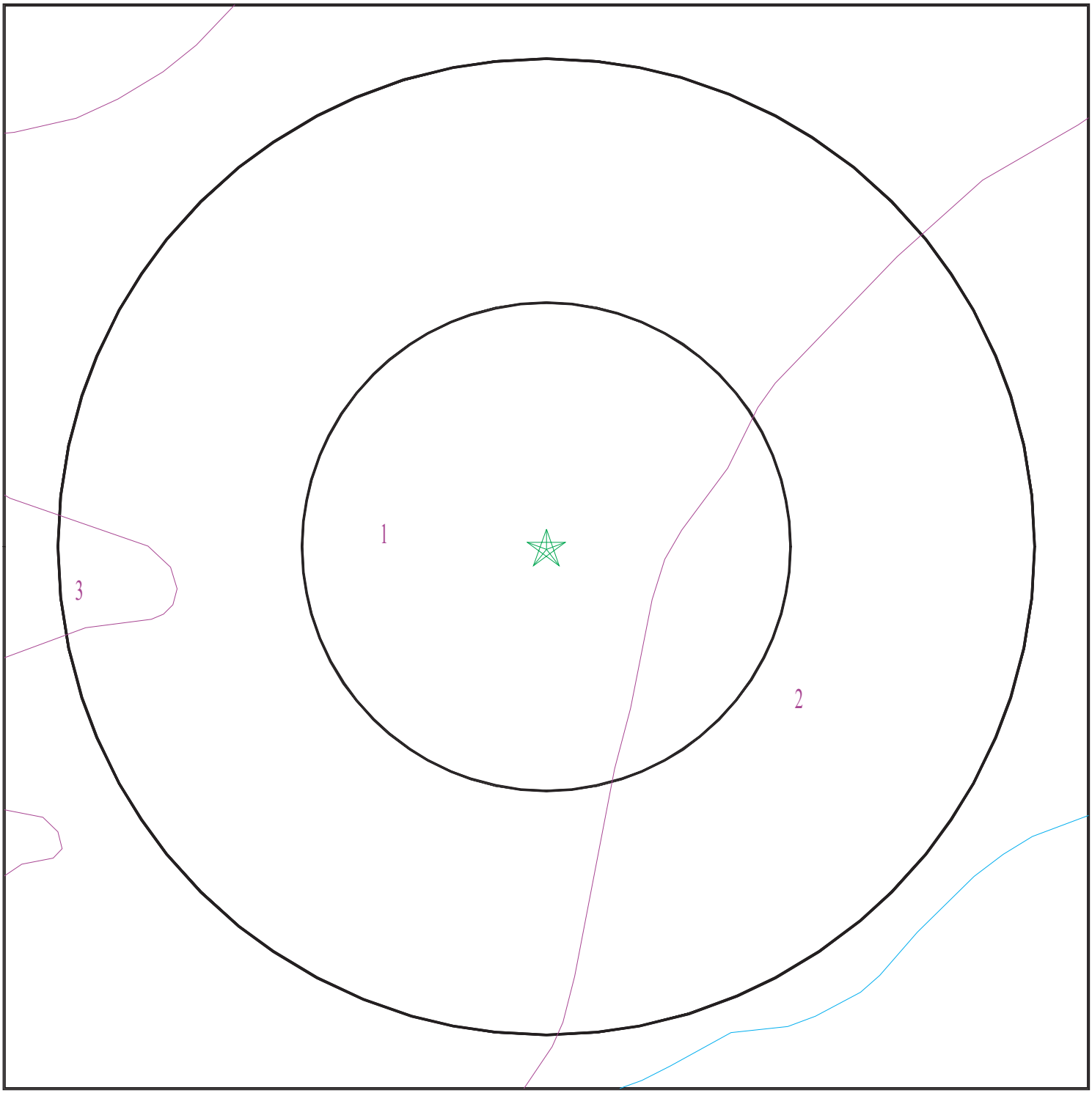
SSURGO SOIL MAP - 6210349.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Vega 2B	CLIENT:	GS Lyon Consultants
ADDRESS:	Ted Kipf Road Winterhaven CA 92283	CONTACT:	Steven Williams
		INQUIRY #:	6210349.2s
LAT/LONG:	33.212863 / 115.397771	DATE:	September 30, 2020 1:51 pm

PC ORIGINAL PKG

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Rositas

Soil Surface Texture: sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	27 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.9
2	27 inches	59 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.9

Soil Map ID: 2

Soil Component Name: Carsitas

Soil Surface Texture: gravelly sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively drained

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Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	gravelly sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4
2	9 inches	59 inches	gravelly sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4

Soil Map ID: 3

Soil Component Name: Rositas

Soil Surface Texture: fine sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.9
2	9 inches	59 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.9

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

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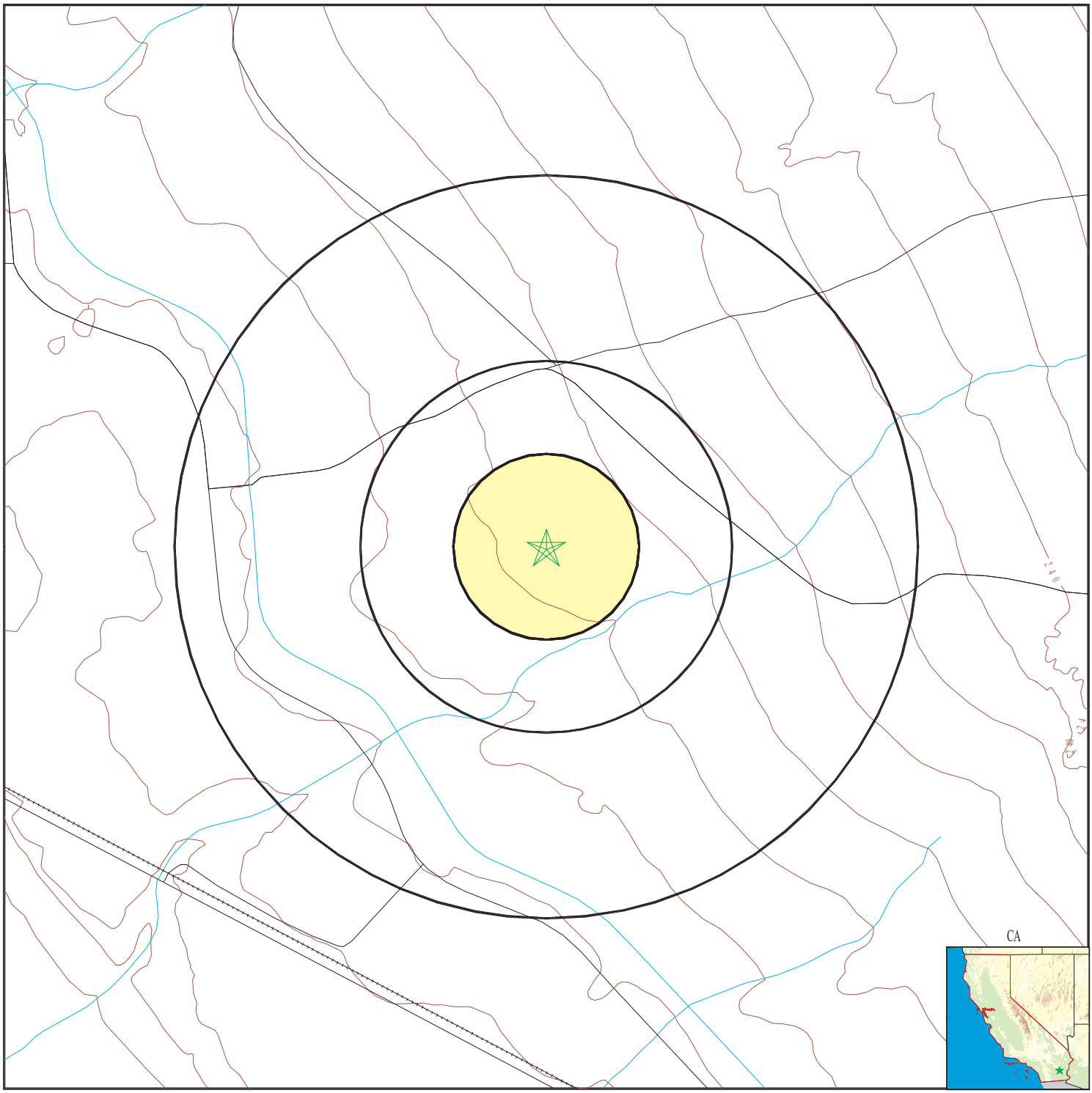
PHYSICAL SETTING SOURCE MAP - 6210349.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Vega 2B	CLIENT:	GS Lyon Consultants
ADDRESS:	Ted Kipf Road Winterhaven CA 92283	CONTACT:	Steven Williams
		INQUIRY #:	6210349.2s
LAT/LONG:	33.212863 / 115.397771	DATE:	September 30, 2020 1:51 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for IMPERIAL County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for IMPERIAL COUNTY, CA

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.450 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

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PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

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PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

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PHYSICAL SETTING SOURCE RECORDS SEARCHED

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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APPENDIX G

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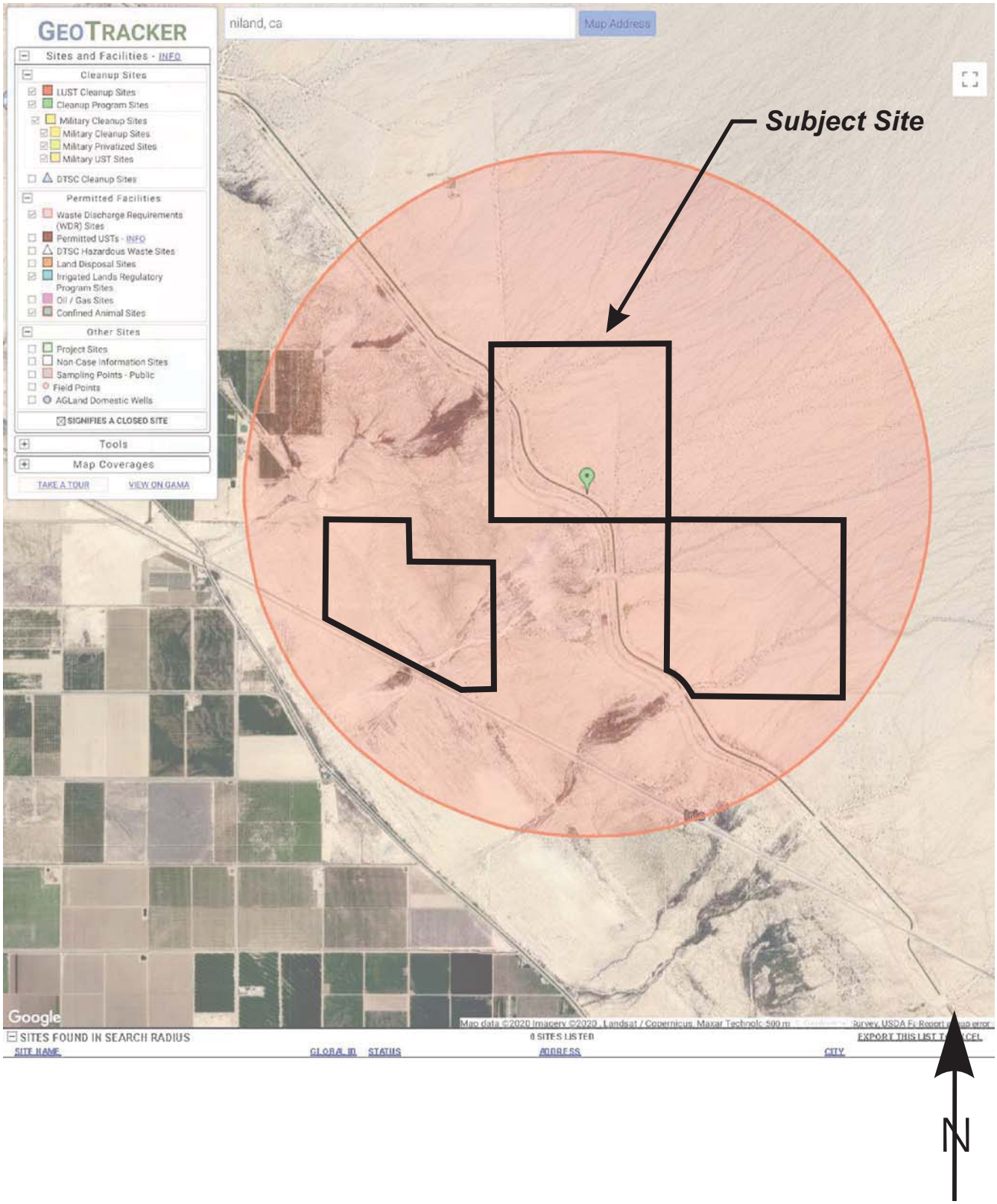

GS Lyon Project No.: GS2020	Geotracker Map	Plate 5

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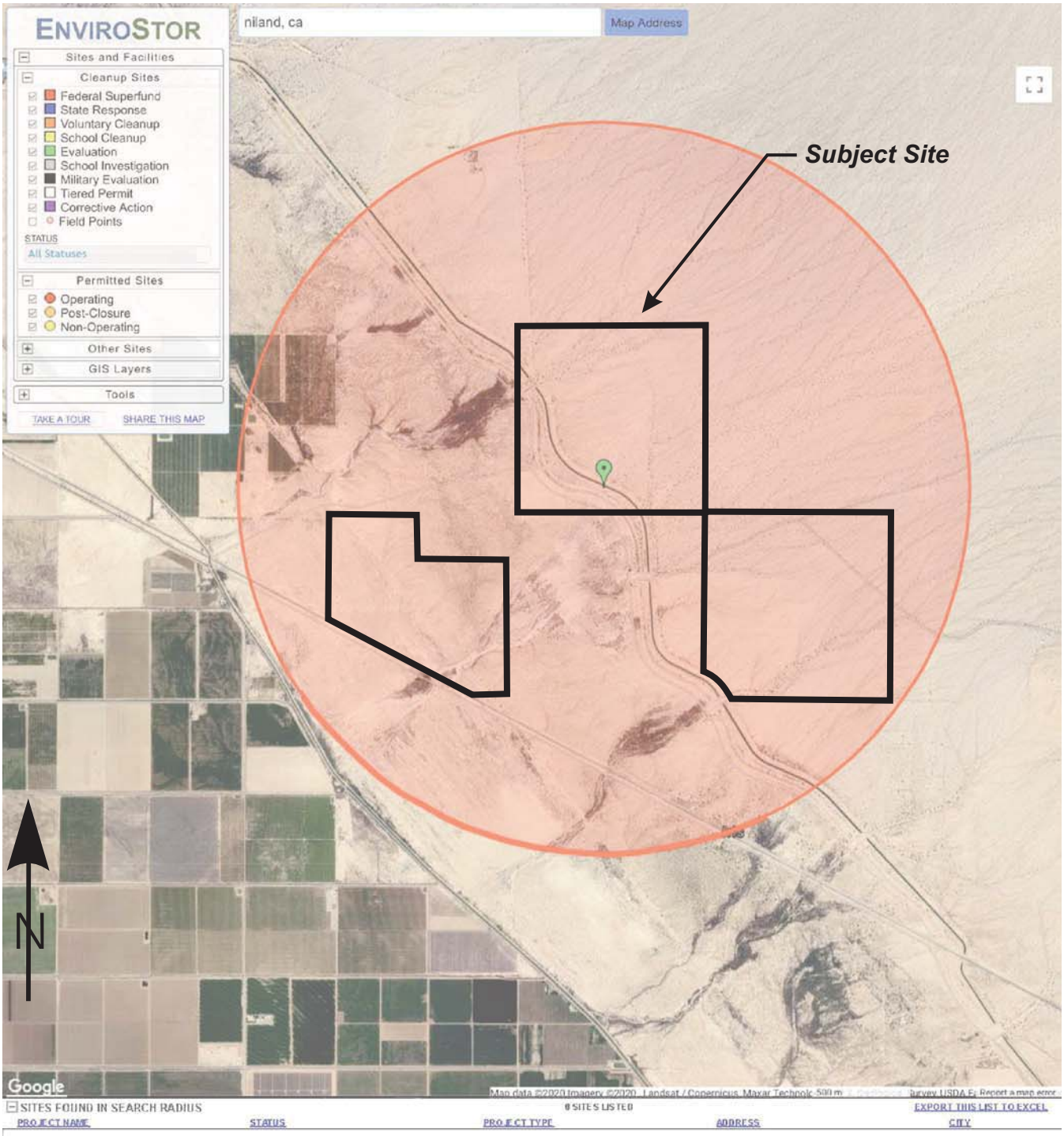

GS Lyon Project No.: GS2020	Envirostor Map	Plate 6

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APPENDIX H

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Vega 2/3
Flowing Wells Road
Winterhaven, CA 92283

Inquiry Number: 6210343.5
October 01, 2020

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

PC ORIGINAL PKG

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Findings

City Directory Images

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	*Target Street*	*Cross Street*	*Source*
2017	☐	☐	EDR Digital Archive
2014	☐	☐	EDR Digital Archive
2010	☐	☐	EDR Digital Archive
2005	☐	☐	EDR Digital Archive
2000	☐	☐	EDR Digital Archive
1995	☐	☐	EDR Digital Archive
1992	☐	☐	EDR Digital Archive
1987	☐	☐	Polk City Directory
1982	☐	☐	Polk City Directory
1977	☐	☐	Polk City Directory
1972	☐	☐	Polk City Directory
1967	☐	☐	Polk City Directory
1964	☐	☐	Polk City Directory
1959	☐	☐	Polk City Directory

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EXECUTIVE SUMMARY

Year	Target Street	Cross Street	Source

PC ORIGINAL PKG

FINDINGS

TARGET PROPERTY STREET

Flowing Wells Road
Winterhaven, CA 92283

Year	*CD Image*	*Source*	
FLOWING WELLS RD			
2017	-	EDR Digital Archive	Target and Adjoining not listed in Source
2014	-	EDR Digital Archive	Target and Adjoining not listed in Source
2010	-	EDR Digital Archive	Target and Adjoining not listed in Source
2005	-	EDR Digital Archive	Target and Adjoining not listed in Source
2000	-	EDR Digital Archive	Target and Adjoining not listed in Source
1995	-	EDR Digital Archive	Target and Adjoining not listed in Source
1992	-	EDR Digital Archive	Target and Adjoining not listed in Source
1987	-	Polk City Directory	Street not listed in Source
1982	-	Polk City Directory	Street not listed in Source
1977	-	Polk City Directory	Street not listed in Source
1972	-	Polk City Directory	Street not listed in Source
1967	-	Polk City Directory	Street not listed in Source
1964	-	Polk City Directory	Street not listed in Source
1959	-	Polk City Directory	Street not listed in Source

PC ORIGINAL PKG

FINDINGS

CROSS STREETS

No Cross Streets Identified

PC ORIGINAL PKG

Vega 2B
Ted Kipf Road
Winterhaven, CA 92283

Inquiry Number: 6210349.5
October 01, 2020

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2000	☐	☐	EDR Digital Archive
1995	☐	☐	EDR Digital Archive
1992	☐	☐	EDR Digital Archive
1987	☐	☐	Polk City Directory
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1963	☐	☐	Polk City Directory
1959	☐	☐	Polk City Directory

PC ORIGINAL PKG

EXECUTIVE SUMMARY

Year	Target Street	Cross Street	Source

PC ORIGINAL PKG

FINDINGS

TARGET PROPERTY STREET

Ted Kipf Road
Winterhaven, CA 92283

Year	*CD Image*	*Source*	
TED KIPF RD			
2017	-	EDR Digital Archive	Target and Adjoining not listed in Source
2014	-	EDR Digital Archive	Target and Adjoining not listed in Source
2010	-	EDR Digital Archive	Target and Adjoining not listed in Source
2005	-	EDR Digital Archive	Target and Adjoining not listed in Source
2000	-	EDR Digital Archive	Target and Adjoining not listed in Source
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1967	-	Polk City Directory	Street not listed in Source
1963	-	Polk City Directory	Street not listed in Source
1959	-	Polk City Directory	Street not listed in Source

PC ORIGINAL PKG

FINDINGS

CROSS STREETS

No Cross Streets Identified

PC ORIGINAL PKG

APPENDIX I

PC ORIGINAL PKG

780 N. 4th Street
El Centro, CA 92243
(760) 337-1100

Phase I Environmental Site Assessment (ESA)
User Questionnaire

1) Environmental liens that are filed or recorded against the *property*.

Did a search of *recorded land title records* (or judicial records where appropriate) identify any environmental liens filed or recorded against the *property* under federal, tribal, state, or local law?

Not to our knowledge.

2) Activity and use limitations that are in place on the *property* or that have been filed or recorded against the *property*.

Did a search of *recorded land title records* (or judicial records where appropriate) identify any AULs, such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the property and/or have been filed or recorded against the *property* under federal, tribal, state or local law?

Not to our knowledge.

3) Specialized knowledge or experience of the person seeking to qualify for the LLP.

Do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the *property* or an *adjoining property* so that you would have specialized knowledge of the chemicals and processes used by this type of business?

No.

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4) Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.

Does the purchase price being paid for this *property* reasonable reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

Yes.

5) Commonly known or *reasonably ascertainable* information about the *property*.

Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases? For example,

a. Do you know the past uses of the *property*?

   Vacant Land

b. Do you know of specific chemicals or oils that are present or once were present at the *property*?

   None that we know of or suspect.

c. Do you know of spills or other chemical releases that have taken place at the *property*?

   None that we know of or suspect.

d. Do you know of any environmental cleanups that have taken place at the *property*?

   None that we know of or suspect.

6) The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.

Based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of releases at the *property*?

None that we know of or suspect.

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Additional Information

1) Reason why Phase I ESA is required:

Conditional Use Permit for proposed development project.

2) Type of Property:

Commercial	☐
Industrial	☐
Residential	☐
Vacant/Undeveloped	☒
Other	

Type of Transaction:

Purchase	☐
Financing	☐
Sale	☐
Lease	☐
Other	

3) Complete and correct address for the property:

No situs. APN's 025-260-011, 025-010-006, and 025-270-023.

4) Are there any existing environmental report, documents, correspondence, etc. available for review?

None.

User Name/Company: Jamie Nagel/Apex Energy Solutions, LLC

Address: 604 Sutter Street, Suite 250
Folsom, CA 95630

User Signature:

Date: 12/10/2020

PC ORIGINAL PKG

Vega 2/3
Flowing Wells Road
Winterhaven, CA 92283

Inquiry Number: 6210343.7
October 01, 2020

EDR Environmental Lien and AUL Search

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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EDR Environmental Lien and AUL Search

The EDR Environmental Lien and AUL Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

Flowing Wells Road
Vega 2/3
Winterhaven, CA 92283

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

AULs: Found ☐ Not Found ☒

PC ORIGINAL PKG

RESEARCH SOURCE

Source 1:

Imperial Recorder
Imperial, CA

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PROPERTY INFORMATION

Deed 1:

Type of Deed:	deed
Title is vested in:	Mesa West Ranch LLC
Title received from:	Bank of America NA Trustee
Deed Dated	7/7/1997
Deed Recorded:	8/5/1997
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket:	NA
Land Record Comments:	
Miscellaneous Comments:	
Legal Description:	See Exhibit
Legal Current Owner:	Mesa West Ranch LLC
Parcel # / Property Identifier:	025-010-006
Comments:	See Exhibit

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Deed Exhibit 1

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RECORDING REQUESTED BY
CHICAGO TITLE COMPANY
AND WHEN RECORDED MAIL TO

MESA WEST RANCH, L.L.C.
1010 E. CHESTNUT STREET
SANTA ANA, CALIFORNIA 92701

97017736 BOOK 1900 PAGE 75

DOLORES PROVENCIO
COUNTY RECORDER
BOOK 1900 PAGE 75
'97 AUG 5 AM 9 19
OFFICIAL RECORDS
IMPERIAL COUNTY, CA

TLS	15
RG	6
RF	4
MC	1
IX	1
TF	3
NL	
PY	
PR	

Escrow No. 7767779 - G05
Order No. 7767779 - 910

SPACE ABOVE THIS LINE FOR RECORDER'S USE

GRANT DEED

Assessor's Parcel No: 025-012-06 (N)

THE UNDERSIGNED GRANTOR(S) DECLARE(S)
DOCUMENTARY TRANSFER TAX IS $495.00
[X] unincorporated area [ ] City of IMPERIAL COUNTY
[X] computed on the full value of the interest or property conveyed, or is
[ ] computed on the full value less the value of liens or encumbrances remaining at time of sale, and

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,
BANK OF AMERICA, NT&SA, TRUSTEE OF THE BERTHA AND JOHN GARABEDIAN CHARITABLE FOUNDATION

hereby GRANT(S) to
MESA WEST RANCH, L.L.C.

the following described real property in the County of IMPERIAL, State of California: IMPERIAL COUNTY

LEGAL DESCRIPTION ATTACHED HERETO AND MADE A PART HEREOF BY REFERENCE

Dated July 7, 1997

BANK OF AMERICA, NT&SA, TRUSTEE

BY Robb M. Stewart

BY Albert C. Brunetti

STATE OF CALIFORNIA
COUNTY OF KERN) SS.
On July 28, 1997 before me,
Carol S. Easter
a Notary Public in and for said County and State, personally appeared
Robb M. Stewart and Albert C. Brunetti

personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) ~~is~~/are subscribed to the within instrument and acknowledged to me that ~~he/she~~/they executed the same in ~~his/her~~/their authorized capacity(ies), and that by ~~his/her~~/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

CAROL S. EASTER
Commission # 1114299
Notary Public — California
Kern County
My Comm. Expires Dec 6, 2000

WITNESS my hand and official seal.

Carol S. Easter
Signature of Notary

Dec. 6, 2000
Date My Commission Expires

FOR NOTARY SEAL OR STAMP

MAIL TAX STATEMENTS TO PARTY SHOWN ON FOLLOWING LINE: IF NO PARTY SO SHOWN, MAIL AS DIRECTED ABOVE

SAME AS ABOVE
Name | Street Address | City, State & Zip

GD1 -05/30/97bk

PC ORIGINAL PKG

Escrow No. 7767779 -G05

LEGAL DESCRIPTION EXHIBIT

PARCEL 1:

SECTION 9, TOWNSHIP 11 SOUTH, RANGE 15 EAST, S.B.M., IN AN UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPT THAT PART CONVEYED TO THE UNITED STATES BY DEED RECORDED JULY 24, 1940 IN BOOK 553, PAGE 210 OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM THAT PROPERTY TAKEN BY THE UNITED STATES OF AMERICA IN THE DECLARATION OF TAKING DATED APRIL 4, 1979 AND RECORDED MAY 23, 1979 AS INSTRUMENT NO. 32 AT BOOK 1434, PAGE 436 OF OFFICIAL RECORDS.

ALSO EXCEPT 25% OF ALL OIL, MINERALS, GAS, PETROLEUM OR OTHER HYDROCARBONS WITHIN OR UNDERLYING WHICH MAY BE PRODUCED AND SAVED THEREFROM, BUT WITH NO RIGHT OF SURFACE ENTRY, RESERVED BY LOUIS MEITUS, ET UX, BY DEED RECORDED MARCH 24, 1964 IN BOOK 1180, PAGE 316 OF OFFICIAL RECORDS.

ALSO EXCEPT AN UNDIVIDED 12-1/2% INTEREST TO ALL OF THE SUBSURFACE BELOW 200 FEET, WITHOUT ANY RIGHT TITLE OR INTEREST TO THE SURFACE OR SUBSURFACE ABOVE 200 FEET AS THEREIN PROVIDED, CONVEYED TO VERNON NUSSBAUM, ET UX, BY DEED RECORDED SEPTEMBER 1, 1964 IN BOOK 1190, PAGE 762 OF OFFICIAL RECORDS.

ALSO EXCEPT AN UNDIVIDED 12-1/2% INTEREST TO ALL SUBSURFACE BELOW 200 FEET, WITHOUT ANY RIGHT TO THE SURFACE OR THE SUBSURFACE ABOVE 200 FEET EXCEPT AS THEREIN PROVIDED, CONVEYED TO DONALD CANNON, ET UX, BY DEED RECORDED SEPTEMBER 25, 1964 IN BOOK 1194, PAGE 355 OF OFFICIAL RECORDS.

PARCEL 2:

SECTION 1, TOWNSHIP 12 SOUTH, RANGE 15 EAST, S.B.M., IN AN UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPT THAT PORTION OF THE LAND DESCRIBED IN THE DEED TO THE UNITED STATES RECORDED SEPTEMBER 27, 1939, AS FILE NO. 18, IN BOOK 541, PAGE 30 OF OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM THAT PORTION CONDEMNED BY THE UNITED STATES OFAMERICA AND AS SET OUT IN PARCEL 5 OF DECLARATION OF TAKING RECORDED MAY 23, 1979, AS FILE NO. 32, IN BOOK 1434, PAGE 436 OF OFFICIAL RECORDS.

ALSO, EXCEPT 25% OF ALL OIL, MINERALS, GAS, PETROLEUM OR OTHER HYDROCARBONS WITHIN OR UNDERLYING WHICH MAY BE PRODUCED AND SAVED FROM SAID LAND, BUT WITH NO RIGHT OF SURFACE ENTRY, RESERVED BY LOUIS MEITUS, DT UX., BY DEED RECORDED MARCH 24, 1964, IN BOOK 1180, PAGE 316 OF OFFICIAL RECORDS.

ALSO, EXCEPT AN UNDIVIDED 12-1/2% INTEREST IN AND TO ALL OF THE SUBSURFACE BELOW 200 FEET, WITHOUT ANY RIGHT, TITLE, OR INTERESTS IN OR TO THE SURFACE OR THE SUBSURFACE ABOVE 200 FEET EXCEPT AS THEREIN PROVIDED, CONVEYED TO VERNON NUSSBAUM AND DINETTE NUSSBAUM, HUSBAND AND WIFE AS COMMUNITY PROPERTY, BY QUITCLAIM DEED RECORDED SEPTEMBER 1, 1964, IN BOOK 1190, PAGE 762 OF OFFICIAL RECORDS.

ALSO, EXCEPT AN UNDIVIDED 12-1/2% INTEREST IN AND TO ALL OF THE SUBSURFACE BELOW 200 FEET, WITHOUT ANY RIGHT, TITLE, OR INTEREST IN OR TO THE SURFACE OR THE SUBSURFACE

PC ORIGINAL PKG

LEGAL DESCRIPTION EXHIBIT

ABOVE 200 FEET EXCEPT AS THEREIN PROVIDED, CONVEYED TO DONALD CANNON AND MARGARET CANNON, HUSBAND AND WIFE AS JOINT TENANTS, BY QUITCLAIM DEED RECORDED SEPTEMBER 25, 1964, IN BOOK 1192, PAGE 233 OF OFFICIAL RECORDS, AND RE-RECORDED OCTOBER 22, 1964, IN BOOK 1194, PAGE 355 OF OFFICIAL RECORDS.

PARCEL 3:

THE NORTHEAST QUARTER OF SECTION 24, TOWNSHIP 12 SOUTH, RANGE 15 EAST, S.B.M., IN AN UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPT THAT PORTION LYING SOUTH AND WEST OF EAST HIGHLINE CANAL.

EXCEPT 25% OF ALL OF SUBSURFACE RIGHTS IN CONNECTION WITH SECTION 24, RESERVED BY DINETTE NUSSBAUM ET CON, AS TRUSTEES OF THE VERNON AND DINETTE NUSSBAUM REVOCABLE TRUST, BY DEED RECORDED NOVEMBER 13, 1972 IN BOOK 1337, PAGE 659 OF OFFICIAL RECORDS.

PARCEL 4:

THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 24, TOWNSHIP 12 SOUTH, RANGE 15 EAST, S.B.M, IN AN UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TOTHE OFFICIAL PLAT THEREOF

EXCEPT THAT PORTION DESCRIBED AS FOLLOWS

BEGINNING AT A POINT IN THE SOUTH <L OF SAID SECTION 24, WHICH IS DISTANT THEREOF SOUTH 89°58'34" WEST 742.87 FEET FROM THE SOUTHWEST CORNER THEREOF; THENCE NORTH 22°21'00" WEST 476.76 FEET; THENCE SOUTH 67°39'00" WEST 38.00 FEET; THENCE NORTH 22°21'00" WEST 954.87 FEET TO A POINT IN THE WEST LINE OF THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 24, WHICH IS DISTANT THEREON NORTH 0°00'15" WEST, 1309.87 FEET FROM THE SOUTHWEST CORNER THEREOF; THENCE SOUTH 0°00'15" EAST, 1309.87 FEET TO THE SOUTHWEST CORNER OF THE EAST HALF OF THE SOUTHWEST QUARTER OF THE SECTION; THENCE NORTH 89°58'34" EAST 579.45 FEET TO THE POINT OF BEGINNING.

EXCEPT 25% OF ALL SUBSURFACE RIGHTS IN CONNECTION WITH SECTION 24, RESERVED BY DINETTE NUSSBAUM ET CON, AS TRUSTEES OF THE VERNON AND DINETTE NUSSBAUM REVOCABLE TRUST, BY DEED RECORDED NOVEMBER 13, 1972 IN BOOK 1337, PAGE 659 OF OFFICIAL RECORDS.

PARCEL 5:

THAT PORTION OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 12 SOUTH, RANGE 15 EAST, S.B.M., IN AN UNINCORPORATED AREA THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF, LYING NORTH AND EAST OF EAST HIGHLINE CANAL AS SAID CANAL WAS LOCATED OVER SAID LAND ON AUGUST 27, 1957.

EXCEPT 25% OF ALL SUBSURFACE RIGHTS IN CONNECTION WITH SECTION 24, RESERVED BY DINETTE NUSSBAUM ET CON. AS TRUSTEES OF THE VERNON AND DINETTE NUSSBAUM REVOCABLE TRUST, BY DEED RECORDED NOVEMBER 13, 1972 IN BOOK 1337, PAGE 659 OF OFFICIAL RECORDS.

PARCEL 6:

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LEGAL DESCRIPTION EXHIBIT

THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 24, TOWNSHIP 12 SOUTH, RANGE 15 EAST, S.B.M., IN AN UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPT THAT PORTION LYING WESTERLY OF THE CENTER LINE OF EAST HIGHLINE CANAL.

EXCEPT 25% OF ALL OF SUBSURFACE RIGHTS IN CONNECTION WITH SECTION 24, RESERVED BY DINETTE NUSSBAUM ET CON, AS TRUSTEES OF THE VERNON ANDDINETTE NUSSBAUM REVOCABLE TRUST, BY DEED RECORDED NOVEMBER 13, 1972 IN BOOK 1337, PAGE 659 OF OFFICIAL RECORDS.

PC ORIGINAL PKG

Vega 2B
Ted Kipf Road
Winterhaven, CA 92283

Inquiry Number: 6210349.7
October 01, 2020

EDR Environmental Lien and AUL Search

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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EDR Environmental Lien and AUL Search

The EDR Environmental Lien and AUL Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

Ted Kipf Road
Vega 2B
Winterhaven, CA 92283

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

AULs: Found ☐ Not Found ☒

PC ORIGINAL PKG

RESEARCH SOURCE

Source 1:

Imperial Recorder
Imperial, CA

PC ORIGINAL PKG

PROPERTY INFORMATION

Deed 1:

Type of Deed:	deed
Title is vested in:	Li Tong Wang Su Chu Chou Wang Trustees
Title received from:	Li Tong Wong
Deed Dated	6/21/2001
Deed Recorded:	7/2/2001
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket:	NA
Land Record Comments:	
Miscellaneous Comments:	
Legal Description:	See Exhibit
Legal Current Owner:	Li Tong Wang Su Chu Chou Wang Trustees
Parcel # / Property Identifier:	025-270-023
Comments:	See Exhibit

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Deed Exhibit 1

PC ORIGINAL PKG

01 14379 BOOK 2068 PAGE 947

DOLORES PROVENCIO

COUNTY RECORDER
BOOK 2068 PAGE 947
01 JUL 2 AM 11 34
OFFICIAL RECORDS
IMPERIAL COUNTY, CA

TLS	6 00
RG	3
RF	1
MG	
IN	
TF	
NI	
PY	
PR	

Recording Requested By:
Law Offices of David M. Huang
18000 Studebaker Road, Suite 665
Cerritos, CA 90703-2682

When Recorded Mail To:
Mr. and Mrs. Li Tong Wang
19210 Madeira Court
Cerritos, CA 90703

A.P.N.: 025-270-23-01 & 025-270-25-01

QUITCLAIM DEED

THE UNDERSIGNED QUITCLAIMOR(S) DECLARE(S): DOCUMENTARY TRANSFER TAX IS $ NONE. CITY TAX IS $ NONE.

FOR NO MONETARY CONSIDERATION, LI TONG WONG
hereby REMISE(S), RELEASE(S) AND FOREVER QUITCLAIM(S) to LI TONG WANG and SU-CHU CHOU WANG, Co-Trustees or their successor trustees, under THE WANG FAMILY TRUST, dated June 21, 2001, and any amendments thereto, all of his right, title and interest in and to the following described real property in the County of Imperial, State of California:

All of Section 15, Township 11 South, Range 15 East, S.B.M., County of Imperial, State of California, according to the Official Plat thereof.
EXCEPTING THEREFROM that portion conveyed to the U.S.A. by Deed recorded August 11, 1978 in Book 1420, Page 912 of Official Records.
Said property commonly known as: Vacant Land

NOTE #1: Conveyance transferring Quitclaimor's interest into a revocable living trust. This conveyance transfers the Quitclaimor's interest into his revocable living trust which is not pursuant to a sale and is exempt pursuant to Rev. & Tax Code Section 11911.
NOTE #2: Quitclaimor LI TONG WONG is the same person as Trustee LI TONG WANG. This conveyance is to a revocable trust and, pursuant to Rev. & Tax Code Section 62(d)(2), does not constitute a change in ownership and does not subject the property to reassessment.

DATED: June 21, 2001

State of California)
County of Los Angeles)
On June 21, 2001 before me,
David M. Huang, Notary Public, personally appeared
LI TONG WONG
personally known to me (~~or proved to me on the basis of satisfactory evidence~~) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.
WITNESS my hand and official seal.

LI TONG WONG

DAVID M. HUANG
Commission # 1190871
Notary Public - California
Los Angeles County
My Comm. Expires Jul 24, 2002

Signature

MAIL TAX STATEMENT TO: Li Tong Wang and Su-Chu Chou Wang, as Co-Trustees
19210 Madeira Court, Cerritos, CA 90703

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APPENDIX J

PC ORIGINAL PKG

FIDELITY NATIONAL TITLE GROUP
FNTG Western Region
Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Issuing Policies of Fidelity National Title Insurance Company

Title Officer: Mitch LaRiva
Escrow Officer: Major Accounts OAC

Order No.: 997-**30052456**-ML6

TO:

ZGlobal
604 Sutter Street, Suite 250
Folsom, CA 95630

ATTN: **Jamie Nichole Nagel**
YOUR REFERENCE: **025-260-011 & 019**

PROPERTY ADDRESS: **No situs APN 025-260-011 & 025-260-019, Unincorporated County of Imperial, CA**

PRELIMINARY REPORT

*In response to the application for a policy of title insurance referenced herein, **Fidelity National Title Company** hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a policy or policies of title insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.*

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Attachment One. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Attachment One. Copies of the policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

The policy(s) of title insurance to be issued hereunder will be policy(s) of Fidelity National Title Insurance Company, a Florida Corporation.

PC ORIGINAL PKG

Please read the exceptions shown or referred to herein and the exceptions and exclusions set forth in Attachment One of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land.

Countersigned by:

Authorized Signature

PC ORIGINAL PKG

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

PRELIMINARY REPORT

EFFECTIVE DATE: **July 31, 2020 at 7:30 a.m.**

ORDER NO.: 997-30052456-ML6

The form of policy or policies of title insurance contemplated by this report is:

ALTA Standard Owners Policy (6-17-06)

1. THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

   A FEE

2. TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

   MARJORIE A. GARDNER as Trustee of The Marjorie A. Hoffmeister Gardner Trust dated May 26, 1998, as to an undivided 10% interest;

   LESLEY ANN ASH, Successor Trustee of Exemption Trust under the Bay Family Trust dated April 9, 2003, as to an undivided 9.45% interest and LESLEY ANN ASH, Successor Trustee of Survivor's Trust under the Bay Family Trust dated April 9, 2003, as to an undivided 35.55% interest, subject to Item No. 8 of Schedule "B" and Item No's. 1 and 2 of Requirements; and

   JOSEPH G. CLARK, Trustee of The Joseph G. Clark Revocable Trust of 2017, as to an undivided 45% interest

3. THE LAND REFERRED TO IN THIS REPORT IS DESCRIBED AS FOLLOWS:

   See Exhibit A attached hereto and made a part hereof.

PC ORIGINAL PKG

EXHIBIT A

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA OF UNINCORPORATED COUNTY OF IMPERIAL IN THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

SECTION 17, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPTING A STRIP OF LAND 200 FEET WIDE CONTAINING 22 ACRES LYING EQUALLY ON EACH SIDE OF THE CENTERLINE OF THE SOUTHERN PACIFIC RAILROAD COMPANY RIGHT OF WAY AS NOW CONSTRUCTED, RESERVED BY SOUTHERN PACIFIC LAND COMPANY BY DEED RECORDED OCTOBER 16, 1951 IN BOOK 823, PAGE 299 OF OFFICIAL RECORDS.

ALSO EXCEPTING THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 17.

APN 025-260-011-000 AND APN 025-260-019-000

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EXCEPTIONS

AT THE DATE HEREOF, ITEMS TO BE CONSIDERED AND EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN SAID POLICY FORM WOULD BE AS FOLLOWS:

A. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes to be levied for the fiscal year 2020-2021.

B. Taxes and assessments levied by the Imperial Irrigation District.

C. The lien of supplemental or escaped assessments of property taxes, if any, made pursuant to the provisions of Chapter 3.5 (commencing with Section 75) or Part 2, Chapter 3, Articles 3 and 4, respectively, of the Revenue and Taxation Code of the State of California as a result of the transfer of title to the vestee named in Schedule A or as a result of changes in ownership or new construction occurring prior to Date of Policy.

1. Water rights, claims or title to water, whether or not disclosed by the public records.

2. Easement(s) in favor of the public over any existing roads lying within said Land.

3. Lack of legal right of access to and from a public street or highway.

4. The right, title or interest which the County of Imperial may have or claim in and to those portions of the herein described lands lying within the bounds of Noffsinger Road.

5. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Southern Sierras Power Company, a corporation, it's successors and/or assigns
Purpose:	Power transmission line
Recording Date:	July 19, 1930
Recording No:	Book 283, Page 9 of Official Records
Affects:	A portion of said land as more particularly described in said document.

6. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	R. S. Harrington, et ux.
Purpose:	Drain canal
Recording Date:	July 11, 1952
Recording No:	Book 841, Page 484 of Official Records
Affects:	A portion of said land as more particularly described in said document.

7. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Imperial Irrigation District, it's successors and/or assigns
Purpose:	Power line or lines, underground and/or overhead and necessary appurtenances together with the right of ingress and egress
Recording Date:	December 22, 1987
Recording No:	book 1594, Page 1685 of Official Records
Affects:	The West 100 feet of said land, except Southern Pacific Railroad right of way.

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EXCEPTIONS
(Continued)

8. The effect of a Grant Deed dated May 16, 2013, executed by Leslie Ann Ash, Trustee of the Bay Family Trust dated April 9, 2003, grantor to Victoria Gabbard, a married woman, as her sole and separate property, Grantee, recorded June 16, 2013 as Instrument No. 2013010916 of Official Records.

   Recital on said document states "This deed is intended to sever any joint Tenancy Deed".

9. A document entitled "Easement Deed by Court Order in Settlement of Landowner Action", issued out of the United States District Court for the Northern District of California San Francisco Division, Case No. 3:11-cv-02599-TEH, recorded January 30, 2014 as Instrument No. 2014001714 of Official Records.

   Said document provides for a Telecommunications Cable System Easement together with right of reasonable ingress and egress.

   Subject to the terms, conditions and provisions contained therein.

10. Any invalidity or defect in the title of the vestees in the event that the trust referred to herein is invalid or fails to grant sufficient powers to the trustee(s) or in the event there is a lack of compliance with the terms and provisions of the trust instrument.

    If title is to be insured in the trustee(s) of a trust, (or if their act is to be insured), this Company will require a Trust Certification pursuant to California Probate Code Section 18100.5.

    The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

11. Please be advised that our search did not disclose any open Deeds of Trust of record. If you should have knowledge of any outstanding obligation, please contact the Title Department immediately for further review prior to closing.

12. Any rights of the parties in possession of a portion of, or all of, said Land, which rights are not disclosed by the public records.

    The Company will require, for review, a full and complete copy of any unrecorded agreement, contract, license and/or lease, together with all supplements, assignments and amendments thereto, before issuing any policy of title insurance without excepting this item from coverage.

    The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

13. Any facts an accurate survey would disclose as to the location the exterior boundaries of said land or as to the location of canals, laterals, waste and drain ditches thereon in use by Imperial Irrigation District as part of its irrigation system.

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EXCEPTIONS
(Continued)

14. Any easements not disclosed by the public records as to matters affecting title to real property, whether or not said easements are visible and apparent.

15. Matters which may be disclosed by an inspection and/or by a correct ALTA/NSPS Land Title Survey of said Land that is satisfactory to the Company, and/or by inquiry of the parties in possession thereof.

PLEASE REFER TO THE "INFORMATIONAL NOTES" AND "REQUIREMENTS" SECTIONS WHICH FOLLOW FOR INFORMATION NECESSARY TO COMPLETE THIS TRANSACTION.

END OF EXCEPTIONS

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REQUIREMENTS SECTION

1. The Company will require either (a) a complete copy of the trust agreement and any amendments thereto certified by the trustee(s) to be a true and complete copy with respect to the hereinafter named trust, or (b) a Certification, pursuant to California Probate Code Section 18100.5, executed by all of the current trustee(s) of the hereinafter named trust, a form of which is attached.

   Name of Trust: Exemption Trust Under the Bay Family Trust Dated April 9, 2003

2. The Company will require either (a) a complete copy of the trust agreement and any amendments thereto certified by the trustee(s) to be a true and complete copy with respect to the hereinafter named trust, or (b) a Certification, pursuant to California Probate Code Section 18100.5, executed by all of the current trustee(s) of the hereinafter named trust, a form of which is attached.

   Name of Trust: Survivor's Trust Under the Bay Family Trust Dated April 9, 2003

3. Prior to the close of escrow, the Company requires a Statement of Information to be completed by the following party(s),

   Party(s): All Parties

   The Company reserves the right to add additional items or make further requirements after review of the requested Statement of Information.

4. Unrecorded matters which may be disclosed by an Owner's Affidavit or Declaration. A form of the Owner's Affidavit/Declaration is attached to this Preliminary Report/Commitment. This Affidavit/Declaration is to be completed by the record owner of the land and submitted for review prior to the closing of this transaction. Your prompt attention to this requirement will help avoid delays in the closing of this transaction. Thank you.

   The Company reserves the right to add additional items or make further requirements after review of the requested Affidavit/Declaration.

END OF REQUIREMENTS

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INFORMATIONAL NOTES SECTION

1. Note: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	025-260-011-000
Fiscal Year:	2019-2020
1st Installment:	$148.44
2nd Installment:	$148.44
Exemption:	$0.00
Code Area:	058-003

   Affects: A portion of the Land described herein.

2. Note: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	025-260-019-000
Fiscal Year:	2019-2020
1st Installment:	$48.86
2nd Installment:	$48.86
Exemption:	$0.00
Code Area:	058-003

   Affects: A portion of the Land described herein.

3. Note: The policy of title insurance will include an arbitration provision. The Company or the insured may demand arbitration. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. Please ask your escrow or title officer for a sample copy of the policy to be issued if you wish to review the arbitration provisions and any other provisions pertaining to your Title Insurance coverage.

4. Notice: Please be aware that due to the conflict between federal and state laws concerning the cultivation, distribution, manufacture or sale of marijuana, the Company is not able to close or insure any transaction involving Land that is associated with these activities.

5. Pursuant to Government Code Section 27388.1, as amended and effective as of 1-1-2018, a Documentary Transfer Tax (DTT) Affidavit may be required to be completed and submitted with each document when DTT is being paid or when an exemption is being claimed from paying the tax. If a governmental agency is a party to the document, the form will not be required. DTT Affidavits may be available at a Tax Assessor-County Clerk-Recorder.

6. Note: There are NO conveyances affecting said Land recorded within 24 months of the date of this report.

END OF INFORMATIONAL NOTES

Mitch LaRiva/jh

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Wire Fraud Alert

This Notice is not intended to provide legal or professional advice. If you have any questions, please consult with a lawyer.

All parties to a real estate transaction are targets for wire fraud and many have lost hundreds of thousands of dollars because they simply relied on the wire instructions received via email, without further verification. **If funds are to be wired in conjunction with this real estate transaction, we strongly recommend verbal verification of wire instructions through a known, trusted phone number prior to sending funds.**

In addition, the following non-exclusive self-protection strategies are recommended to minimize exposure to possible wire fraud.

- **NEVER RELY** on emails purporting to change wire instructions. Parties to a transaction rarely change wire instructions in the course of a transaction.
- **ALWAYS VERIFY** wire instructions, specifically the ABA routing number and account number, by calling the party who sent the instructions to you. DO NOT use the phone number provided in the email containing the instructions, use phone numbers you have called before or can otherwise verify. **Obtain the phone number of relevant parties to the transaction as soon as an escrow account is opened**. DO NOT send an email to verify as the email address may be incorrect or the email may be intercepted by the fraudster.
- **USE COMPLEX EMAIL PASSWORDS** that employ a combination of mixed case, numbers, and symbols. Make your passwords greater than eight (8) characters. Also, change your password often and do NOT reuse the same password for other online accounts.
- **USE MULTI-FACTOR AUTHENTICATION** for email accounts. Your email provider or IT staff may have specific instructions on how to implement this feature.

For more information on wire-fraud scams or to report an incident, please refer to the following links:

Federal Bureau of Investigation:
http://www.fbi.gov

Internet Crime Complaint Center:
http://www.ic3.gov

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FIDELITY NATIONAL TITLE GROUP
FNTG Western Region
Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Notice of Available Discounts

Pursuant to Section 2355.3 in Title 10 of the California Code of Regulations Fidelity National Financial, Inc. and its subsidiaries ("FNF") must deliver a notice of each discount available under our current rate filing along with the delivery of escrow instructions, a preliminary report or commitment. Please be aware that the provision of this notice does not constitute a waiver of the consumer's right to be charged the filed rate. As such, your transaction may not qualify for the below discounts.

You are encouraged to discuss the applicability of one or more of the below discounts with a Company representative. These discounts are generally described below; consult the rate manual for a full description of the terms, conditions and requirements for such discount. These discounts only apply to transactions involving services rendered by the FNF Family of Companies. This notice only applies to transactions involving property improved with a one-to-four family residential dwelling.

Not all discounts are offered by every FNF Company. The discount will only be applicable to the FNF Company as indicated by the named discount.

FNF Underwritten Title Company	**Underwritten by FNF Underwriters**
CTC – Chicago Title company	CTIC – Chicago Title Insurance Company
CLTC – Commonwealth Land Title Company	CLTIC - Commonwealth Land Title Insurance Company
FNTC – Fidelity National Title Company of California	FNTIC – Fidelity National Title Insurance Company
FNTCCA - Fidelity National Title Company of California	FNTIC - Fidelity National Title Insurance Company
TICOR – Ticor Title Company of California	CTIC – Chicago Title Insurance Company
LTC – Lawyer's Title Company	CLTIC – Commonwealth Land Title Insurance Company
SLTC – ServiceLink Title Company	CTIC – Chicago Title Insurance Company

Available Discounts

DISASTER LOANS (CTIC, CLTIC, FNTIC)
The charge for a Lender's Policy (Standard or Extended coverage) covering the financing or refinancing by an owner of record, within twenty-four (24) months of the date of a declaration of a disaster area by the government of the United States or the State of California on any land located in said area, which was partially or totally destroyed in the disaster, will be fifty percent (50%) of the appropriate title insurance rate.

CHURCHES OR CHARITABLE NON-PROFIT ORGANIZATIONS (CTIC, FNTIC)
On properties used as a church or for charitable purposes within the scope of the normal activities of such entities, provided said charge is normally the church's obligation the charge for an owner's policy shall be fifty percent (50%) to seventy percent (70%) of the appropriate title insurance rate, depending on the type of coverage selected. The charge for a lender's policy shall be forty (40%) to fifty percent (50%) of the appropriate title insurance rate, depending on the type of coverage selected.

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FIDELITY NATIONAL FINANCIAL, INC.
PRIVACY NOTICE

Effective April 9, 2020

Fidelity National Financial, Inc. and its majority-owned subsidiary companies (collectively, "FNF," "our," or "we") respect and are committed to protecting your privacy. This Privacy Notice explains how we collect, use, and protect personal information, when and to whom we disclose such information, and the choices you have about the use and disclosure of that information.

A limited number of FNF subsidiaries have their own privacy notices. If a subsidiary has its own privacy notice, the privacy notice will be available on the subsidiary's website and this Privacy Notice does not apply.

Collection of Personal Information

FNF may collect the following categories of Personal Information:

- contact information (*e.g.*, name, address, phone number, email address);
- demographic information (*e.g.*, date of birth, gender, marital status);
- identity information (*e.g.* Social Security Number, driver's license, passport, or other government ID number);
- financial account information (*e.g.* loan or bank account information); and
- other personal information necessary to provide products or services to you.

We may collect Personal Information about you from:

- information we receive from you or your agent;
- information about your transactions with FNF, our affiliates, or others; and
- information we receive from consumer reporting agencies and/or governmental entities, either directly from these entities or through others.

Collection of Browsing Information

FNF automatically collects the following types of Browsing Information when you access an FNF website, online service, or application (each an "FNF Website") from your Internet browser, computer, and/or device:

- Internet Protocol (IP) address and operating system;
- browser version, language, and type;
- domain name system requests; and
- browsing history on the FNF Website, such as date and time of your visit to the FNF Website and visits to the pages within the FNF Website.

Like most websites, our servers automatically log each visitor to the FNF Website and may collect the Browsing Information described above. We use Browsing Information for system administration, troubleshooting, fraud investigation, and to improve our websites. Browsing Information generally does not reveal anything personal about you, though if you have created a user account for an FNF Website and are logged into that account, the FNF Website may be able to link certain browsing activity to your user account.

Other Online Specifics

Cookies. When you visit an FNF Website, a "cookie" may be sent to your computer. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. Information gathered using cookies helps us improve your user experience. For example, a cookie can help the website load properly or can customize the display page based on your browser type and user preferences. You can choose whether or not to accept cookies by changing your Internet browser settings. Be aware that doing so may impair or limit some functionality of the FNF Website.

Web Beacons. We use web beacons to determine when and how many times a page has been viewed. This information is used to improve our websites.

Do Not Track. Currently our FNF Websites do not respond to "Do Not Track" features enabled through your browser.

Links to Other Sites. FNF Websites may contain links to unaffiliated third-party websites. FNF is not responsible for the privacy practices or content of those websites. We recommend that you read the privacy policy of every website you visit.

Use of Personal Information

FNF uses Personal Information for three main purposes:

- To provide products and services to you or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you about our, our affiliates', and others' products and services, jointly or independently.

When Information Is Disclosed

We may disclose your Personal Information and Browsing Information in the following circumstances:

- to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to nonaffiliated service providers who provide or perform services or functions on our behalf and who agree to use the information only to provide such services or functions;

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Order No. 30052456-997-MAT-ML6

- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to jointly market financial products or services to you;
- to law enforcement or authorities in connection with an investigation, or in response to a subpoena or court order; or
- in the good-faith belief that such disclosure is necessary to comply with legal process or applicable laws, or to protect the rights, property, or safety of FNF, its customers, or the public.

The law does not require your prior authorization and does not allow you to restrict the disclosures described above. Additionally, we may disclose your information to third parties for whom you have given us authorization or consent to make such disclosure. We do not otherwise share your Personal Information or Browsing Information with nonaffiliated third parties, except as required or permitted by law. We may share your Personal Information with affiliates (other companies owned by FNF) to directly market to you. Please see "Choices with Your Information" to learn how to restrict that sharing.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of bankruptcy, reorganization, insolvency, receivership, or an assignment for the benefit of creditors. By submitting Personal Information and/or Browsing Information to FNF, you expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings.

Security of Your Information
We maintain physical, electronic, and procedural safeguards to protect your Personal Information.

Choices With Your Information
If you do not want FNF to share your information among our affiliates to directly market to you, you may send an "opt out" request by email, phone, or physical mail as directed at the end of this Privacy Notice. We do not share your Personal Information with nonaffiliates for their use to direct market to you without your consent.

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you.

For California Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties, except as permitted by California law. For additional information about your California privacy rights, please visit the "California Privacy" link on our website (https://fnf.com/pages/californiaprivacy.aspx) or call (888) 413-1748.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 934-3354 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.
For Oregon Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not disclose information about your creditworthiness to our affiliates and will not disclose your personal information, financial information, credit report, or health information to nonaffiliated third parties to market to you, other than as permitted by Vermont law, unless you authorize us to make those disclosures.

Information From Children
The FNF Websites are not intended or designed to attract persons under the age of eighteen (18).We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian.

International Users
FNF's headquarters is located within the United States. If you reside outside the United States and choose to provide Personal Information or Browsing Information to us, please note that we may transfer that information outside of your country of residence. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection, transfer, and use of such information in accordance with this Privacy Notice.

FNF Website Services for Mortgage Loans
Certain FNF companies provide services to mortgage loan servicers, including hosting websites that collect customer information on behalf of mortgage loan servicers (the "Service Websites"). The Service Websites may contain links to both this Privacy Notice and the mortgage loan servicer or lender's privacy notice. The sections of this Privacy Notice titled When Information is Disclosed, Choices with Your Information, and Accessing and Correcting Information do not apply to the Service Websites. The mortgage loan servicer or lender's privacy notice governs use, disclosure, and access to your Personal Information. FNF does not share Personal Information collected through the Service Websites, except as required or authorized by contract with the mortgage loan servicer or lender, or as required by law or in the good-faith belief that such disclosure is necessary: to comply with a legal process or applicable law, to enforce this Privacy Notice, or to protect the rights, property, or safety of FNF or the public.

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Your Consent To This Privacy Notice; Notice Changes; Use of Comments or Feedback

By submitting Personal Information and/or Browsing Information to FNF, you consent to the collection and use of the information in accordance with this Privacy Notice. We may change this Privacy Notice at any time. The Privacy Notice's effective date will show the last date changes were made. If you provide information to us following any change of the Privacy Notice, that signifies your assent to and acceptance of the changes to the Privacy Notice. We may use comments or feedback that you submit to us in any manner without notice or compensation to you.

Accessing and Correcting Information; Contact Us

If you have questions, would like to correct your Personal Information, or want to opt-out of information sharing for affiliate marketing, send your requests to privacy@fnf.com, by phone to (888) 934-3354, or by mail to:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer

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ATTACHMENT ONE (Revised 05-06-16)

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE POLICY – 1990

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division; and
   f. environmental protection.
   This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;

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c. that result in no loss to You; or
d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.
   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.
8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

- For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 10,000.00
Covered Risk 18:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 19:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 21:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 5,000.00

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13 or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

{Except as provided in Schedule B - Part II,{ t{or T}his policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

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PC ORIGINAL PKG

{PART I

{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.}

PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:}

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:
{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown in the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records. }
7. {Variable exceptions such as taxes, easements, CC&R's, etc. shown here.}

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PC ORIGINAL PKG

ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY – ASSESSMENTS PRIORITY (04-02-15)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

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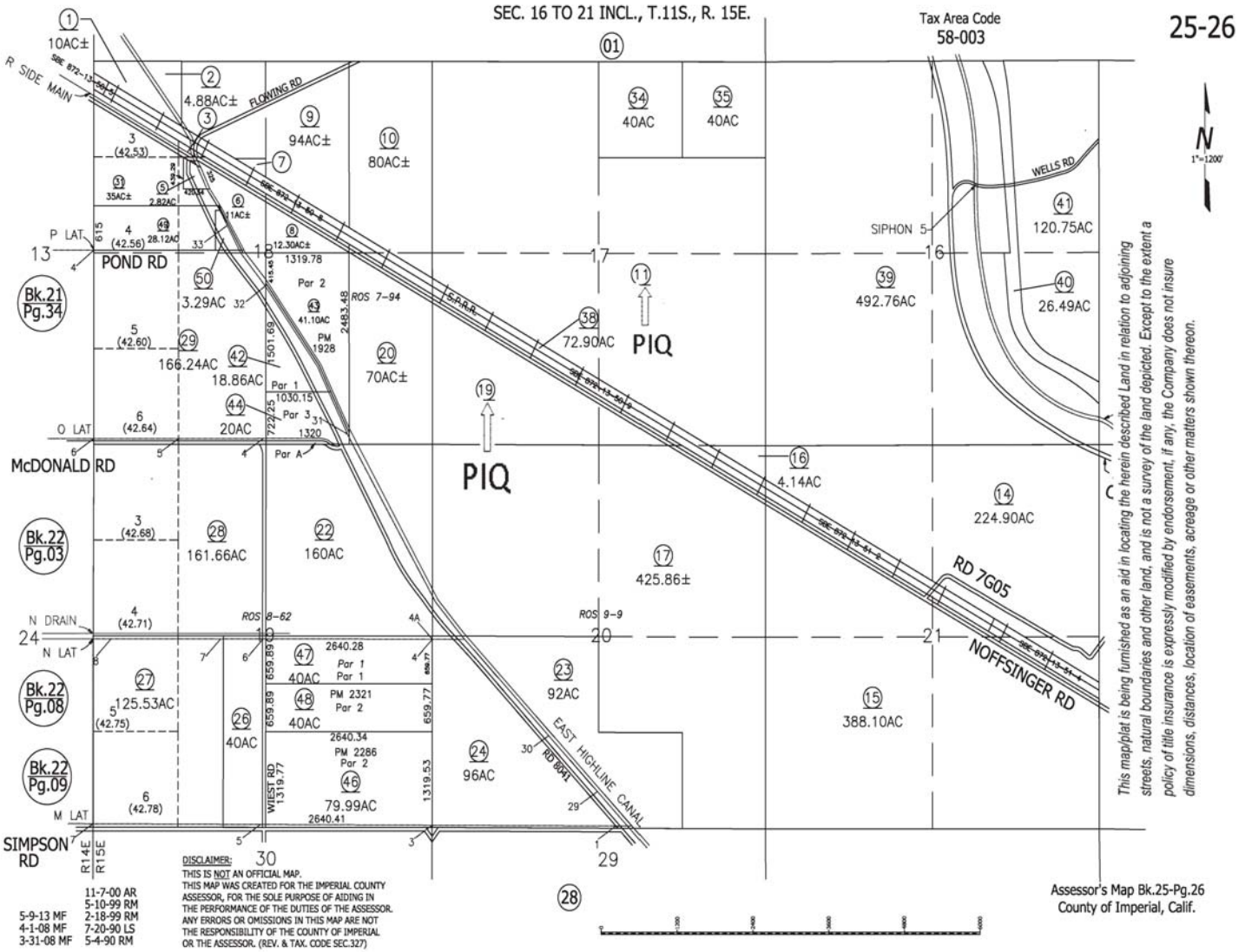

PC ORIGINAL PKG

RECORDING REQUESTED BY
Fidelity National Title Company
WHEN RECORDED MAIL TO:
=addressee=

ORDER NO.: **30052456-997-ML6**

SPACE ABOVE THIS LINE FOR RECORDER'S USE

CERTIFICATION OF TRUST
California Probate Code Section 18100.5

The undersigned declare(s) under penalty of perjury under the laws of the State of California that the following is true and correct:

1. The Trust known as _____, executed on _____, is a valid and existing trust.

2. The name(s) of the settlor(s) of the Trust is (are): _____
_____

3. The name(s) of the currently acting trustee(s) is (are): _____
_____

4. The trustee(s) of the Trust have the following powers (initial applicable line(s)):
_____Power to acquire additional property.
_____Power to sell and execute deeds.
_____Power to encumber, and execute deeds of trust.
_____Other: _____

5. The Trust is (check one): _____ Revocable _____ Irrevocable

The name of the person who may revoke the Trust is: _____

6. The number of trustees who must sign documents in order to exercise the powers of the Trust is (are): _____, whose name(s) is (are): _____

7. Title to Trust assets is to be taken as follows: _____

PC ORIGINAL PKG

8. The Trust has not been revoked, modified or amended in any manner which would cause the representations contained herein to be incorrect.

9. I (we) am (are) all of the currently acting trustees.

10. I (we) understand that I (we) may be required to provide copies of excerpts from the original Trust documents which designate the trustees and confer the power to act in the pending transaction.

Dated: _____

(Acknowledgement must be attached)

PC ORIGINAL PKG

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

PC ORIGINAL PKG

RECORDING REQUESTED BY
Fidelity National Title Company
WHEN RECORDED MAIL TO:
=addressee=

ORDER NO.: **30052456-997-ML6**

SPACE ABOVE THIS LINE FOR RECORDER'S USE

CERTIFICATION OF TRUST
California Probate Code Section 18100.5

The undersigned declare(s) under penalty of perjury under the laws of the State of California that the following is true and correct:

1. The Trust known as _____, executed on _____, is a valid and existing trust.

2. The name(s) of the settlor(s) of the Trust is (are): _____
_____

3. The name(s) of the currently acting trustee(s) is (are): _____
_____

4. The trustee(s) of the Trust have the following powers (initial applicable line(s)):
_____Power to acquire additional property.
_____Power to sell and execute deeds.
_____Power to encumber, and execute deeds of trust.
_____Other: _____

5. The Trust is (check one): _____ Revocable _____ Irrevocable

The name of the person who may revoke the Trust is: _____

6. The number of trustees who must sign documents in order to exercise the powers of the Trust is (are): _____, whose name(s) is (are): _____

7. Title to Trust assets is to be taken as follows: _____

PC ORIGINAL PKG

8. The Trust has not been revoked, modified or amended in any manner which would cause the representations contained herein to be incorrect.

9. I (we) am (are) all of the currently acting trustees.

10. I (we) understand that I (we) may be required to provide copies of excerpts from the original Trust documents which designate the trustees and confer the power to act in the pending transaction.

Dated: _____

(Acknowledgement must be attached)

PC ORIGINAL PKG

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

PC ORIGINAL PKG

OWNER'S DECLARATION

Escrow No.: 30052456-997-MAT-ML6
Property Address: No situs APN 025-260-011 & 025-260-019
Unincorporated County of Imperial, CA

The undersigned hereby declares as follows:

1. (Fill in the applicable paragraph and strike the other)

   a. Declarant ("Owner") is the owner or lessee, as the case may be, of certain premises located at No situs APN 025-260-011 & 025-260-019, Unincorporated County of Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

   b. Declarant is the _____ of _____ ("Owner"), which is the owner or lessee, as the case may be, of certain premises located at No situs APN 025-260-011 & 025-260-019, Unincorporated County of Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

2. (Fill in the applicable paragraph and strike the other)

   a. During the period of six months immediately preceding the date of this declaration no work has been done, no surveys or architectural or engineering plans have been prepared, and no materials have been furnished in connection with the erection, equipment, repair, protection or removal of any building or other structure on the Land or in connection with the improvement of the Land in any manner whatsoever.

   b. During the period of six months immediately preceding the date of this declaration certain work has been done and materials furnished in connection with _____ upon the Land in the approximate total sum of $_____, but no work whatever remains to be done and no materials remain to be furnished to complete the construction in full compliance with the plans and specifications, nor are there any unpaid bills incurred for labor and materials used in making such improvements or repairs upon the Land, or for the services of architects, surveyors or engineers, except as follows: _____. Owner, by the undersigned Declarant, agrees to and does hereby indemnify and hold harmless Fidelity National Title Company against any and all claims arising therefrom.

3. Owner has not previously conveyed the Land; is not a debtor in bankruptcy (and if a partnership, the general partner thereof is not a debtor in bankruptcy); and has not received notice of any pending court action affecting the title to the Land.

4. Except as shown in the above-referenced Preliminary Report/Commitment, there are no unpaid or unsatisfied mortgages, deeds of trust, Uniform Commercial Code financing statements, regular assessments, special assessments, periodic assessments or any assessment from any source, claims of lien, special assessments, or taxes that constitute a lien against the Land or that affect the Land but have not been recorded in the public records. There are no violations of the covenants, conditions and restrictions as shown in the above-referenced Preliminary Report/Commitment.

5. The Land is currently in use as _____; _____ occupy/occupies the Land; and the following are all of the leases or other occupancy rights affecting the Land:

   _____

6. There are no other persons or entities that assert an ownership interest in the Land, nor are there unrecorded easements, claims of easement, or boundary disputes that affect the Land.

7. There are no outstanding options to purchase or rights of first refusal affecting the Land.

PC ORIGINAL PKG

8. Between the most recent Effective Date of the above-referenced Preliminary Report/Commitment and the date of recording of the Insured Instrument(s), Owner has not taken or allowed, and will not take or allow, any action or inaction to encumber or otherwise affect title to the Land.

This declaration is made with the intention that Fidelity National Title Company (the "Company") and its policy issuing agents will rely upon it in issuing their title insurance policies and endorsements. Owner, by the undersigned Declarant, agrees to indemnify the Company against loss or damage (including attorneys fees, expenses, and costs) incurred by the Company as a result of any untrue statement made herein.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on _____ at _____.

Signature: _____

PC ORIGINAL PKG

FIDELITY NATIONAL TITLE GROUP
FNTG Western Region Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Issuing Policies of Fidelity National Title Insurance Company

Title Officer: Mitch LaRiva
Escrow Officer: Major Accounts OAC

Order No.: 997-**30053823**-ML6

TO:

ZGlobal
604 Sutter Street, Suite 250
Folsom, CA 95630

ATTN: **Jamie Nichole Nagel**
YOUR REFERENCE: **025-010-006**

PROPERTY ADDRESS: No Situs APN 025-010-006-000, Imperial, CA

PRELIMINARY REPORT

In response to the application for a policy of title insurance referenced herein, ***Fidelity National Title Company*** *hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a policy or policies of title insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.*

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Attachment One. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Attachment One. Copies of the policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

The policy(s) of title insurance to be issued hereunder will be policy(s) of Fidelity National Title Insurance Company, a Florida Corporation.

Please read the exceptions shown or referred to herein and the exceptions and exclusions set forth in Attachment One of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land.

Countersigned by:

Authorized Signature

PC ORIGINAL PKG

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

PRELIMINARY REPORT

EFFECTIVE DATE: **August 31, 2020 at 7:30 a.m.**

ORDER NO.: 997-30053823-ML6

The form of policy or policies of title insurance contemplated by this report is:

ALTA Standard Owners Policy (6-17-06)

1. THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

   A FEE

2. TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

   MESA WEST RANCH, L.L.C.

3. THE LAND REFERRED TO IN THIS REPORT IS DESCRIBED AS FOLLOWS:

   See Exhibit A attached hereto and made a part hereof.

PC ORIGINAL PKG

EXHIBIT A

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA OF IMPERIAL IN THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

SECTION 9, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN AN UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPT THAT PORTION CONVEYED TO THE UNITED STATES BY DEED RECORDED JULY 24, 1940 IN BOOK 553, PAGE 210 OF OFFICIAL RECORDS.

ALSO EXCEPT THEREFROM THAT PROPERTY TAKEN BY THE UNITED STATES OF AMERICA IN THE DECLARATION OF TAKING DATED APRIL 04, 1979 AND RECORDED MAY 23, 1979 AS INSTRUMENT NO. 32, IN BOOK 1434, PAGE 436 OF OFFICIAL RECORDS.

ALSO EXCEPT 25% OF ALL OIL, MINERALS, GAS, PETROLEUM, OR OTHER HYDROCARBONS WITHIN OR UNDERLYING WHICH MAY BE PRODUCED AND SAVED THEREFROM, BUT WITH NO RIGHT OF SURFACE ENTRY, RESERVED BY LOUIS MEITUS, ET UX., BY DEED RECORDED MARCH 24, 1964 IN BOOK 1180, PAGE 316 OF OFFICIAL RECORDS.

ALSO EXCEPT AN UNDIVIDED 12-1/2% INTEREST TO ALL OF THE SUBSURFACE BELOW 200 FEET, WITHOUT ANY RIGHT, TITLE, OR INTEREST TO THE SURFACE OR SUBSURFACE ABOVE 200 FEET AS THEREIN PROVIDED, CONVEYED TO VERNON NUSSBAUM, ET UX., BY DEED RECORDED SEPTEMBER 01, 1964 IN BOOK 1190, PAGE 762 OF OFFICIAL RECORDS.

ALSO EXCEPT ANY UNDIVIDED 12-1/2% INTEREST TO ALL SUBSURFACE BELOW 200 FEET, WITHOUT ANY RIGHT TO THE SURFACE OR THE SUBSURFACE ABOVE 200 FEET EXCEPT AS THEREIN PROVIDED, CONVEYED TO DONALD CANNON, ET UX., BY DEED RECORDED SEPTEMBER 25, 1964 IN BOOK 1194, PAGE 355 OF OFFICIAL RECORDS.

APN: 025-010-006-000

PC ORIGINAL PKG

EXCEPTIONS

AT THE DATE HEREOF, ITEMS TO BE CONSIDERED AND EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN SAID POLICY FORM WOULD BE AS FOLLOWS:

A. Property taxes, including any personal property taxes and any assessments collected with taxes, are as follows:

Tax Identification No.:	025-010-006-000
Fiscal Year:	2020-2021
1st Installment:	$1,751.76, OPEN (Delinquent after December 10, 2020)
Penalty:	$175.17
2nd Installment:	$1,751.76, OPEN (Delinquent after April 10, 2021)
Penalty and Cost:	$185.17
Homeowners Exemption:	$0.00
Code Area:	058-003

B. Taxes and assessments levied by the Imperial Irrigation District.

C. The lien of supplemental or escaped assessments of property taxes, if any, made pursuant to the provisions of Chapter 3.5 (commencing with Section 75) or Part 2, Chapter 3, Articles 3 and 4, respectively, of the Revenue and Taxation Code of the State of California as a result of the transfer of title to the vestee named in Schedule A or as a result of changes in ownership or new construction occurring prior to Date of Policy.

1. Water rights, claims or title to water, whether or not disclosed by the public records.

2. Easement(s) in favor of the public over any existing roads lying within said Land.

3. Lack of a legal right of access to and from a public street or highway.

4. Rights or claims of easements for canals, drains, laterals, irrigation pipelines, and gates not recorded in the public records.

5. The right, title, or interest which the Imperial Irrigation District may have or claim in and to that portion of the herein described land lying within the bounds of the Coachella Canal and Siphon #6 Canal.

6. The right, title, or interest which the County of Imperial may have or claim in and to those portions of the herein described lands lying within the bounds of Coachella Canal Road and Flowing Wells Road.

7. Serial No. LA 039762, dated February 28, 1921, Imperial Irrigation District affects said Section 9, Township 11 South, Range 15 East, as disclosed by the District Land Office of the Bureau of Land Management.

8. The herein described Land is located in an area frequently subject to Land Conservation Contracts executed pursuant to the Williamson Act (Cal. Govt. Code §§ 51200 et seq.). Land Conservation Contracts restrict the land use to agricultural, recreational, open-space and other compatible uses. If the herein described Land is subject to a Land Conservation Contract, please notify the Title Department.

The Company reserves the right to add additional items and/or make further requirements.

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EXCEPTIONS
(Continued)

9. Easement(s) for the purpose(s) shown below and rights incidental thereto as reserved in a document;

Reserved by:	Southern Pacific Railroad Company
Purpose:	A right of way of lawful width for any and all County Roads heretofore lawfully established and now in public use
Recording Date:	April 01, 1923
Recording No:	Book 30, Page 235 of Deeds
Affects:	A portion of said land as more particularly described in said document

10. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Southern Sierras Power Company
Purpose:	Power line 50 feet in width
Recording Date:	July 19, 1930
Recording No:	Book 283, Page 9 of Official Records
Affects:	A portion of said land as more particularly described in said document

11. Any existing rights of way in favor of the public or third parties for highways, roads, telegraph, telephone, and electrical transmission lines, and canals, laterals, ditches, flumes, siphons, and pipe lines on, over, and across said land as disclosed in deed recorded July 24, 1940 in Book 553, Page 210 of Official Records.

12. Covenants, conditions and restrictions but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, gender, gender identity, gender expression, sexual orientation, marital status, national origin, ancestry, familial status, source of income, disability, veteran or military status, genetic information, medical condition, citizenship, primary language, and immigration status, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document

Recording Date:	September 01, 1964
Recording No:	Book 1190, Page 762 of Official Records

13. Covenants, conditions and restrictions but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, gender, gender identity, gender expression, sexual orientation, marital status, national origin, ancestry, familial status, source of income, disability, veteran or military status, genetic information, medical condition, citizenship, primary language, and immigration status, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document

Recording Date:	September 25, 1964
Recording No:	Book 1194, Page 355 of Official Records

14. Please be advised that our search did not disclose any open Deeds of Trust of record. If you should have knowledge of any outstanding obligation, please contact the Title Department immediately for further review prior to closing.

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EXCEPTIONS
(Continued)

15. Any rights of the parties in possession of a portion of, or all of, said Land, which rights are not disclosed by the public records.

    The Company will require, for review, a full and complete copy of any unrecorded agreement, contract, license and/or lease, together with all supplements, assignments and amendments thereto, before issuing any policy of title insurance without excepting this item from coverage.

    The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

16. Any easements not disclosed by the public records as to matters affecting title to real property, whether or not said easements are visible and apparent.

17. Matters which may be disclosed by an inspection and/or by a correct ALTA/NSPS Land Title Survey of said Land that is satisfactory to the Company, and/or by inquiry of the parties in possession thereof.

PLEASE REFER TO THE "INFORMATIONAL NOTES" AND "REQUIREMENTS" SECTIONS WHICH FOLLOW FOR INFORMATION NECESSARY TO COMPLETE THIS TRANSACTION.

END OF EXCEPTIONS

PC ORIGINAL PKG

REQUIREMENTS SECTION

1. The Company will require the following documents for review prior to the issuance of any title insurance predicated upon a conveyance or encumbrance from the entity named below:

   Limited Liability Company: Mesa West Ranch, L.L.C.

   a) A copy of its operating agreement, if any, and all amendments, supplements and/or modifications thereto, certified by the appropriate manager or member.

   b) If a domestic Limited Liability Company, a copy of its Articles of Organization and all amendments thereto with the appropriate filing stamps.

   c) If the Limited Liability Company is member-managed, a full and complete current list of members certified by the appropriate manager or member.

   d) A current dated certificate of good standing from the proper governmental authority of the state in which the entity is currently domiciled.

   e) If less than all members, or managers, as appropriate, will be executing the closing documents, furnish evidence of the authority of those signing.

   f) If Limited Liability Company is a Single Member Entity, a Statement of Information for the Single Member will be required.

   g) Each member and manager of the LLC without an Operating Agreement must execute in the presence of a notary public the Certificate of California LLC (Without an Operating Agreement) Status and Authority form.

2. Unrecorded matters which may be disclosed by an Owner's Affidavit or Declaration. A form of the Owner's Affidavit/Declaration is attached to this Preliminary Report/Commitment. This Affidavit/Declaration is to be completed by the record owner of the land and submitted for review prior to the closing of this transaction. Your prompt attention to this requirement will help avoid delays in the closing of this transaction. Thank you.

   The Company reserves the right to add additional items or make further requirements after review of the requested Affidavit/Declaration.

END OF REQUIREMENTS

PC ORIGINAL PKG

INFORMATIONAL NOTES SECTION

1. None of the items shown in this report will cause the Company to decline to attach CLTA Endorsement Form 100 to an Extended Coverage Loan Policy, when issued.

2. The policy of title insurance will include an arbitration provision. The Company or the insured may demand arbitration. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. Please ask your escrow or title officer for a sample copy of the policy to be issued if you wish to review the arbitration provisions and any other provisions pertaining to your Title Insurance coverage.

3. Notice: Please be aware that due to the conflict between federal and state laws concerning the cultivation, distribution, manufacture or sale of marijuana, the Company is not able to close or insure any transaction involving Land that is associated with these activities.

4. Pursuant to Government Code Section 27388.1, as amended and effective as of 1-1-2018, a Documentary Transfer Tax (DTT) Affidavit may be required to be completed and submitted with each document when DTT is being paid or when an exemption is being claimed from paying the tax. If a governmental agency is a party to the document, the form will not be required. DTT Affidavits may be available at a Tax Assessor-County Clerk-Recorder.

5. There are NO conveyances affecting said Land recorded within 24 months of the date of this report.

END OF INFORMATIONAL NOTES

Mitch LaRiva/ah1

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Wire Fraud Alert

This Notice is not intended to provide legal or professional advice. If you have any questions, please consult with a lawyer.

All parties to a real estate transaction are targets for wire fraud and many have lost hundreds of thousands of dollars because they simply relied on the wire instructions received via email, without further verification. **If funds are to be wired in conjunction with this real estate transaction, we strongly recommend verbal verification of wire instructions through a known, trusted phone number prior to sending funds.**

In addition, the following non-exclusive self-protection strategies are recommended to minimize exposure to possible wire fraud.

- **NEVER RELY** on emails purporting to change wire instructions. Parties to a transaction rarely change wire instructions in the course of a transaction.
- **ALWAYS VERIFY** wire instructions, specifically the ABA routing number and account number, by calling the party who sent the instructions to you. DO NOT use the phone number provided in the email containing the instructions, use phone numbers you have called before or can otherwise verify. **Obtain the phone number of relevant parties to the transaction as soon as an escrow account is opened**. DO NOT send an email to verify as the email address may be incorrect or the email may be intercepted by the fraudster.
- **USE COMPLEX EMAIL PASSWORDS** that employ a combination of mixed case, numbers, and symbols. Make your passwords greater than eight (8) characters. Also, change your password often and do NOT reuse the same password for other online accounts.
- **USE MULTI-FACTOR AUTHENTICATION** for email accounts. Your email provider or IT staff may have specific instructions on how to implement this feature.

For more information on wire-fraud scams or to report an incident, please refer to the following links:

Federal Bureau of Investigation:
http://www.fbi.gov

Internet Crime Complaint Center:
http://www.ic3.gov

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FIDELITY NATIONAL TITLE GROUP
FNTG Western Region
Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Notice of Available Discounts

Pursuant to Section 2355.3 in Title 10 of the California Code of Regulations Fidelity National Financial, Inc. and its subsidiaries ("FNF") must deliver a notice of each discount available under our current rate filing along with the delivery of escrow instructions, a preliminary report or commitment. Please be aware that the provision of this notice does not constitute a waiver of the consumer's right to be charged the filed rate. As such, your transaction may not qualify for the below discounts.

You are encouraged to discuss the applicability of one or more of the below discounts with a Company representative. These discounts are generally described below; consult the rate manual for a full description of the terms, conditions and requirements for such discount. These discounts only apply to transactions involving services rendered by the FNF Family of Companies. This notice only applies to transactions involving property improved with a one-to-four family residential dwelling.

Not all discounts are offered by every FNF Company. The discount will only be applicable to the FNF Company as indicated by the named discount.

FNF Underwritten Title Company

CTC – Chicago Title company
CLTC – Commonwealth Land Title Company
FNTC – Fidelity National Title Company of California
FNTCCA - Fidelity National Title Company of California
TICOR – Ticor Title Company of California
LTC – Lawyer's Title Company
SLTC – ServiceLink Title Company

Underwritten by FNF Underwriters

CTIC – Chicago Title Insurance Company
CLTIC - Commonwealth Land Title Insurance Company
FNTIC – Fidelity National Title Insurance Company
FNTIC - Fidelity National Title Insurance Company
CTIC – Chicago Title Insurance Company
CLTIC – Commonwealth Land Title Insurance Company
CTIC – Chicago Title Insurance Company

Available Discounts

DISASTER LOANS (CTIC, CLTIC, FNTIC)

The charge for a Lender's Policy (Standard or Extended coverage) covering the financing or refinancing by an owner of record, within twenty-four (24) months of the date of a declaration of a disaster area by the government of the United States or the State of California on any land located in said area, which was partially or totally destroyed in the disaster, will be fifty percent (50%) of the appropriate title insurance rate.

CHURCHES OR CHARITABLE NON-PROFIT ORGANIZATIONS (CTIC, FNTIC)

On properties used as a church or for charitable purposes within the scope of the normal activities of such entities, provided said charge is normally the church's obligation the charge for an owner's policy shall be fifty percent (50%) to seventy percent (70%) of the appropriate title insurance rate, depending on the type of coverage selected. The charge for a lender's policy shall be forty (40%) to fifty percent (50%) of the appropriate title insurance rate, depending on the type of coverage selected.

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FIDELITY NATIONAL FINANCIAL, INC.
PRIVACY NOTICE

Effective April 9, 2020

Fidelity National Financial, Inc. and its majority-owned subsidiary companies (collectively, "FNF," "our," or "we") respect and are committed to protecting your privacy. This Privacy Notice explains how we collect, use, and protect personal information, when and to whom we disclose such information, and the choices you have about the use and disclosure of that information.

A limited number of FNF subsidiaries have their own privacy notices. If a subsidiary has its own privacy notice, the privacy notice will be available on the subsidiary's website and this Privacy Notice does not apply.

Collection of Personal Information

FNF may collect the following categories of Personal Information:

- contact information (*e.g.*, name, address, phone number, email address);
- demographic information (*e.g.*, date of birth, gender, marital status);
- identity information (*e.g.* Social Security Number, driver's license, passport, or other government ID number);
- financial account information (*e.g.* loan or bank account information); and
- other personal information necessary to provide products or services to you.

We may collect Personal Information about you from:

- information we receive from you or your agent;
- information about your transactions with FNF, our affiliates, or others; and
- information we receive from consumer reporting agencies and/or governmental entities, either directly from these entities or through others.

Collection of Browsing Information

FNF automatically collects the following types of Browsing Information when you access an FNF website, online service, or application (each an "FNF Website") from your Internet browser, computer, and/or device:

- Internet Protocol (IP) address and operating system;
- browser version, language, and type;
- domain name system requests; and
- browsing history on the FNF Website, such as date and time of your visit to the FNF Website and visits to the pages within the FNF Website.

Like most websites, our servers automatically log each visitor to the FNF Website and may collect the Browsing Information described above. We use Browsing Information for system administration, troubleshooting, fraud investigation, and to improve our websites. Browsing Information generally does not reveal anything personal about you, though if you have created a user account for an FNF Website and are logged into that account, the FNF Website may be able to link certain browsing activity to your user account.

Other Online Specifics

Cookies. When you visit an FNF Website, a "cookie" may be sent to your computer. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. Information gathered using cookies helps us improve your user experience. For example, a cookie can help the website load properly or can customize the display page based on your browser type and user preferences. You can choose whether or not to accept cookies by changing your Internet browser settings. Be aware that doing so may impair or limit some functionality of the FNF Website.

Web Beacons. We use web beacons to determine when and how many times a page has been viewed. This information is used to improve our websites.

Do Not Track. Currently our FNF Websites do not respond to "Do Not Track" features enabled through your browser.

Links to Other Sites. FNF Websites may contain links to unaffiliated third-party websites. FNF is not responsible for the privacy practices or content of those websites. We recommend that you read the privacy policy of every website you visit.

Use of Personal Information

FNF uses Personal Information for three main purposes:

- To provide products and services to you or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you about our, our affiliates', and others' products and services, jointly or independently.

When Information Is Disclosed

We may disclose your Personal Information and Browsing Information in the following circumstances:

- to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to nonaffiliated service providers who provide or perform services or functions on our behalf and who agree to use the information only to provide such services or functions;

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- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to jointly market financial products or services to you;
- to law enforcement or authorities in connection with an investigation, or in response to a subpoena or court order; or
- in the good-faith belief that such disclosure is necessary to comply with legal process or applicable laws, or to protect the rights, property, or safety of FNF, its customers, or the public.

The law does not require your prior authorization and does not allow you to restrict the disclosures described above. Additionally, we may disclose your information to third parties for whom you have given us authorization or consent to make such disclosure. We do not otherwise share your Personal Information or Browsing Information with nonaffiliated third parties, except as required or permitted by law. We may share your Personal Information with affiliates (other companies owned by FNF) to directly market to you. Please see "Choices with Your Information" to learn how to restrict that sharing.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of bankruptcy, reorganization, insolvency, receivership, or an assignment for the benefit of creditors. By submitting Personal Information and/or Browsing Information to FNF, you expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings.

Security of Your Information
We maintain physical, electronic, and procedural safeguards to protect your Personal Information.

Choices With Your Information
If you do not want FNF to share your information among our affiliates to directly market to you, you may send an "opt out" request by email, phone, or physical mail as directed at the end of this Privacy Notice. We do not share your Personal Information with nonaffiliates for their use to direct market to you without your consent.

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you.

For California Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties, except as permitted by California law. For additional information about your California privacy rights, please visit the "California Privacy" link on our website (https://fnf.com/pages/californiaprivacy.aspx) or call (888) 413-1748.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 934-3354 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.
For Oregon Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not disclose information about your creditworthiness to our affiliates and will not disclose your personal information, financial information, credit report, or health information to nonaffiliated third parties to market to you, other than as permitted by Vermont law, unless you authorize us to make those disclosures.

Information From Children
The FNF Websites are not intended or designed to attract persons under the age of eighteen (18).We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian.

International Users
FNF's headquarters is located within the United States. If you reside outside the United States and choose to provide Personal Information or Browsing Information to us, please note that we may transfer that information outside of your country of residence. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection, transfer, and use of such information in accordance with this Privacy Notice.

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Certain FNF companies provide services to mortgage loan servicers, including hosting websites that collect customer information on behalf of mortgage loan servicers (the "Service Websites"). The Service Websites may contain links to both this Privacy Notice and the mortgage loan servicer or lender's privacy notice. The sections of this Privacy Notice titled When Information is Disclosed, Choices with Your Information, and Accessing and Correcting Information do not apply to the Service Websites. The mortgage loan servicer or lender's privacy notice governs use, disclosure, and access to your Personal Information. FNF does not share Personal Information collected through the Service Websites, except as required or authorized by contract with the mortgage loan servicer or lender, or as required by law or in the good-faith belief that such disclosure is necessary: to comply with a legal process or applicable law, to enforce this Privacy Notice, or to protect the rights, property, or safety of FNF or the public.

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Accessing and Correcting Information; Contact Us

If you have questions, would like to correct your Personal Information, or want to opt-out of information sharing for affiliate marketing, send your requests to privacy@fnf.com, by phone to (888) 934-3354, or by mail to:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer

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ATTACHMENT ONE (Revised 05-06-16)

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE POLICY – 1990

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division; and
   f. environmental protection.
   This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;

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c. that result in no loss to You; or
d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.
   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.
8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

- For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 10,000.00
Covered Risk 18:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 19:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 21:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 5,000.00

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13 or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

{Except as provided in Schedule B - Part II,{ t{or T}his policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

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{PART I

{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.}

PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:}

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:
{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown in the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records. }
7. {Variable exceptions such as taxes, easements, CC&R's, etc. shown here.}

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ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY – ASSESSMENTS PRIORITY (04-02-15)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

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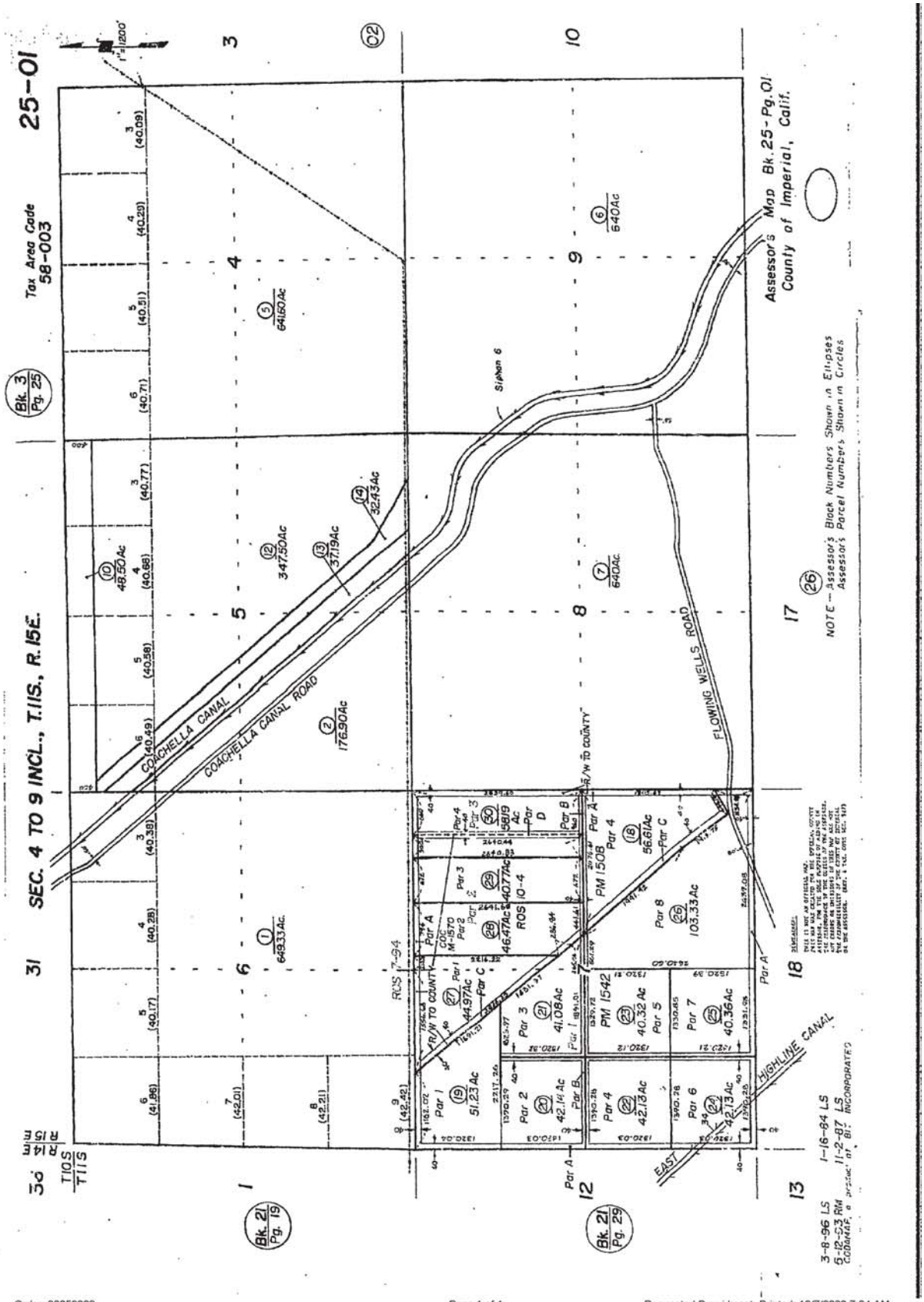

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OWNER'S DECLARATION

Escrow No.: 30053823-997-MAT-ML6
Property Address: No Situs APN 025-010-006-000
Imperial, CA

The undersigned hereby declares as follows:

1. (Fill in the applicable paragraph and strike the other)

   a. Declarant ("Owner") is the owner or lessee, as the case may be, of certain premises located at No Situs APN 025-010-006-000, Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

   b. Declarant is the _____ of _____ ("Owner"), which is the owner or lessee, as the case may be, of certain premises located at No Situs APN 025-010-006-000, Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

2. (Fill in the applicable paragraph and strike the other)

   a. During the period of six months immediately preceding the date of this declaration no work has been done, no surveys or architectural or engineering plans have been prepared, and no materials have been furnished in connection with the erection, equipment, repair, protection or removal of any building or other structure on the Land or in connection with the improvement of the Land in any manner whatsoever.

   b. During the period of six months immediately preceding the date of this declaration certain work has been done and materials furnished in connection with _____ upon the Land in the approximate total sum of $_____, but no work whatever remains to be done and no materials remain to be furnished to complete the construction in full compliance with the plans and specifications, nor are there any unpaid bills incurred for labor and materials used in making such improvements or repairs upon the Land, or for the services of architects, surveyors or engineers, except as follows: _____. Owner, by the undersigned Declarant, agrees to and does hereby indemnify and hold harmless Fidelity National Title Company against any and all claims arising therefrom.

3. Owner has not previously conveyed the Land; is not a debtor in bankruptcy (and if a partnership, the general partner thereof is not a debtor in bankruptcy); and has not received notice of any pending court action affecting the title to the Land.

4. Except as shown in the above-referenced Preliminary Report/Commitment, there are no unpaid or unsatisfied mortgages, deeds of trust, Uniform Commercial Code financing statements, regular assessments, special assessments, periodic assessments or any assessment from any source, claims of lien, special assessments, or taxes that constitute a lien against the Land or that affect the Land but have not been recorded in the public records. There are no violations of the covenants, conditions and restrictions as shown in the above-referenced Preliminary Report/Commitment.

5. The Land is currently in use as _____; _____ occupy/occupies the Land; and the following are all of the leases or other occupancy rights affecting the Land:

   _____

6. There are no other persons or entities that assert an ownership interest in the Land, nor are there unrecorded easements, claims of easement, or boundary disputes that affect the Land.

7. There are no outstanding options to purchase or rights of first refusal affecting the Land.

8. Between the most recent Effective Date of the above-referenced Preliminary Report/Commitment and the date of recording of the Insured Instrument(s), Owner has not taken or allowed, and will not take or allow, any action or inaction to encumber or otherwise affect title to the Land.

This declaration is made with the intention that Fidelity National Title Company (the "Company") and its policy issuing agents will rely upon it in issuing their title insurance policies and endorsements. Owner, by the undersigned Declarant, agrees to indemnify the Company against loss or damage (including attorneys fees, expenses, and costs) incurred by the Company as a result of any untrue statement made herein.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on _____ at _____.

Signature: _____

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FIDELITY NATIONAL TITLE GROUP
FNTG Western Region Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Issuing Policies of Fidelity National Title Insurance Company

Title Officer: Mitch LaRiva
Escrow Officer: Major Accounts OAC

Order No.: 997-**30053937**-ML6

TO:

ZGlobal
604 Sutter Street, Suite 250
Folsom, CA 95630

ATTN: **Jamie Nichole Nagel**
YOUR REFERENCE: **025-270-023**

PROPERTY ADDRESS: **No situs APN 025-270-023, Unincorporated County of Imperial, CA**

PRELIMINARY REPORT

In response to the application for a policy of title insurance referenced herein, ***Fidelity National Title Company*** *hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a policy or policies of title insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.*

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Attachment One. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Attachment One. Copies of the policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

The policy(s) of title insurance to be issued hereunder will be policy(s) of Fidelity National Title Insurance Company, a Florida Corporation.

Please read the exceptions shown or referred to herein and the exceptions and exclusions set forth in Attachment One of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land.

Countersigned by:

Authorized Signature

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FIDELITY NATIONAL TITLE GROUP
FNTG Western Region Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

PRELIMINARY REPORT

EFFECTIVE DATE: **August 31, 2020 at 7:30 a.m.**

ORDER NO.: 997-30053937-ML6

The form of policy or policies of title insurance contemplated by this report is:

ALTA Standard Owners Policy (6-17-06)

1. THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

   A FEE

2. TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

   ERNEST LO and TRACI LO as Trustees of the Ernest & Traci Lo Living Trust 1999, dated October 11, 1999, as to an undivided 40% interest; LI TONG WANG and SUCHU CHOU WANG, Co-Trustees or their successor trustees, under The Wang Family Trust, dated June 21, 2001, and any amendments thereto, as to an undivided 30% interest and TIEN-SHIH LIN, a married man, as to an undivided 30% interest, subject to Item No. 7 of Schedule "B"

3. THE LAND REFERRED TO IN THIS REPORT IS DESCRIBED AS FOLLOWS:

   See Exhibit A attached hereto and made a part hereof.

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EXHIBIT A

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA OF IMPERIAL, IN THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

ALL OF SECTION 15, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE U.S.A. BY DEED RECORDED AUGUST 11, 1978 IN BOOK 1420, PAGE 912 OF OFFICIAL RECORDS.

APN: 025-270-023

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EXCEPTIONS

AT THE DATE HEREOF, ITEMS TO BE CONSIDERED AND EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN SAID POLICY FORM WOULD BE AS FOLLOWS:

A. Property taxes, including any personal property taxes and any assessments collected with taxes, are as follows:

Tax Identification No.:	025-270-023-000
Fiscal Year:	2020-2021
1st Installment:	$290.65, OPEN (Delinquent after December 10)
Penalty:	$29.06
2nd Installment:	$290.65, OPEN (Delinquent after April 10)
Penalty and Cost:	$39.06
Homeowners Exemption:	$0.00
Code Area:	058-003

B. The lien of supplemental or escaped assessments of property taxes, if any, made pursuant to the provisions of Chapter 3.5 (commencing with Section 75) or Part 2, Chapter 3, Articles 3 and 4, respectively, of the Revenue and Taxation Code of the State of California as a result of the transfer of title to the vestee named in Schedule A or as a result of changes in ownership or new construction occurring prior to Date of Policy.

1. Water rights, claims or title to water, whether or not disclosed by the public records.

2. Easement(s) in favor of the public over any existing roads lying within said Land.

3. Lack of a legal right of access to and from a public street or highway.

4. The right, title, or interest, which the Imperial Irrigation District may have or claim in and to that portion of the herein described land lying within the bounds of:

   The Coachella Canal

5. The right, title, or interest, which the Imperial Irrigation District may have or claim in and to that portion of the herein described land lying within the bounds of:

   County Road No. 7G01

6. Rights or claims of easements for canals, drains, laterals, irrigation pipelines and gates not recorded in the public records.

7. The community interest of the spouse of the vestee named below.

   Vestee: Tien-Shih Lin

   The Company will require that the spouse of the vestee shown above join in any conveyance or encumbrance before such transaction will be insured.

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EXCEPTIONS
(Continued)

8. Any invalidity or defect in the title of the vestees in the event that the trust referred to herein is invalid or fails to grant sufficient powers to the trustee(s) or in the event there is a lack of compliance with the terms and provisions of the trust instrument.

   If title is to be insured in the trustee(s) of a trust, (or if their act is to be insured), this Company will require a Trust Certification pursuant to California Probate Code Section 18100.5.

   The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

9. Please be advised that our search did not disclose any open Deeds of Trust of record. If you should have knowledge of any outstanding obligation, please contact the Title Department immediately for further review prior to closing.

10. Any rights of the parties in possession of a portion of, or all of, said Land, which rights are not disclosed by the public records.

    The Company will require, for review, a full and complete copy of any unrecorded agreement, contract, license and/or lease, together with all supplements, assignments and amendments thereto, before issuing any policy of title insurance without excepting this item from coverage.

    The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

11. Any easements not disclosed by the public records as to matters affecting title to real property, whether or not said easements are visible and apparent.

12. Matters which may be disclosed by an inspection and/or by a correct ALTA/NSPS Land Title Survey of said Land that is satisfactory to the Company, and/or by inquiry of the parties in possession thereof.

PLEASE REFER TO THE "INFORMATIONAL NOTES" AND "REQUIREMENTS" SECTIONS WHICH FOLLOW FOR INFORMATION NECESSARY TO COMPLETE THIS TRANSACTION.

END OF EXCEPTIONS

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REQUIREMENTS SECTION

1. Prior to the close of escrow, the Company requires a Statement of Information to be completed by the following party(s),

   Party(s): All Parties

   The Company reserves the right to add additional items or make further requirements after review of the requested Statement of Information.

2. The Company will require either (a) a complete copy of the trust agreement and any amendments thereto certified by the trustee(s) to be a true and complete copy with respect to the hereinafter named trust, or (b) a Certification, pursuant to California Probate Code Section 18100.5, executed by all of the current trustee(s) of the hereinafter named trust, a form of which is attached.

   Name of Trust: Ernest and Traci Lo Living Trust 1999, dated 10-11-1999

3. The Company will require either (a) a complete copy of the trust agreement and any amendments thereto certified by the trustee(s) to be a true and complete copy with respect to the hereinafter named trust, or (b) a Certification, pursuant to California Probate Code Section 18100.5, executed by all of the current trustee(s) of the hereinafter named trust, a form of which is attached.

   Name of Trust: Li Tong Wang & Suchu Chou Wang, Co-Trustees under the Wang Family Trust, dated June 21, 2001

4. Unrecorded matters which may be disclosed by an Owner's Affidavit or Declaration. A form of the Owner's Affidavit/Declaration is attached to this Preliminary Report/Commitment. This Affidavit/Declaration is to be completed by the record owner of the land and submitted for review prior to the closing of this transaction. Your prompt attention to this requirement will help avoid delays in the closing of this transaction. Thank you.

   The Company reserves the right to add additional items or make further requirements after review of the requested Affidavit/Declaration.

END OF REQUIREMENTS

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INFORMATIONAL NOTES SECTION

1. Note: The policy of title insurance will include an arbitration provision. The Company or the insured may demand arbitration. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. Please ask your escrow or title officer for a sample copy of the policy to be issued if you wish to review the arbitration provisions and any other provisions pertaining to your Title Insurance coverage.

2. Notice: Please be aware that due to the conflict between federal and state laws concerning the cultivation, distribution, manufacture or sale of marijuana, the Company is not able to close or insure any transaction involving Land that is associated with these activities.

3. Pursuant to Government Code Section 27388.1, as amended and effective as of 1-1-2018, a Documentary Transfer Tax (DTT) Affidavit may be required to be completed and submitted with each document when DTT is being paid or when an exemption is being claimed from paying the tax. If a governmental agency is a party to the document, the form will not be required. DTT Affidavits may be available at a Tax Assessor-County Clerk-Recorder.

4. Note: There are NO conveyances affecting said Land recorded within 24 months of the date of this report.

END OF INFORMATIONAL NOTES

Mitch LaRiva/ng

PC ORIGINAL PKG

Wire Fraud Alert

This Notice is not intended to provide legal or professional advice. If you have any questions, please consult with a lawyer.

All parties to a real estate transaction are targets for wire fraud and many have lost hundreds of thousands of dollars because they simply relied on the wire instructions received via email, without further verification. **If funds are to be wired in conjunction with this real estate transaction, we strongly recommend verbal verification of wire instructions through a known, trusted phone number prior to sending funds.**

In addition, the following non-exclusive self-protection strategies are recommended to minimize exposure to possible wire fraud.

- **NEVER RELY** on emails purporting to change wire instructions. Parties to a transaction rarely change wire instructions in the course of a transaction.
- **ALWAYS VERIFY** wire instructions, specifically the ABA routing number and account number, by calling the party who sent the instructions to you. DO NOT use the phone number provided in the email containing the instructions, use phone numbers you have called before or can otherwise verify. **Obtain the phone number of relevant parties to the transaction as soon as an escrow account is opened**. DO NOT send an email to verify as the email address may be incorrect or the email may be intercepted by the fraudster.
- **USE COMPLEX EMAIL PASSWORDS** that employ a combination of mixed case, numbers, and symbols. Make your passwords greater than eight (8) characters. Also, change your password often and do NOT reuse the same password for other online accounts.
- **USE MULTI-FACTOR AUTHENTICATION** for email accounts. Your email provider or IT staff may have specific instructions on how to implement this feature.

For more information on wire-fraud scams or to report an incident, please refer to the following links:

Federal Bureau of Investigation:
http://www.fbi.gov

Internet Crime Complaint Center:
http://www.ic3.gov

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FIDELITY NATIONAL TITLE GROUP
FNTG Western Region
Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Notice of Available Discounts

Pursuant to Section 2355.3 in Title 10 of the California Code of Regulations Fidelity National Financial, Inc. and its subsidiaries ("FNF") must deliver a notice of each discount available under our current rate filing along with the delivery of escrow instructions, a preliminary report or commitment. Please be aware that the provision of this notice does not constitute a waiver of the consumer's right to be charged the filed rate. As such, your transaction may not qualify for the below discounts.

You are encouraged to discuss the applicability of one or more of the below discounts with a Company representative. These discounts are generally described below; consult the rate manual for a full description of the terms, conditions and requirements for such discount. These discounts only apply to transactions involving services rendered by the FNF Family of Companies. This notice only applies to transactions involving property improved with a one-to-four family residential dwelling.

Not all discounts are offered by every FNF Company. The discount will only be applicable to the FNF Company as indicated by the named discount.

FNF Underwritten Title Company

CTC – Chicago Title company
CLTC – Commonwealth Land Title Company
FNTC – Fidelity National Title Company of California
FNTCCA - Fidelity National Title Company of California
TICOR – Ticor Title Company of California
LTC – Lawyer's Title Company
SLTC – ServiceLink Title Company

Underwritten by FNF Underwriters

CTIC – Chicago Title Insurance Company
CLTIC - Commonwealth Land Title Insurance Company
FNTIC – Fidelity National Title Insurance Company
FNTIC - Fidelity National Title Insurance Company
CTIC – Chicago Title Insurance Company
CLTIC – Commonwealth Land Title Insurance Company
CTIC – Chicago Title Insurance Company

Available Discounts

DISASTER LOANS (CTIC, CLTIC, FNTIC)

The charge for a Lender's Policy (Standard or Extended coverage) covering the financing or refinancing by an owner of record, within twenty-four (24) months of the date of a declaration of a disaster area by the government of the United States or the State of California on any land located in said area, which was partially or totally destroyed in the disaster, will be fifty percent (50%) of the appropriate title insurance rate.

CHURCHES OR CHARITABLE NON-PROFIT ORGANIZATIONS (CTIC, FNTIC)

On properties used as a church or for charitable purposes within the scope of the normal activities of such entities, provided said charge is normally the church's obligation the charge for an owner's policy shall be fifty percent (50%) to seventy percent (70%) of the appropriate title insurance rate, depending on the type of coverage selected. The charge for a lender's policy shall be forty (40%) to fifty percent (50%) of the appropriate title insurance rate, depending on the type of coverage selected.

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FIDELITY NATIONAL FINANCIAL, INC.
PRIVACY NOTICE

Effective April 9, 2020

Fidelity National Financial, Inc. and its majority-owned subsidiary companies (collectively, "FNF," "our," or "we") respect and are committed to protecting your privacy. This Privacy Notice explains how we collect, use, and protect personal information, when and to whom we disclose such information, and the choices you have about the use and disclosure of that information.

A limited number of FNF subsidiaries have their own privacy notices. If a subsidiary has its own privacy notice, the privacy notice will be available on the subsidiary's website and this Privacy Notice does not apply.

Collection of Personal Information

FNF may collect the following categories of Personal Information:

- contact information (*e.g.*, name, address, phone number, email address);
- demographic information (*e.g.*, date of birth, gender, marital status);
- identity information (*e.g.* Social Security Number, driver's license, passport, or other government ID number);
- financial account information (*e.g.* loan or bank account information); and
- other personal information necessary to provide products or services to you.

We may collect Personal Information about you from:

- information we receive from you or your agent;
- information about your transactions with FNF, our affiliates, or others; and
- information we receive from consumer reporting agencies and/or governmental entities, either directly from these entities or through others.

Collection of Browsing Information

FNF automatically collects the following types of Browsing Information when you access an FNF website, online service, or application (each an "FNF Website") from your Internet browser, computer, and/or device:

- Internet Protocol (IP) address and operating system;
- browser version, language, and type;
- domain name system requests; and
- browsing history on the FNF Website, such as date and time of your visit to the FNF Website and visits to the pages within the FNF Website.

Like most websites, our servers automatically log each visitor to the FNF Website and may collect the Browsing Information described above. We use Browsing Information for system administration, troubleshooting, fraud investigation, and to improve our websites. Browsing Information generally does not reveal anything personal about you, though if you have created a user account for an FNF Website and are logged into that account, the FNF Website may be able to link certain browsing activity to your user account.

Other Online Specifics

Cookies. When you visit an FNF Website, a "cookie" may be sent to your computer. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. Information gathered using cookies helps us improve your user experience. For example, a cookie can help the website load properly or can customize the display page based on your browser type and user preferences. You can choose whether or not to accept cookies by changing your Internet browser settings. Be aware that doing so may impair or limit some functionality of the FNF Website.

Web Beacons. We use web beacons to determine when and how many times a page has been viewed. This information is used to improve our websites.

Do Not Track. Currently our FNF Websites do not respond to "Do Not Track" features enabled through your browser.

Links to Other Sites. FNF Websites may contain links to unaffiliated third-party websites. FNF is not responsible for the privacy practices or content of those websites. We recommend that you read the privacy policy of every website you visit.

Use of Personal Information

FNF uses Personal Information for three main purposes:

- To provide products and services to you or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you about our, our affiliates', and others' products and services, jointly or independently.

When Information Is Disclosed

We may disclose your Personal Information and Browsing Information in the following circumstances:

- to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to nonaffiliated service providers who provide or perform services or functions on our behalf and who agree to use the information only to provide such services or functions;

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- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to jointly market financial products or services to you;
- to law enforcement or authorities in connection with an investigation, or in response to a subpoena or court order; or
- in the good-faith belief that such disclosure is necessary to comply with legal process or applicable laws, or to protect the rights, property, or safety of FNF, its customers, or the public.

The law does not require your prior authorization and does not allow you to restrict the disclosures described above. Additionally, we may disclose your information to third parties for whom you have given us authorization or consent to make such disclosure. We do not otherwise share your Personal Information or Browsing Information with nonaffiliated third parties, except as required or permitted by law. We may share your Personal Information with affiliates (other companies owned by FNF) to directly market to you. Please see "Choices with Your Information" to learn how to restrict that sharing.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of bankruptcy, reorganization, insolvency, receivership, or an assignment for the benefit of creditors. By submitting Personal Information and/or Browsing Information to FNF, you expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings.

Security of Your Information
We maintain physical, electronic, and procedural safeguards to protect your Personal Information.

Choices With Your Information
If you do not want FNF to share your information among our affiliates to directly market to you, you may send an "opt out" request by email, phone, or physical mail as directed at the end of this Privacy Notice. We do not share your Personal Information with nonaffiliates for their use to direct market to you without your consent.

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you.

For California Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties, except as permitted by California law. For additional information about your California privacy rights, please visit the "California Privacy" link on our website (https://fnf.com/pages/californiaprivacy.aspx) or call (888) 413-1748.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 934-3354 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.
For Oregon Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not disclose information about your creditworthiness to our affiliates and will not disclose your personal information, financial information, credit report, or health information to nonaffiliated third parties to market to you, other than as permitted by Vermont law, unless you authorize us to make those disclosures.

Information From Children
The FNF Websites are not intended or designed to attract persons under the age of eighteen (18).We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian.

International Users
FNF's headquarters is located within the United States. If you reside outside the United States and choose to provide Personal Information or Browsing Information to us, please note that we may transfer that information outside of your country of residence. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection, transfer, and use of such information in accordance with this Privacy Notice.

FNF Website Services for Mortgage Loans
Certain FNF companies provide services to mortgage loan servicers, including hosting websites that collect customer information on behalf of mortgage loan servicers (the "Service Websites"). The Service Websites may contain links to both this Privacy Notice and the mortgage loan servicer or lender's privacy notice. The sections of this Privacy Notice titled When Information is Disclosed, Choices with Your Information, and Accessing and Correcting Information do not apply to the Service Websites. The mortgage loan servicer or lender's privacy notice governs use, disclosure, and access to your Personal Information. FNF does not share Personal Information collected through the Service Websites, except as required or authorized by contract with the mortgage loan servicer or lender, or as required by law or in the good-faith belief that such disclosure is necessary: to comply with a legal process or applicable law, to enforce this Privacy Notice, or to protect the rights, property, or safety of FNF or the public.

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Your Consent To This Privacy Notice; Notice Changes; Use of Comments or Feedback

By submitting Personal Information and/or Browsing Information to FNF, you consent to the collection and use of the information in accordance with this Privacy Notice. We may change this Privacy Notice at any time. The Privacy Notice's effective date will show the last date changes were made. If you provide information to us following any change of the Privacy Notice, that signifies your assent to and acceptance of the changes to the Privacy Notice. We may use comments or feedback that you submit to us in any manner without notice or compensation to you.

Accessing and Correcting Information; Contact Us

If you have questions, would like to correct your Personal Information, or want to opt-out of information sharing for affiliate marketing, send your requests to privacy@fnf.com, by phone to (888) 934-3354, or by mail to:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer

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ATTACHMENT ONE (Revised 05-06-16)

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE POLICY – 1990

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division; and
   f. environmental protection.
   This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;

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c. that result in no loss to You; or
d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.
   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.
8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

- For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 10,000.00
Covered Risk 18:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 19:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 21:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 5,000.00

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13 or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

{Except as provided in Schedule B - Part II,{ t{or T}his policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

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{PART I

{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.}

PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:}

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:
{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown in the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records. }
7. {Variable exceptions such as taxes, easements, CC&R's, etc. shown here.}

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ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY – ASSESSMENTS PRIORITY (04-02-15)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

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This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.

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Fidelity National Title Company
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CERTIFICATION OF TRUST
California Probate Code Section 18100.5

The undersigned declare(s) under penalty of perjury under the laws of the State of California that the following is true and correct:

1. The Trust known as _____, executed on _____, is a valid and existing trust.

2. The name(s) of the settlor(s) of the Trust is (are): _____
_____

3. The name(s) of the currently acting trustee(s) is (are): _____
_____

4. The trustee(s) of the Trust have the following powers (initial applicable line(s)):
_____Power to acquire additional property.
_____Power to sell and execute deeds.
_____Power to encumber, and execute deeds of trust.
_____Other: _____

5. The Trust is (check one): _____ Revocable _____ Irrevocable

   The name of the person who may revoke the Trust is: _____

6. The number of trustees who must sign documents in order to exercise the powers of the Trust is (are): _____, whose name(s) is (are): _____

7. Title to Trust assets is to be taken as follows: _____

8. The Trust has not been revoked, modified or amended in any manner which would cause the representations contained herein to be incorrect.

9. I (we) am (are) all of the currently acting trustees.

10. I (we) understand that I (we) may be required to provide copies of excerpts from the original Trust documents which designate the trustees and confer the power to act in the pending transaction.

Dated: _____

PC ORIGINAL PKG

(Acknowledgement must be attached)

PC ORIGINAL PKG

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

PC ORIGINAL PKG

RECORDING REQUESTED BY
Fidelity National Title Company
WHEN RECORDED MAIL TO:
=addressee=

ORDER NO.: **30053937-997-ML6**

SPACE ABOVE THIS LINE FOR RECORDER'S USE

CERTIFICATION OF TRUST
California Probate Code Section 18100.5

The undersigned declare(s) under penalty of perjury under the laws of the State of California that the following is true and correct:

1. The Trust known as _____, executed on _____, is a valid and existing trust.

2. The name(s) of the settlor(s) of the Trust is (are): _____
_____

3. The name(s) of the currently acting trustee(s) is (are): _____
_____

4. The trustee(s) of the Trust have the following powers (initial applicable line(s)):
_____Power to acquire additional property.
_____Power to sell and execute deeds.
_____Power to encumber, and execute deeds of trust.
_____Other: _____

5. The Trust is (check one): _____ Revocable _____ Irrevocable

   The name of the person who may revoke the Trust is: _____

6. The number of trustees who must sign documents in order to exercise the powers of the Trust is (are): _____, whose name(s) is (are): _____

7. Title to Trust assets is to be taken as follows: _____

8. The Trust has not been revoked, modified or amended in any manner which would cause the representations contained herein to be incorrect.

9. I (we) am (are) all of the currently acting trustees.

10. I (we) understand that I (we) may be required to provide copies of excerpts from the original Trust documents which designate the trustees and confer the power to act in the pending transaction.

Dated: _____

PC ORIGINAL PKG

(Acknowledgement must be attached)

PC ORIGINAL PKG

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

PC ORIGINAL PKG

OWNER'S DECLARATION

Escrow No.: 30053937-997-MAT-ML6
Property Address: No situs APN 025-270-023
Unincorporated County of Imperial, CA

The undersigned hereby declares as follows:

1. (Fill in the applicable paragraph and strike the other)

   a. Declarant ("Owner") is the owner or lessee, as the case may be, of certain premises located at No situs APN 025-270-023, Unincorporated County of Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

   b. Declarant is the _____ of _____ ("Owner"), which is the owner or lessee, as the case may be, of certain premises located at No situs APN 025-270-023, Unincorporated County of Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

2. (Fill in the applicable paragraph and strike the other)

   a. During the period of six months immediately preceding the date of this declaration no work has been done, no surveys or architectural or engineering plans have been prepared, and no materials have been furnished in connection with the erection, equipment, repair, protection or removal of any building or other structure on the Land or in connection with the improvement of the Land in any manner whatsoever.

   b. During the period of six months immediately preceding the date of this declaration certain work has been done and materials furnished in connection with _____ upon the Land in the approximate total sum of $_____, but no work whatever remains to be done and no materials remain to be furnished to complete the construction in full compliance with the plans and specifications, nor are there any unpaid bills incurred for labor and materials used in making such improvements or repairs upon the Land, or for the services of architects, surveyors or engineers, except as follows: _____. Owner, by the undersigned Declarant, agrees to and does hereby indemnify and hold harmless Fidelity National Title Company against any and all claims arising therefrom.

3. Owner has not previously conveyed the Land; is not a debtor in bankruptcy (and if a partnership, the general partner thereof is not a debtor in bankruptcy); and has not received notice of any pending court action affecting the title to the Land.

4. Except as shown in the above-referenced Preliminary Report/Commitment, there are no unpaid or unsatisfied mortgages, deeds of trust, Uniform Commercial Code financing statements, regular assessments, special assessments, periodic assessments or any assessment from any source, claims of lien, special assessments, or taxes that constitute a lien against the Land or that affect the Land but have not been recorded in the public records. There are no violations of the covenants, conditions and restrictions as shown in the above-referenced Preliminary Report/Commitment.

5. The Land is currently in use as _____; _____ occupy/occupies the Land; and the following are all of the leases or other occupancy rights affecting the Land:

   _____

6. There are no other persons or entities that assert an ownership interest in the Land, nor are there unrecorded easements, claims of easement, or boundary disputes that affect the Land.

7. There are no outstanding options to purchase or rights of first refusal affecting the Land.

8. Between the most recent Effective Date of the above-referenced Preliminary Report/Commitment and the date of recording of the Insured Instrument(s), Owner has not taken or allowed, and will not take or allow, any action or inaction to encumber or otherwise affect title to the Land.

This declaration is made with the intention that Fidelity National Title Company (the "Company") and its policy issuing agents will rely upon it in issuing their title insurance policies and endorsements. Owner, by the undersigned Declarant, agrees to indemnify the Company against loss or damage (including attorneys fees, expenses, and costs) incurred by the Company as a result of any untrue statement made herein.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on _____ at _____.

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Signature: _____

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APPENDIX K

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GS Lyon

Steven K. Williams, CEG
Senior Engineering Geologist

Education
M.S. Geology
University of Utah, 1993
B.S. Geology
University of Utah, 1989

Registration
Registered Geologist
Arizona 3759
California 6975
Certified Engineering Geologist
California 2261

Professional Experience

2000 – Present	Project Geologist GS Lyon Consultants, Inc.
1994 - 2000	Staff Geologist GS Lyon Consultants, Inc.
1994	Field Geologist Bureau of Land Management
1991 - 1992	Exploration Geologist Kennecott Corporation

Summary of Experience
Mr. Williams has performed geotechnical investigations in southern California and southwestern Arizona. His field experience includes logging of soil borings and exploratory trenches, collection and documentation of soil samples, collection of field geotechnical data, and monitoring pile driving operations. Mr. Williams is also responsible for preparing computer generated data and figures, drafting and subsequent writing of geotechnical reports for a variety of projects including road improvements, fault studies, liquefaction potential evaluation, foundation preparation, seepage studies, structural distress, and soil investigations. He has performed geotechnical, geologic, and environmental studies for a wide variety of projects including correctional facilities, water and wastewater facilities, schools, residential subdivisions, commercial developments, and landfills throughout southern California and southwestern Arizona.

Mr. Williams also performs Phase I Environmental Site Assessments throughout the Imperial and Coachella Valleys. The scope of work for these projects typically include a site reconnaissance, review of government records pertaining to previous site uses, and preparation of a report identifying potential environmental risks.

He also conducts investigations for the potential of asbestos-containing materials and lead-based paint in old building projects and potential for soil contamination by hydrocarbons, pesticides, and other hazardous materials.

Professional Affiliations
Geological Society of America, Member

Selected Project Experience
- **El Centro Seniors Apartments, El Centro, CA**

Performed Phase I and Phase II environmental site assessments for apartment complex at old school district office site with underground storage tanks.
- **Central Main Canal Seepage Study, Imperial, CA**

Conducted 6-month groundwater seepage study for Imperial Irrigation District to evaluate high groundwater levels in Sandalwood Glen Subdivision
- **Gateway to the Americas, Calexico, CA**

Conducted Phase I ESA, geologic hazards study and geotechnical investigation including liquefaction evaluation for 1,700 acre development associated with new Port of Entry east of Calexico
- **El Centro Magistrate Court, El Centro, CA**

Conducted geotechnical investigation and Phase I ESA for new Federal Magistrate Court building at site with soft soil conditions requiring foundation settlement analysis
- **El Centro Regional Medical Center, El Centro, CA**

Conducted Phase I ESA and geotechnical investigation for 50,000 sf, 2-story addition to the medical center's emergency room, operating rooms, and recovery rooms.
- **Brawley Union High School, Brawley, CA**

Conducted Phase II investigation for PCB and lead contamination of surficial soil and hydrocarbon contamination of subsurface soil of a property proposed for purchase.
- **EW Corporation Site, Westmorland, CA**

Conducted Phase II investigation for hydrocarbon contamination of subsurface soil of a service station site with leaking underground storage tanks prior to property purchase
- **Various Apartment Complexes, Imperial County, CA**

Conducted Phase I environmental investigation at numerous proposed apartment complex site within the Imperial Valley
- **Oasis Elementary School, Mecca, CA**

Conducted PEA environmental investigation for the new Oasis Elementary School prior to construction of school

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Phase I ESA Report

Vega 5 (Te Dana and SW Clark) Solar Site
NEC Schrimpf Road and Wiest Road
Niland, California

Prepared for:

Apex Energy Solutions, LLC
750 Main Street
El Centro, CA 92243

Prepared by:

GS Lyon Consultants, Inc.
780 N. 4th Street
El Centro, CA 92243
(760) 337-1100

December 2020

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GSL Lyon

Engineering And
Information Technology

December 18, 2020

Mr. Ziad Alaynon
Apex Energy Solutions, LLC
750 Main Street
El Centro, CA 92243

Phase I Environmental Site Assessment Report
Vega 5 (Te Dana and SW Clark) Solar Site
NEC Schrimpf and Wiest Roads
Niland, California
GSL Report No. GS2016

Dear Mr. Alaynon:

We have performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM E1527-13 of the approximately 240-acre property located at the northeast corner of Schrimpf Road and Wiest Road approximately 4.5 miles southeast of Niland, California. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report. **This assessment has revealed the following "de minimis" condition in connection with the property:**

- Pesticide residues (low concentrations) typical to agricultural crop applications may be present in the near surface soils in the agricultural field in the southwestern portion of the subject property.

This assessment has not revealed any recognized environmental conditions (REC's) in connection with the property.

We declare that, to the best of our professional knowledge and belief, we meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR §312 and we have the specific qualifications based on education, training and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

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Attached is our report which describes the procedures used and results of the assessment. If you have any questions or require additional information, please do not hesitate to contact the undersigned at (760) 337-1100. We appreciate the opportunity to provide our professional review for this subject property.

Respectfully Submitted,
GS Lyon Consultants, Inc.

Jeffrey O. Lyon, PE
Principal Engineer

Steven K. Williams, PG, CEG
Consulting Geologist

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Appendix C: Historical Aerial Photographs
Appendix D: Historical Topographic Maps
Appendix E: EDR Environmental Records Search Report
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Appendix G: Preliminary Title Report
Appendix H: User Questionnaire and EDR Environmental Lien and AUL Search
Appendix I: Resumes of Environmental Professionals

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1.0 INTRODUCTION

1.1 Purpose

GS Lyon Consultants, Inc. was retained by Apex Energy Solutions, LLC to conduct a Phase I Environmental Site Assessment (ESA) for the Property (herein referred to as the subject property or subject property in this Phase I ESA Report) as a prerequisite to property transaction (purchase, sale, refinance, etc.). The subject property is located at the northeast corner of Schrimpf Road and Wiest Road approximately 4.5 miles southeast of Niland, California. See Plate 1 in Appendix B for a Vicinity Map of the subject property.

The purpose of this Phase I Environmental Site Assessment (ESA) is to identify, to the extent feasible, recognized environmental conditions (RECs) associated with past and present activities on the subject property or in the immediate subject property vicinity in general conformance to ASTM Standard E1527-13 "*Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*" that may affect future uses of the subject property.

This report is intended to satisfy the Phase I ESA portion of "*all appropriate inquiry*" into the previous ownership and uses of the subject property as defined under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) at Title 42 of the United States Code (U.S.C.) §9601(35)(B) and in accordance with 40 Code of Federal Regulations (CFR) Part 312, Standards and Practices for All Appropriate Inquiries; Final Rule (AAI Rule).

1.2 Scope of Services

The scope of work for this ESA is in general accordance with the requirements of ASTM Standard E1527-13. This assessment included:

- Reconnaissance of the subject property and adjacent properties
- Review user-provided information
- Interviews with persons with significant knowledge of the subject property
- Review of a regulatory database report provided by a third-party vendor
- Review readily-available historical sources (including but not limited to: aerial photographs, fire insurance maps, property tax files, recorded land title records, and topographical maps)
- Prepare report of findings

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1.3 Limitations

No Phase I ESA can completely eliminate uncertainty regarding the potential for RECs in connection with a property. Conformance of this assessment with ASTM Standard E1527-13 is intended to reduce, but not eliminate uncertainty regarding the potential for RECs in connection with the Subject Property. While GS Lyon has made reasonable effort to discover and interpret available historical and current information on the property within the time available, the possibility of undiscovered contamination remains. Our assessment of the subject property and surrounding areas was conducted in accordance with ASTM guidelines and the *generally accepted environmental engineering standard of practice* which existed in Imperial County, California at the time that the report was prepared. No warranty, express or implied, is made.

GS Lyon Consultants, Inc. derived the data in this report primarily from visual inspections, examination of public records and information in the public domain, informal interviews with individuals, and readily available information about the subject property. The passage of time, manifestation of latent conditions or occurrence of future events may require further exploration of the subject property, analysis of the data, and reevaluation of the findings, observations, and conclusions expressed in this report.

The findings, observations, and conclusions expressed by GS Lyon Consultants in this report are not, and should not be considered, an opinion concerning the compliance of any past or present owner or operator of the subject property with any federal, state or local law or regulation.

This report should not be relied upon after **180 days** from the date of issuance, unless additional services are performed as defined in ASTM E1527-13 - Section 4.7.

1.4 Deviations or Data Gaps

ASTM Standard E1527-13 requires any significant data gaps, deviations, and deletions from the ASTM Standard to be identified and addressed in the Phase I ESA. A significant data gap would be one that affected the ability to identify a REC on the subject property or adjacent properties.

Through the course of this assessment, *data failures* or *data gaps* may have been encountered. These failures or gaps, if any, are discussed below. The following provides the opinion of the Environmental Professional as to the significance of the data gaps in terms of defining *recognized environmental conditions* at the subject property. Data failures may or may not be significant data gaps, and the discussion also provides information pertaining to whether the data failures resulted in significant data gaps.

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1.4.1 Data Failures

Data failure is a failure to achieve the historical (property use) research objectives specified in the ASTM Standard Practice even after reviewing the eight standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

No *data failures w*ere encountered during this investigation.

1.4.2 Data Gaps

A *data gap* is a lack of or inability to obtain information required by the ASTM Standard Practice, despite good faith efforts by the Environmental Professional (EP) to gather such information. This could include any component of the Practice, e.g., standard environmental records, interviews, or a complete reconnaissance. A data gap by itself is not inherently significant, but if other information and/or the EP's experience raises reasonable concerns about the gap, it may be judged to be significant.

Due to the location of the subject property, Sanborn Fire Insurance maps were not available for the subject property. Because there is no historical data or physical indications that the property has ever been developed or occupied by a business that would have produced hazardous materials, the lack of Sanborn Fire Insurance maps is not considered a significant data gap.

Aerial photographs and other historical records were not available at 5 year intervals as required under the ASTM E1527-13 standard. This resulted in a data gap for years that records were not available regarding the area of the subject property. However, based upon other historical information reviewed, the subject property has been agricultural fields along the west of the East Highline (EHL) Canal and vacant desert land to the east of the East Highline Canal. Therefore, this data gap is not considered to be significant.

Interviews with past owners, operators and occupants were not reasonably ascertainable and thus constitute a data gap. Based on information obtained from other historical sources (as discussed in Section 3.0), this data gap is not expected to alter the findings of this assessment.

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1.5 Significant Assumptions

In preparing this report, GS Lyon Consultants, Inc. has relied upon and presumed accurate certain information (or the absence thereof) about the subject property and adjacent properties by governmental officials and agencies, the Client, and others identified herein. Except as otherwise stated in the report, GS Lyon Consultants has not attempted to verify the accuracy or completeness of any such information.

1.6 User Reliance

This report has been prepared on behalf of and for the exclusive use of Apex Energy Solutions, LLC for the particular subject property identified in this report, and is subject to and issued in connection with the referenced Agreement and the provisions thereof. This report should not be relied upon by any party other than the client, its legal counsel, and financial institution without the express permission of GS Lyon Consultants, Inc. Any reliance on this report by other parties shall be at such party's sole risk. Any future consultation or provision of services to third parties related to the subject property requires written authorization from Apex Energy Solutions, LLC or their representatives. Any such services may be provided at GS Lyon Consultants sole discretion and under terms and conditions acceptable to GS Lyon Consultants, including potential additional compensation.

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2.0 SITE DESCRIPTION

2.1 Site Location and Legal Description

The approximately 240-acre subject property (APNs 025-260-019 and 025-260-022) is located at the northeast corner of Schrimpf Road and Wiest Road approximately 4.5 miles southeast of Niland, California. The subject property location is depicted on Plate 1, Site Map.

2.2 Current Property Use and Description

The subject property currently consists of two distinct parcels: a fallow agricultural field located along the west side of the East Highline (EHL) Canal and vacant desert land located on the east side of the EHL Canal. Descriptions of the two parcels are provided below.

Agricultural Area: The parcel west of the EHL consists of a fallow agricultural field. Scattered dry crop residue and weeds cover the site. The field is bounded on the north by McDonald Road and the south by Schrimpf Road. Wiest Road forms the western boundary. The EHL earthen canal banks are approximately 6 to 20 feet higher in elevation than the agricultural land west of the canal. The EHL Canal is aligned diagonally in a northwest-southeast direction. Citrus orchards are located to the south and north sides of the subject site. The "O" and "N" Lateral irrigation canals are located parallel to the north and south sides, respectively, of the agricultural field.

Subsurface tile drainage pipelines exist within the farm field. The tile lines are generally aliened north-south and are spaced at 100 feet on center, with some closer spaced lines along east side of the field. The tile lines carry irrigation wastewater to the N Drain at the southwest corner of the field.

Desert Area: The desert area consist of two triangular areas located east of the EHL Canal. The Union Pacific Railroad (UPRR) tracks form the eastern boundary of the desert area. Dry wash beds cross the desert area in a northeast to southwest direction. Flash flooding can occur in the desert wash that fans out across the subject parcel. Desert vegetation is scattered throughout the site. High voltage powerlines (230-kV) form the western boundary of the northern triangle parcel and the eastern boundary of the southern triangle parcel. Noffsinger Road, an unpaved road that parallels the railroad tracks, forms the northeastern boundary of the desert area.

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2.3 Adjoining Property Use

The subject property is located at the boundary between the cultivated portion and the desert margins of the Imperial Valley southeast of Niland, California. Adjacent properties consist of agricultural fields and citrus orchards west of the EHL Canal and vacant desert lands east of the EHL Canal.

2.4 Physical Site Characteristics

Topography: Topographic maps (USGS 7.5 minute Iris, CA Quadrangle) indicate that the subject property elevation is approximately 65 feet below to 16 feet above mean sea level (MSL) or Elevation 935 to 1015 (local datum). The Imperial Irrigation District, which supplies power and raw (irrigation) water to the area, established local datum by equating mean sea level to El. 1000.00 feet.

Geologic Setting: The subject property is located in the Colorado Desert Physiographic province of southern California. The dominant feature of the Colorado Desert province is the Salton Trough, a geologic structural depression resulting from large-scale regional faulting. The trough is bounded on the northeast by the San Andreas Fault and the southwest by faults of the San Jacinto Fault Zone. The Salton Trough represents northward extension of the Gulf of California, which has experienced continual in-filling with both marine and non-marine sediments since the Miocene Epoch (25 million years before present). The tectonic activity that formed the trough continues at a high rate as evidenced by deformed young sedimentary deposits and high levels of historic seismicity.

The subject property is directly underlain by Holocene (0-11,000 years before present) Cahuilla Lake sediments, which consist of interbedded lenticular and tabular sand, silt, and clay. The predominant surface soil is silty clay. The Holocene lake deposits are considered to be less than 100 feet thick and are characterized by surficial clay and silt deposits with varying amounts of fine sand. The topography of the Imperial Valley is relatively flat, with few significant land features. The valley floor slopes gently to the north (less than 0.5 percent) from an elevation of sea level at Calexico to approximately 225 feet below sea level at the Salton Sea.

Soil Conditions: The U. S. Soil Conservation Service compiled a map of surface soil conditions and published a soil survey report including maps in 1980. The soil survey maps indicate that surficial deposits at the subject property and surrounding area consist predominantly of sandy loams of the Meloland, Niland, Rositas, and Vint-Indio soil groups (see Appendix B).

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These loams are formed in sediment and alluvium of mixed origin (Colorado River overflows, fresh-water lake-bed sediments, and alluvial fan deposits). Based on Unified Soil Classification System presented in the Soils Survey Report, the permeability of these soils is expected to be low to moderate.

Groundwater Conditions: The groundwater in the agricultural portion of the subject property is brackish and is encountered at a depth of 2.5 to 12 feet below the ground surface. The groundwater is shallowest along the unlined EHL Canal due to seepage.

Groundwater levels may fluctuate with precipitation, EHL Canal water elevation, irrigation of adjacent properties, site watering, drainage, and site grading. Based on the regional topography, groundwater flow is assumed to be generally towards the southwest within the subject property area. Flow directions may also vary locally in the vicinity of the subject property.

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3.0 USER PROVIDED INFORMATION

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *Brownfields Amendments*), the *User* must provide the following information (if available) to the *environmental professional*. Failure to provide this information could result in a determination that *all appropriate inquiry* is not complete. The user was asked to provide information or knowledge of the following:

- Environmental cleanup liens that are filed or recorded against the subject property.
- Activity and land use limitations that are in place on the subject property or that have been filed or recorded in a registry.
- Specialized knowledge or experience of the person seeking to qualify for the LLPs.
- Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.
- Commonly known or *reasonably ascertainable* information about the *property*.
- The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.
- The reason for preparation of this Phase I ESA.

A user questionnaire was provided to the user to aid in gathering information that may be pertinent to the evaluation of the subject property for environmental conditions. The completed user questionnaire is provided in Appendix I.

3.1 Title Records

GS Lyon reviewed preliminary title reports as part of this assessment and did not find past ownership or easements that would indicate environmentally hazardous uses on the parcels.

3.2 Environmental Liens or Activity and Use Limitations

An environmental lien is a charge, security, or encumbrance upon the title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous substances or petroleum products upon the property. According to the User Questionnaire, Ms. Jamie Nagel of Apex Energy Solutions, LLP is not aware of any Environmental Liens or Activity and Use Limitations associated with the subject property that have been filed or recorded under federal, tribal, state or local law (Appendix G). No environmental liens associated with the subject property were noted in the preliminary title report.

3.3 Specialized Knowledge

According to the User Questionnaire, Ms. Nagel is not aware of any specialized knowledge or experience associated with the subject property or nearby properties.

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GS Lyon does not have any personal knowledge of the subject property.

3.4 Commonly Known or Reasonable Ascertainable Information

No information was provided by the Client regarding any commonly known or reasonably ascertainable information within the local community that is material to RECs in connection with the subject property.

3.5 Valuation Reduction for Environmental Issues

The client indicated that the purchase price of this property reasonably reflects the fair market value of the property with no discounts for environmental issues.

3.6 Owner, Property Manager, and Occupant Information

The current owner of the subject property APN 025-260-022 is Ms. Dana Te and the property owners of APN 025-260-019 are The Marjorie A. Hoffmeister Gardner Trust, Bay Family Trust, and the Joseph G. Clark Revocable Trust.

The subject property is currently undeveloped desert land and fallow agricultural land. No property manager or occupant information is available.

3.7 Previous Reports and Other Provided Documentation

No previous reports or other pertinent documentation was provided to GS Lyon for review during the course of this assessment.

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4.0 RECORDS REVIEW

A review of historic aerial photographs (Appendix C), historic topographic maps (Appendix D), governmental regulatory databases (Appendix E), other regulatory and agency databases (Appendix F), and historic telephone and city directories was performed to evaluate potentially adverse environmental conditions resulting from previous ownership and uses of the subject property. The details of the review are presented in Sections 4.1 through 4.5 of this report.

4.1 Regulatory Database Review

4.1.1 Standard Environmental Record Sources

GS Lyon Consultants contracted Environmental Data Resources, Inc. (EDR) of Shelton, Connecticut which queries and maintains comprehensive environmental databases and historical information, including proprietary databases, aerial photography, topographic maps, Sanborn Maps, and city directories to generate a compilation of Federal, State and Tribal regulatory lists containing information regarding hazardous materials occurrences on or within the prescribed radii of ASTM E1527-13. The search of each database was conducted using the approximate minimum search distances from the subject property defined by the ASTM E1527-13 Standard. The purpose of the records review is to obtain and review *reasonably ascertainable* records that will help identify *recognized environmental conditions* or *historical recognized environmental conditions* in connection with the subject property.

EDR‘s Phase I ESA search package was ordered and performed on August 28, 2020. The search package included: Radius Map with Geocheck, aerial photographs, and historic topographic maps.

The results of EDR’s search were used to evaluate if the subject property and/or properties within prescribed search distances are listed as having a past or present record of actual or potential environmental impact. Inclusion of a property in a government database list does not necessarily indicate that the property has an environmental problem.

The following is a brief synopsis of sites identified in the EDR Radius Map with Geocheck report. The government record search report is included in its entirety in Appendix D.

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Federal NPL List

The Environmental Protection Agency's (EPA) National Priorities List (NPL) of uncontrolled or abandoned hazardous waste sites was reviewed for risk sites within a 1 mile radius of the subject property. The NPL identifies sites for priority cleanup and long-term care of properties under the Superfund Program that are contaminated with hazardous substances.

The database search did not identify any NPL sites within 1 mile of the subject property.

Federal CERCLIS List

The EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) listings were reviewed to determine if risks sites within ½ mile are listed for investigation. The CERCLIS database identifies hazardous waste sites that are on or proposed to be included in the NPL and sites that require investigation and possible remedial action to mitigate potential negative impacts on human health or the environment.

The CERCLIS database search did not identify any risk sites within 0.5 mile of the subject property.

Federal CERCLIS – No Further Remedial Action Planned

The EPA's CERCLIS – No Further Remedial Action Planned (NFRAP) database was reviewed to determine if risks sites within ½ mile are listed. CERCLIS NFRAP site are risk sites that have been removed from and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at the subject property has been completed and the EPA has determined that no further steps will be taken to list this subject property on the NPL, unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time.

This designation is for sites where no contamination was found, contamination was quickly removed without the need for the subject property to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

The CERCLIS – NFRAP database search did not identify any risk sites within ½mile of the subject property.

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Federal RCRA List

The Federal Resource Conservation Recovery Act (RCRA) Notifiers List was reviewed to determine if RCRA treatment, storage or disposal sites (TSD) are located within 1 mile of the subject property. The RCRA Correction Action Sites List (CORRACTS) is maintained for risk sites which are undergoing "a corrective action". A corrective action order is issued when there has been a release of hazardous waste constituents into the environment from a RCRA facility.

The RCRA and RCRA CORRACTS database searches did not identify any RCRA TSD or RCRA CORRACTS risk sites within ½ mile of the subject property.

The RCRA regulated hazardous waste generator notifiers list was reviewed to determine if RCRA generator facilities are located on or adjoining the subject property. No RCRA generator facilities within ¼ mile of the subject property were identified in the database.

Federal ERNS List

The Federal Emergency Response Notification System (ERNS) List was reviewed to determine if reported release of oil and/or hazardous substances occurred on the subject property.

The ERNS database searches did not identify any reported releases for the subject property.

State and Tribal NPL List

The Environmental Protection Agency's (EPA) National Priorities List (NPL) of uncontrolled or abandoned hazardous waste sites was reviewed for risk sites within a 1 mile radius of the subject property. The NPL identifies sites for priority cleanup and long-term care of properties under the Superfund Program that are contaminated with hazardous substances.

The database search did not identify any NPL sites within 1 mile of the subject property.

State and Tribal equivalent CERCLIS

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites.

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EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

The EnviroStor database search did not identify and risk sites within 1 mile of the subject property.

State and Tribal Leaking Underground Storage Tank Sites

The California State Water Resources Control Board (SWRCB) maintains a list of information concerning reported leaking underground storage tanks (LUST). The LUST inventory list was reviewed to determine if any LUSTs are located within ½ mile the subject property.

The SWRCB LUST database did not identify any risk sites within ½ mile of the subject property.

State and Tribal Underground and Aboveground Storage Tank Sites

The California State Water Resource Control Board (SWRCB) underground storage tank (UST) and above ground storage tank (AST) inventory list was reviewed to determine if any UAST's are located on or adjacent to the subject property.

The SWRCB UST and AST databases did not identify any risk sites within ¼ mile of the subject property.

Solid Waste Disposal/Landfill Facilities

The Solid Waste Disposal/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data comes from the Integrated Waste Management Board's Solid Waste Information System (SWIS) database.

A review of the SWF/LF list database did not identify any risk sites within ½ mile of the subject property.

Unmapped (Orphan) Sites

Not all sites or facilities identified in the database records can be accurately located in relation to the Subject Property due to incomplete information being supplied to the regulatory agencies and are referred to as "orphan sites" by EDR.

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The "Orphan Summary" section of the EDR Radius Map Report identified several orphan sites. Based on a drive-by reconnaissance of the Subject Property vicinity and review of location and status information provided in the database report, none of the identified orphan sites are located within the search radii for databases specified by the Standard.

No unmapped (orphan) listings were reported.

4.1.2 Additional Environmental Record Sources

California Department of Toxic Substances Control (DTSC) Records – Envirostor Database: EnviroStor is an online search and Geographic Information System tool for identifying sites that have known contamination or sites for which there may be reasons to investigate further. Public Access to EnviroStor is accessible via the DTSC Web Page located at: http://www.envirostor.dtsc.ca.gov/public/. The EnviroStor database includes the following site types: Federal Superfund sites (National Priority List); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. The information includes site name, site type, status, address, any restricted use (recorded deed restrictions), past use(s) that caused contamination, potential contaminants of concern, potential environmental media affected, site history, planned and completed activities. The EnviroStor database also contains current and historical information relating to Permitted and Corrective Action facilities. The EnviroStor database includes current and historical information on the following permit-related documents: facility permits; permit renewal applications; permit modifications to an existing permit; closure of hazardous waste management units (HWMUs) or entire facilities; facility corrective action (investigation and/or cleanup); and/or post-closure permits or other required post-closure activities.

The EnviroStor database was queried on September 10, 2020. A map showing the results of the query is provided in Appendix F. No reported cases were found on the subject property. No risk sites were located within ½ mile of the subject property.

California State Water Resources Control Board Records – GeoTracker Database: GeoTracker is a geographic information system (GIS) maintained by the California State Water Resources Control Board (SWRCB) that provides online access to environmental data at http://www.geotracker.swrcb.ca.gov\. GeoTracker tracks regulatory data about underground fuel tanks, fuel pipelines, and public drinking water supplies. Site information from the Spills, Leaks, Investigations, and Cleanups (SLIC) Program is also included in GeoTracker.

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The GeoTracker database was queried for environmental data pertaining to the Subject property on September 10, 2020. A map showing the results of the query is provided in Appendix F. No reported cases were found on the subject property. No risk sites were located within ½ mile of the subject property.

CUPA Records Search: The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. Cal/EPA and other state agencies set the standards for their programs while local governments implement the standards—these local implementing agencies are called Certified Unified Program Agencies (CUPA).

The DTSC Imperial CUPA office was contacted (Veronica Lopez) by email on September 16, 2020. CUPA records were searched for environmental issues related to the subject property. The DTSC indicated that records are filed per address, and with no known address associated with the subject property, no records were found associated with the subject property.

4.2 Historical Use Records

ASTM E1527-13 requires the environmental professional to identify all obvious uses of the property from the present back to the property's first developed use or 1940, whichever is earliest. This information is collected to identify the likelihood that past uses have led to RECs in connection with the property. This task is accomplished by reviewing standard historical sources to the extent that they are necessary, reasonably ascertainable, and likely to be useful. These standard records include aerial photographs, fire insurance maps, property tax files, land title records, topographic maps, city directories, telephone directories, building department records, and zoning/land use records.

The general type of historical use (i.e., commercial, retail, residential, industrial, undeveloped, office) should be identified at 5-year intervals, unless the specific use of the property appears to be unchanged over a period longer than 5 years. The historical research is complete when the use is defined or when data failure occurs. Data failure occurs when all of the standard historical sources have been reviewed, yet the property use cannot be identified back to its first developed use or to 1940. Data failure is not uncommon in trying to identify the use of the property at 5-year intervals back to first use or 1940, whichever is earlier.

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GS Lyon reviewed the following historical records to identify obvious uses of the subject property from the present back to the property's first developed use, or to 1940, whichever is earlier. The results of this research and data failure, if encountered, are presented in the following sections.

4.2.1 Title Records

GS Lyon reviewed preliminary title reports as part of this assessment and did not find past ownership or easements that would indicate environmentally hazardous uses on the parcels.

4.2.2 Sanborn Fire Insurance Maps

Sanborn Fire Insurance Maps are large scale maps depicting the commercial, industrial, and residential sections of various cities across the United States. Since the primary use of the fire insurance maps was to assess the buildings that were being insured, the existence and location of fuel storage tanks, flammable or other potentially toxic substances, and the nature of businesses are often shown on these maps.

Due to the rural undeveloped nature of the subject property and vicinity for the years the Sanborn Fire Insurance Maps were available for this subject property, no maps are available for the subject property.

4.2.3 Aerial Photographs

Aerial photographs obtained from Environmental Data Resources (EDR) dating back to 1937 and Google Earth aerial photographs dating back to 1996 were reviewed for historical development of the subject property. Reproductions of the historical aerial photographs reviewed are included in Appendix C.

The 1937 aerial photograph shows the subject site as being vacant desert ground. The East Highline Canal crosses diagonally through the western parcel. A dry wash is shown crossing both parcels from a northeast to southwest direction. Adjacent parcels appear to be vacant desert lands. An agricultural field is present to the southwest of the subject site.

The 1940 and 1953 aerial photographs show the subject site as being similar to the 1937 aerial photograph except there are several small structures located adjacent to the west side of the EHL Canal on McDonald Road. The vegetation in the dry was area adjacent to the EHL Canal is thicker. Agricultural fields are located to the west and south of the western parcel.

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The 1976 aerial photograph shows the subject site to the west of the EHL Canal has been cleared of vegetation and the structures in the northeast corner of this parcel have been removed. The parcels east of the EHL Canal are still vacant desert land.

The 1984 aerial photograph shows the subject site as being similar to the 1976 photograph.

The 2004, 2008, and 2012 aerial photographs show the subject site west of the EHL Canal is apparently fallow agricultural land. The parcels east of the EHL Canal are still vacant desert land.

The 1992 and 1996 aerial photographs show the subject site west of the EHL Canal is under cultivation. The parcels east of the EHL Canal are still vacant desert land.

The 2015 aerial photograph shows the northern portion of the subject site west of the EHL Canal is under agricultural cultivation and the southern portion is fallow. The parcels east of the EHL Canal are still vacant desert land.

4.2.4 Street Directories

City directories are used for locating individuals and businesses in a particular urban or suburban area. City directories are generally divided into three sections: a business index, a list of resident names and addresses, the name and type of businesses (if unclear from the name). While city directory coverage is comprehensive for major cities, it may be spotty for rural and small towns.

Polk City Directories: The Polk City Directories for the years 1965 and 1983 were reviewed. No listings for the subject properties were found.

4.2.5 Historic Topographic Maps

Historic topographic maps (1940, 1945, 1947, 1956, 1965, 1976, 1992, 2002, and 2012), USGS 7.5 Min. Iris, CA Quadrangle, showed the subject property the subject property as being predominantly vacant. The 1940, 1945, and 1947 historical topographic maps showed development in the northeast portion of the parcel west of the East Highline Canal (Appendix D).

4.2.6 Historical Telephone Directories

Telephone Directories: Telephone directories for the Imperial County, which included the City of Niland businesses published in 1941, 1955, 1965, 1974, 1994, and 2004 were reviewed.

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No service stations, chemical manufacturers, petroleum manufacturers, distributors, or automotive repair facilities were noted at or in the immediate vicinity of the subject property. No listings for the subject site were found.

4.3 Historical Use Summary

4.3.1 Summary of the Historical Use of Property

Based on a review of the historical information, the western portion of the subject property was first developed in the 1960-70s for agricultural use. The portion of the subject property east of the East Highline Canal has remained vacant desert land.

4.3.2 Summary of the Historical Use of Adjacent Properties

Historically, the properties located immediately adjacent to the subject property have been comprised of agricultural field to the west and south and vacant desert lands to the east and north. Development of the agricultural fields began in the 1930s.

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5.0 SITE RECONNAISSANCE

5.1 Methodology and Limiting Conditions

A site reconnaissance was performed by Mr. Pete LaBrucherie, a consulting engineer to GS Lyon Consultants, on September 29, 2020. The site visit consisted of a walking the perimeter of the subject property and randomly crossing the subject property. The reconnaissance included visual observations of surficial conditions at the subject property and observation of adjoining properties to the extent that they were visible from public areas. Mr. LaBrucherie was unaccompanied during the site reconnaissance.

The site reconnaissance was limited to visual and/or physical observation of the exterior and interior of the subject property and its improvements, the current uses of the property and adjoining properties, and the current condition of the property. The site visit evaluated the subject property and adjoining properties for potential hazardous materials/waste and petroleum product use, storage, disposal, or accidental release, including the following: presence of tank and drum storage; mechanical or electrical equipment likely to contain liquids; evidence of soil or pavement staining or stressed vegetation; ponds, pits, lagoons, or sumps; suspicious odors; fill and depressions; or any other condition indicative of potential contamination. The site visit did not evaluate the presence of asbestos-containing materials, radon, lead-based paint, mold, indoor air quality, or structural defects, or other non-scope items.

A site reconnaissance can be limited by weather conditions, bodies of water, adjacent buildings, or other obstacles. The weather was warm and sunny and no access limitations were placed on the site visit.

5.2 General Site Setting

The subject property currently consists of two distinct parcels: a fallow agricultural field located on the west side of the East Highline (EHL) Canal and vacant desert land located on the east side of the EHL Canal. Descriptions of the two parcels are provided below.

Agricultural Area: The parcel west of the EHL consists of a fallow agricultural field. Scattered dry crop residue and weeds cover the site. The field is bounded on the north by McDonald Road and the south by Schrimpf Road. Wiest Road forms the western boundary. The EHL earthen canal banks are approximately 6 to 20 feet higher in elevation than the agricultural land west of the canal. The EHL Canal is aligned diagonally in a northwest-southeast direction. Citrus orchards are located to the south and north sides of the subject site. The "O" and "N" Lateral irrigation canals are located parallel to the north and south sides, respectively, of the agricultural field.

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Subsurface tile drainage pipelines exist within the farm field. The tile lines are generally aliened north-south and are spaced at 100 feet on center, with some closer spaced lines along east side of the field. The tile lines carry irrigation wastewater to the N Drain at the southwest corner of the field.

Desert Area: The desert area consist of two triangular areas located east of the EHL Canal. The Union Pacific Railroad (UPRR) tracks form the eastern boundary of the desert area. Dry wash beds cross the desert area in a northeast to southwest direction. Desert vegetation is scattered throughout the site. High voltage powerlines (230-kV) parallel the western boundary of the northern triangle parcel and the eastern boundary of the southern triangle parcel. Noffsinger Road, an unpaved road that parallels the railroad tracks, forms the northeastern boundary of the desert area.

Photographs of the subject property taken on September 29, 2020 during our site reconnaissance are included in Appendix A.

5.3 Adjacent Properties

The subject property is located at the boundary between the cultivated portion and the desert margins of the Imperial Valley southeast of Niland, California. Adjacent properties consist of agricultural fields and citrus orchards west of the EHL Canal and vacant desert lands east of the EHL Canal.

5.4 Exterior and Interior Observations

The following conditions were specifically assessed for their potential to indicate RECs and may include conditions inside or outside structures on the subject property.

5.4.1 Hazardous Substances and Petroleum Products

GS Lyon did not observe operations that use, treat, store, dispose of, or generate hazardous materials or petroleum products on the subject property.

5.4.2 Storage Tanks

Underground Storage Tanks (USTs) – No obvious visual evidence indicating the current presence of USTs (i.e. vent pipes, fill ports, etc.) was noted.

Aboveground Storage Tanks (ASTs) – No obvious visual evidence indicating the historical presence of ASTs (i.e. secondary containments, concrete saddles, etc.) was observed.

5.4.3 Odors

No obvious strong, pungent, or noxious odors were noted during the site reconnaissance.

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5.4.4 Pools of Liquid

Pools of liquid were not observed during the site reconnaissance.

5.4.5 Drums and Containers

GS Lyon did not observe drums or storage containers on the subject property.

5.4.6 Unidentified Substance Containers

GS Lyon did not observe open or damaged containers containing unidentified substances at the subject property.

5.4.7 Suspect Polychlorinated Biphenyl (PCB) Containing Equipment

No potential PCB containing equipment such as electrical transformers, capacitors, and hydraulic equipment were observed during the site reconnaissance on the subject property or immediate vicinity.

5.5 Interior Observations

The subject property is currently vacant with no structures; therefore, no interior observations were made.

5.6 Exterior Observations

5.6.1 Pits, Ponds, and Lagoons

No pits, ponds, or lagoons were noted on the subject property.

5.6.2 Stained Soils or Pavement

No evidence of significantly stained soil or pavement was noted on the subject property.

5.6.3 Stressed Vegetation

No evidence of stressed vegetation attributed to potential contamination was noted on the subject property.

5.6.4 Solid Waste

No dumpsters or solid waste containers exist on the subject property.

5.6.5 Wastewater

No wastewater is generated at the subject property.

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5.6.6 Wells

No evidence of wells (dry wells, drinking water, observation wells, groundwater monitoring wells, irrigation wells, injection wells or abandoned wells) was noted on the subject property.

5.6.7 Septic Systems

No septic systems are present on the subject property.

5.7 Non-Scope Issues

ASTM guidelines identify non-scope issues, which are beyond the scope of a Phase I ESA as defined by ASTM. These issues may affect environmental risk at the subject property and may warrant discussion and/or assessment. Some of these non-scope issues include; asbestos-containing building materials, radon, lead-based paint, and wetlands which are discussed below.

5.7.1 Asbestos-Containing Building Materials

The potential for asbestos containing materials (ACM) existing at the subject property is very low due to the lack of subject property structures.

5.7.2 Lead-Based Paint

The potential or lead based paint residues existing at the subject property is very low due to the lack of subject property development.

5.7.3 Radon

The subject property is located in Zone 3 as shown on the EPA Map of Radon Zones indicating a predicted average indoor radon screening level of less than 2 pCi/L; therefore, no further action is required. Radon gas is not believed to be a potential hazard at the subject property.

5.7.4 Wetlands

No wetlands are located within one (1) mile of the subject property.

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5.7.5 Agricultural Use

Based on our review of environmental records, historical documents, and subject property conditions, the property has been in agricultural use intermittently and/or vacant since the 1960's. Residues of currently available pesticides and currently banned pesticides such as DDT/DDE may be present in near surface soils in limited concentrations. The concentrations of these pesticides found on other Imperial Valley agricultural sites are typically less than 25% of the current regulatory threshold limits and, at those levels, are not considered a significant environmental hazard. The presence and concentration of near surface pesticides at this subject property can be accurately characterized only by site-specific sampling and testing.

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6.0 INTERVIEWS

GS Lyon interviewed various individuals familiar with the subject property, as identified to us, and/or government officials in order to evaluate historical uses and identify potential RECs existing on the subject property. The individuals interviewed were asked to provide responses in good faith and to the best of their knowledge. The following sections identify the individuals interviewed and summarize the information each provided; however, additional information provided by these individuals may be presented in other sections of this report.

6.1 Interview with Owner

GS Lyon we not able to contact the current property owner; therefore, no interview was conducted.

6.2 Interview with the Site Manager

The subject property is vacant, undeveloped land; therefore, there is no site manager.

6.3 Interview with Occupants

The subject property is vacant, undeveloped land and fallow agricultural land; therefore, there are no occupants.

6.4 Interview with Local Government Officials

The DTSC Imperial CUPA office was contacted (Veronica Lopez) by email on September 16, 2020. CUPA records were searched for environmental issues related to the subject property. The DTSC indicated that records are filed per address, and with no known address associated with the subject property, no records were found associated with the subject property.

Interviews with past owners, operators and occupants were not reasonably ascertainable and thus constitute a data gap.

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7.0 EVALUATION

7.1 Summary of Findings

The approximately 240-acre property located at the northeast corner of Schrimpf Road and Wiest Road approximately 4.5 miles southeast of Niland, California. The western portion of the subject property was first developed in the 1960-70s for agricultural use. The portion of the subject property east of the East Highline Canal has remained vacant desert land.

7.2 Conclusions

GS Lyon has performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM E1527-13 of the property located at the northeast corner of Schrimpf Road and Wiest Road approximately 4.5 miles southeast of Niland, California. Any exceptions to, or deviations from, this practice are described in Section 1.4 of this Phase I ESA report.

7.2.1 Recognized Environmental Conditions

A *recognized environmental condition (REC)* refers to the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term REC includes hazardous substances and petroleum products even under conditions that might be in compliance with laws. The term is not intended to include "de minimis" conditions as defined in Section 7.2.3 of this report.

This Phase I ESA has revealed no evidence of *recognized environmental conditions* in connection with the subject property.

7.2.2 Historical Recognized Environmental Conditions

A *historical recognized environmental condition (HREC)* refers to a past *release* of any *hazardous substances* or *petroleum products* that has occurred in connection with the *property* and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the *property* to any required controls (for example, *property* use restrictions, *activity and use limitations*, *institutional controls*, or *engineering controls*).

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This Phase I ESA has revealed no evidence of *historical recognized environmental conditions* in connection with the subject property.

7.2.3 Environmental Concerns and De Minimis Conditions

A *de minimis condition* is a condition that generally does not present a threat to human health or the *environment* and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis conditions* are not *recognized environmental conditions* nor *controlled recognized environmental conditions*.

This Phase I ESA has revealed the following *de minimis* conditions or environmental concerns in connection with the subject property:

1. Pesticide residues (low concentrations) typical to agricultural crop applications may be present in the near surface soils in the agricultural field in the southwestern portion of the subject property.

7.3 Recommendations

Based on the scope of work performed for this assessment, it is our professional opinion that no RECs have been identified in connection with the subject property that would warrant further environmental study (Phase II) at this time.

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8.0 REFERENCES

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State Water Resources Control Board. 2020. GeoTracker Database Website, http://geotracker.swrcb.ca.gov/

United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey, accessed via the Internet, September 2020

United States Environmental Protection Agency, EPA Map of Radon Zones (Document EPA-402-R-93-071), accessed via the Internet, September 2020

United States Geological Survey Topographic Map 1997, 7.5 minute series

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APPENDIX A

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Photo 1: Looking south from the northwest corner of the site at Noffsinger Road and the IID pole line.

Photo 2: Looking southeast across the northeast portion of the subject site from the corner of Noffsinger Road and IID pole line.

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Photo 3: Looking northeast across the northeast portion of the subject site from the middle corner of the site.

Photo 4: Looking east along the southern boundary of the northeast portion of the subject site from the middle corner.

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Photo 5: Looking southeast across the southwest portion of the subject site from the corner of McDonald and Weist Roads.

Photo 6: Looking east along the north boundary of the southwest portion of the subject site from the corner of McDonald and Weist Roads.

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Photo 7: Looking south along the west boundary of the southwest portion of the subject site from the corner of McDonald and Weist Roads.

Photo 8: Looking at the IID pole mounted transformers located across Weist Road west of the southwest corner of the subject site.

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Photo 9: Looking north across the southwest portion of the subject site from the southwest corner of the subject site.

Photo 10: Looking north along the west side of the East Highline canal that bisects the subject site.

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Photo 11: Looking at concrete ditch lining that exists along the west side of the East Highline canal that previously irrigated the agricultural fields on the west side of the subject site.

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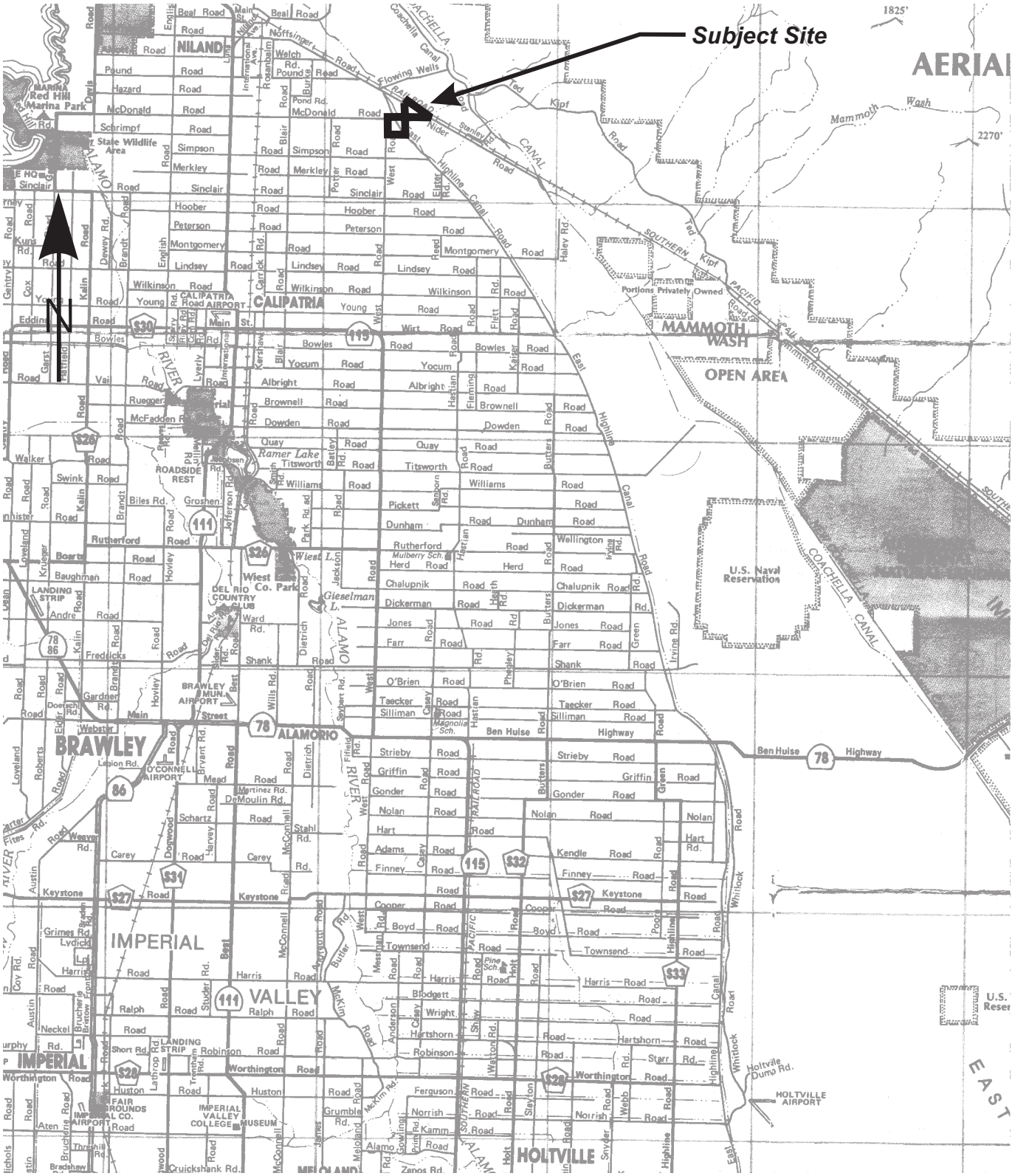
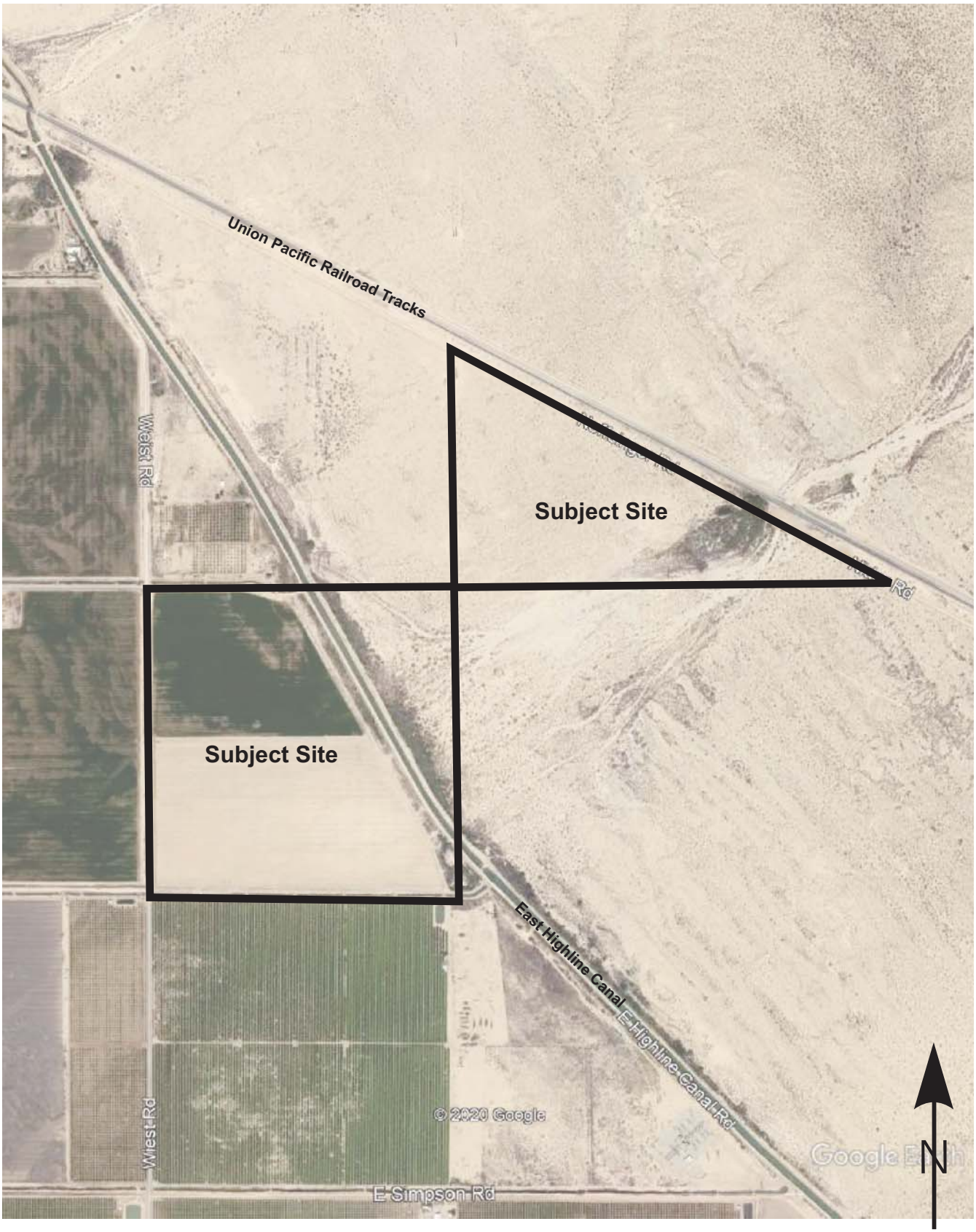
APPENDIX B

PC ORIGINAL PKG



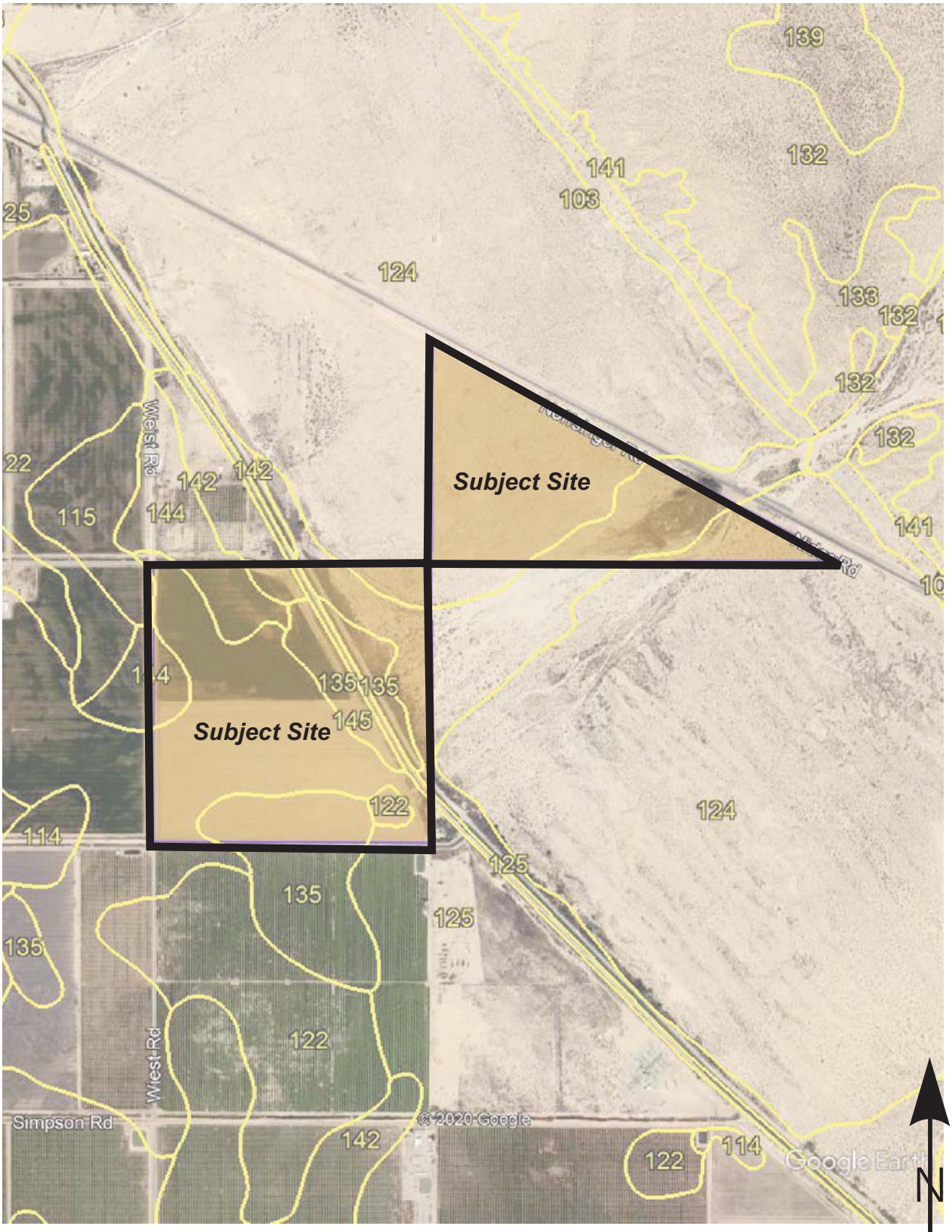
GS Lyon Project No.: GS2016	Vicinity Map	Plate 1

PC ORIGINAL PKG



GS Lyon Project No.: GS2016	Site Map	Plate 2

PC ORIGINAL PKG

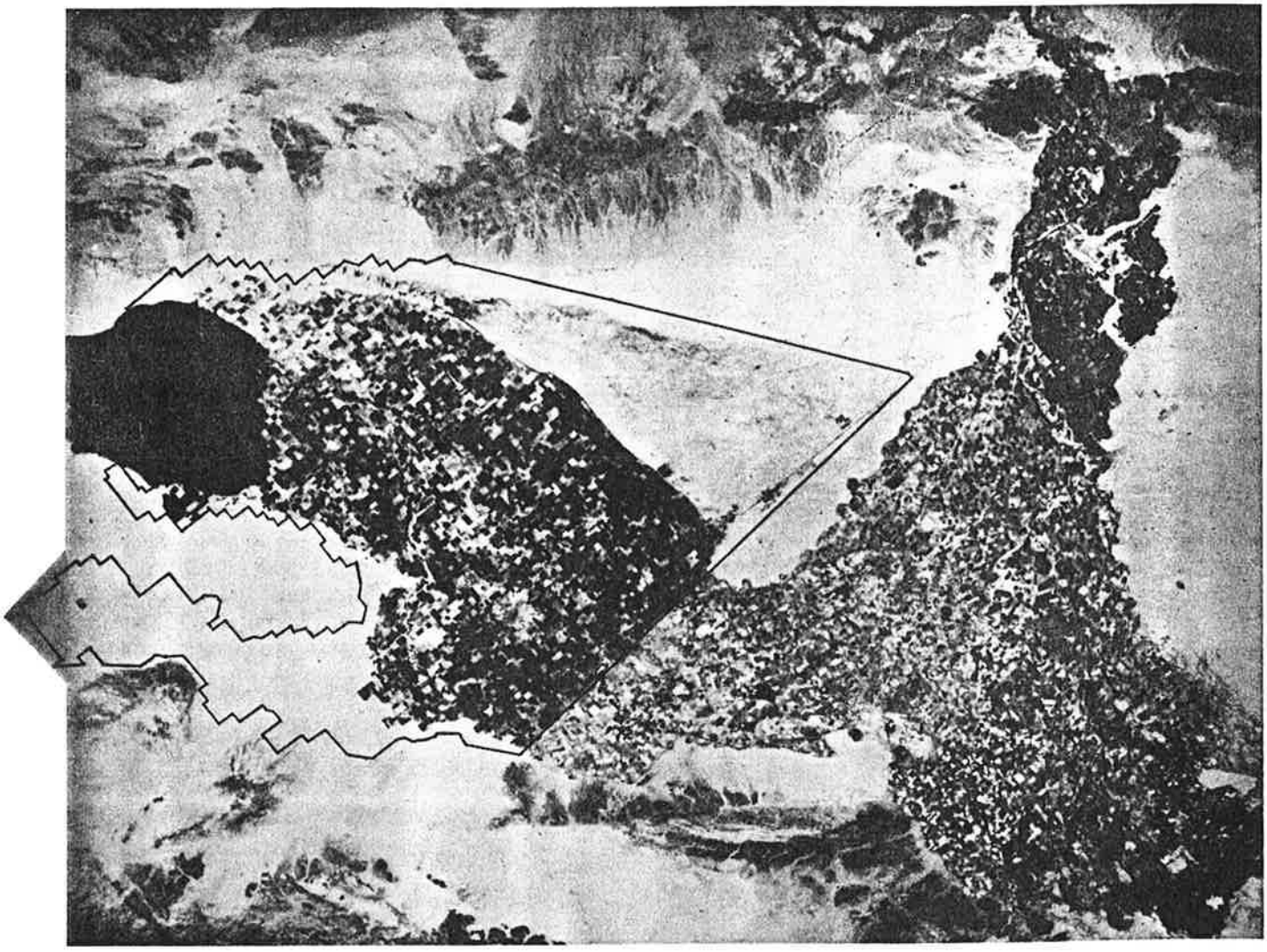


GS Lyon Project No.: GS2016	Soil Survey Map	Plate 3

PC ORIGINAL PKG

Soil Survey of

IMPERIAL COUNTY CALIFORNIA IMPERIAL VALLEY AREA



United States Department of Agriculture Soil Conservation Service
in cooperation with
University of California Agricultural Experiment Station
and
Imperial Irrigation District

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TABLE 11.--ENGINEERING INDEX PROPERTIES

[The symbol > means more than. Absence of an entry indicates that data were not estimated]

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
100----------	0-13	Loamy fine sand	SM	A-2	0	100	100	75-85	10-30	---	NP
Antho	13-60	Sandy loam, fine sandy loam.	SM	A-2, A-4	0	90-100	75-95	50-60	15-40	---	NP
101*:											
Antho----------	0-8	Loamy fine sand	SM	A-2	0	100	100	75-85	10-30	---	NP
	8-60	Sandy loam, fine sandy loam.	SM	A-2, A-4	0	90-100	75-95	50-60	15-40	---	NP
Superstition------	0-6	Fine sand-------	SM	A-2	0	100	95-100	70-85	15-25	---	NP
	6-60	Loamy fine sand, fine sand, sand.	SM	A-2	0	100	95-100	70-85	15-25	---	NP
102*. Badland											
103----------	0-10	Gravelly sand---	SP, SP-SM	A-1, A-2	0-5	60-90	50-85	30-55	0-10	---	NP
Carsitas	10-60	Gravelly sand, gravelly coarse sand, sand.	SP, SP-SM	A-1	0-5	60-90	50-85	25-50	0-10	---	NP
104* Fluvaquents											
105----------	0-13	Clay loam-------	CL	A-6	0	100	100	90-100	70-95	35-45	15-30
Glenbar	13-60	Clay loam, silty clay loam.	CL	A-6	0	100	100	90-100	70-95	35-45	15-30
106----------	0-13	Clay loam-------	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
Glenbar	13-60	Clay loam, silty clay loam.	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
107*----------	0-13	Loam----------	ML, CL-ML, CL	A-4	0	100	100	100	70-80	20-30	NP-10
Glenbar	13-60	Clay loam, silty clay loam.	CL	A-6, A-7	0	100	100	95-100	75-95	35-45	15-30
108----------	0-14	Loam----------	ML	A-4	0	100	100	85-100	55-95	25-35	NP-10
Holtville	14-22	Clay, silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	22-60	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	65-85	25-35	NP-10
109----------	0-17	Silty clay------	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
Holtville	17-24	Clay, silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	24-35	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	65-85	25-35	NP-10
	35-60	Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55	---	NP
110----------	0-17	Silty clay------	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-35
Holtville	17-24	Clay, silty clay	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-35
	24-35	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	55-85	25-35	NP-10
	35-60	Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55	---	NP

See footnote at end of table.

PC ORIGINAL PKG

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
111*:											
Holtville	0-10	Silty clay loam	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	10-22	Clay, silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
	22-60	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	65-85	25-35	NP-10
Imperial	0-12	Silty clay loam	CL	A-7	0	100	100	100	85-95	40-50	10-20
	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
112	0-12	Silty clay	CH	A-7	0	100	100	100	85-95	50-70	25-45
Imperial	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
113	0-12	Silty clay	CH	A-7	0	100	100	100	85-95	50-70	25-45
Imperial	12-60	Silty clay, clay, silty clay loam.	CH	A-7	0	100	100	100	85-95	50-70	25-45
114	0-12	Silty clay	CH	A-7	0	100	100	100	85-95	50-70	25-45
Imperial	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
115*:											
Imperial	0-12	Silty clay loam	CL	A-7	0	100	100	100	85-95	40-50	10-20
	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
Glenbar	0-13	Silty clay loam	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
	13-60	Clay loam, silty clay loam.	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
116*:											
Imperial	0-13	Silty clay loam	CL	A-7	0	100	100	100	85-95	40-50	10-20
	13-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
Glenbar	0-13	Silty clay loam	CL	A-6, A-7	0	100	100	90-100	70-95	35-45	15-25
	13-60	Clay loam, silty clay loam.	CL	A-6	0	100	100	90-100	70-95	35-45	15-30
117, 118	0-12	Loam	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
Indio	12-72	Stratified loamy very fine sand to silt loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
119*:											
Indio	0-12	Loam	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	12-72	Stratified loamy very fine sand to silt loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
Vint	0-10	Loamy fine sand	SM	A-2	0	95-100	95-100	70-80	25-35	---	NP
	10-60	Loamy sand, loamy fine sand.	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
120*	0-12	Loam	ML, CL-ML	A-4	0	100	95-100	75-85	55-65	20-30	NP-10
Laveen	12-60	Loam, very fine sandy loam.	ML, CL-ML	A-4	0	95-100	85-95	70-80	55-65	15-25	NP-10

See footnote at end of table.

PC ORIGINAL PKG

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
121---------- Meloland	0-12	Fine sand-------	SM, SP-SM	A-2, A-3	0	95-100	90-100	75-100	5-30	---	NP
	12-26	Stratified loamy fine sand to silt loam.	ML	A-4	0	100	100	90-100	50-65	25-35	NP-10
	26-71	Clay, silty clay, silty clay loam.	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-40
122---------- Meloland	0-12	Very fine sandy loam.	ML	A-4	0	95-100	95-100	95-100	55-85	25-35	NP-10
	12-26	Stratified loamy fine sand to silt loam.	ML	A-4	0	100	100	90-100	50-70	25-35	NP-10
	26-71	Clay, silty clay, silty clay loam.	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-40
123*: Meloland----------	0-12	Loam----------	ML	A-4	0	95-100	95-100	95-100	55-85	25-35	NP-10
	12-26	Stratified loamy fine sand to silt loam.	ML	A-4	0	100	100	90-100	50-70	25-35	NP-10
	26-38	Clay, silty clay, silty clay loam.	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-40
	38-60	Stratified silt loam to loamy fine sand.	SM, ML	A-4	0	100	100	75-100	35-55	25-35	NP-10
Holtville---------	0-12	Loam----------	ML	A-4	0	100	100	85-100	55-95	25-35	NP-10
	12-24	Clay, silty clay	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-35
	24-36	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	55-85	25-35	NP-10
	36-60	Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55	---	NP
124, 125---------- Niland	0-23	Gravelly sand---	SM, SP-SM	A-2, A-3	0	90-100	70-95	50-65	5-25	---	NP
	23-60	Silty clay, clay, clay loam.	CL, CH	A-7	0	100	100	85-100	80-95	40-65	20-40
126---------- Niland	0-23	Fine sand-------	SM, SP-SM	A-2, A-3	0	90-100	90-100	50-65	5-25	---	NP
	23-60	Silty clay------	CL, CH	A-7	0	100	100	85-100	80-95	40-65	20-40
127---------- Niland	0-23	Loamy fine sand	SM	A-2	0	90-100	90-100	50-65	15-30	---	NP
	23-60	Silty clay------	CL, CH	A-7	0	100	100	85-100	80-95	40-65	20-40
128*: Niland----------	0-23	Gravelly sand---	SM, SP-SM	A-2, A-3	0	90-100	70-95	50-65	5-25	---	NP
	23-60	Silty clay, clay, clay loam.	CL, CH	A-7	0	100	100	85-100	80-100	40-65	20-40
Imperial----------	0-12	Silty clay------	CH	A-7	0	100	100	100	85-95	50-70	25-45
	12-60	Silty clay loam, silty clay, clay.	CH	A-7	0	100	100	100	85-95	50-70	25-45
129*: Pits											
130, 131---------- Rositas	0-27	Sand----------	SP-SM	A-3, A-1, A-2	0	100	80-100	40-70	5-15	---	NP
	27-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP

See footnote at end of table.

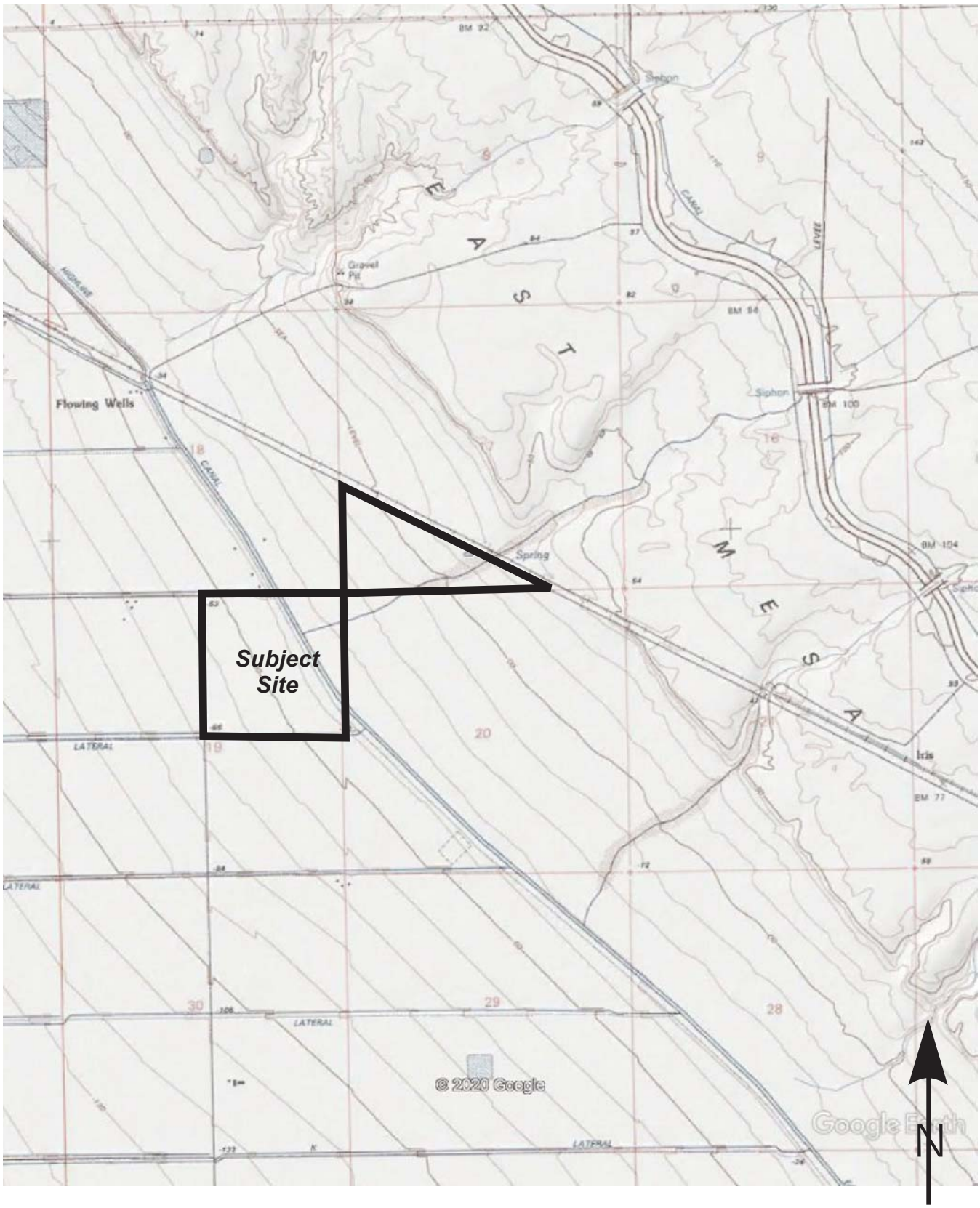
PC ORIGINAL PKG

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
132, 133, 134, 135-Rositas	0-9	Fine sand-------	SM	A-3, A-2	0	100	80-100	50-80	10-25	---	NP
	9-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
136----------	0-4	Loamy fine sand	SM	A-1, A-2	0	100	80-100	40-85	10-35	---	NP
Rositas	4-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
137----------	0-12	Silt loam-------	ML	A-4	0	100	100	90-100	70-90	20-30	NP-5
Rositas	12-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
138*:											
Rositas----------	0-4	Loamy fine sand	SM	A-1, A-2	0	100	80-100	40-85	10-35	---	NP
	4-60	Sand, fine sand, loamy sand.	SM, SP-SM	A-3, A-2, A-1	0	100	80-100	40-85	5-30	---	NP
Superstition------	0-6	Loamy fine sand	SM	A-2	0	100	95-100	70-85	15-25	---	NP
	6-60	Loamy fine sand, fine sand, sand.	SM	A-2	0	100	95-100	70-85	15-25	---	NP
139----------	0-6	Loamy fine sand	SM	A-2	0	100	95-100	70-85	15-25	---	NP
Superstition	6-60	Loamy fine sand, fine sand, sand.	SM	A-2	0	100	95-100	70-85	15-25	---	NP
140*:											
Torriorthents											
Rock outcrop											
141*:											
Torriorthents											
Orthids											
142----------	0-10	Loamy very fine sand.	SM, ML	A-4	0	100	100	85-95	40-65	15-25	NP-5
Vint	10-60	Loamy fine sand	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
143----------	0-12	Fine sandy loam	ML, CL-ML, SM, SM-SC	A-4	0	100	100	75-85	45-55	15-25	NP-5
Vint	12-60	Loamy sand, loamy fine sand.	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
144*:											
Vint----------	0-10	Very fine sandy loam.	SM, ML	A-4	0	100	100	85-95	40-65	15-25	NP-5
	10-40	Loamy fine sand	SM	A-2	0	95-100	95-100	70-80	20-30	---	NP
	40-60	Silty clay------	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35
Indio----------	0-12	Very fine sandy loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	12-40	Stratified loamy very fine sand to silt loam.	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	40-72	Silty clay------	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35

* See description of the map unit for composition and behavior characteristics of the map unit.

PC ORIGINAL PKG

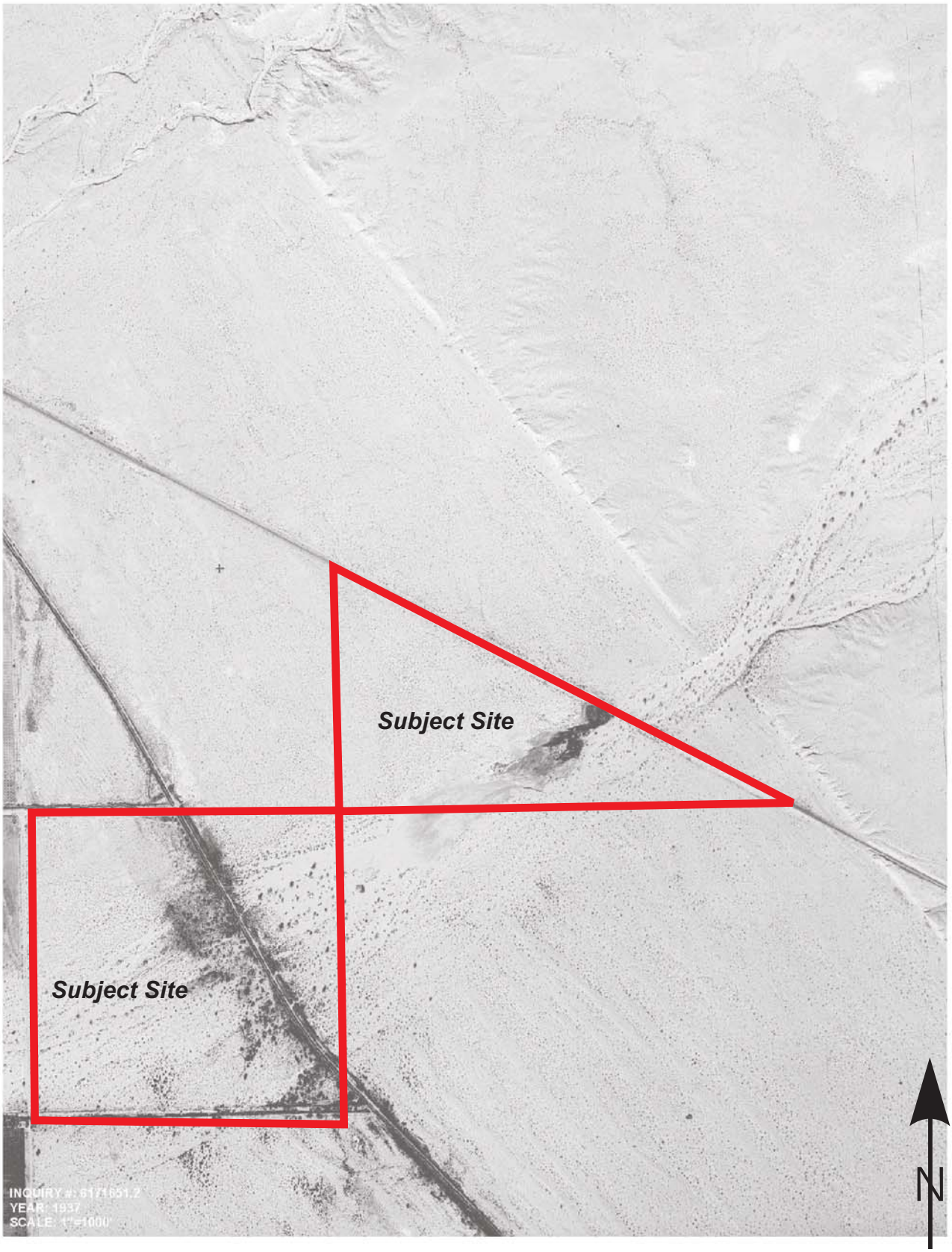


GS Lyon Project No.: GS2016	Topographic Map	Plate 4

PC ORIGINAL PKG

APPENDIX C

PC ORIGINAL PKG



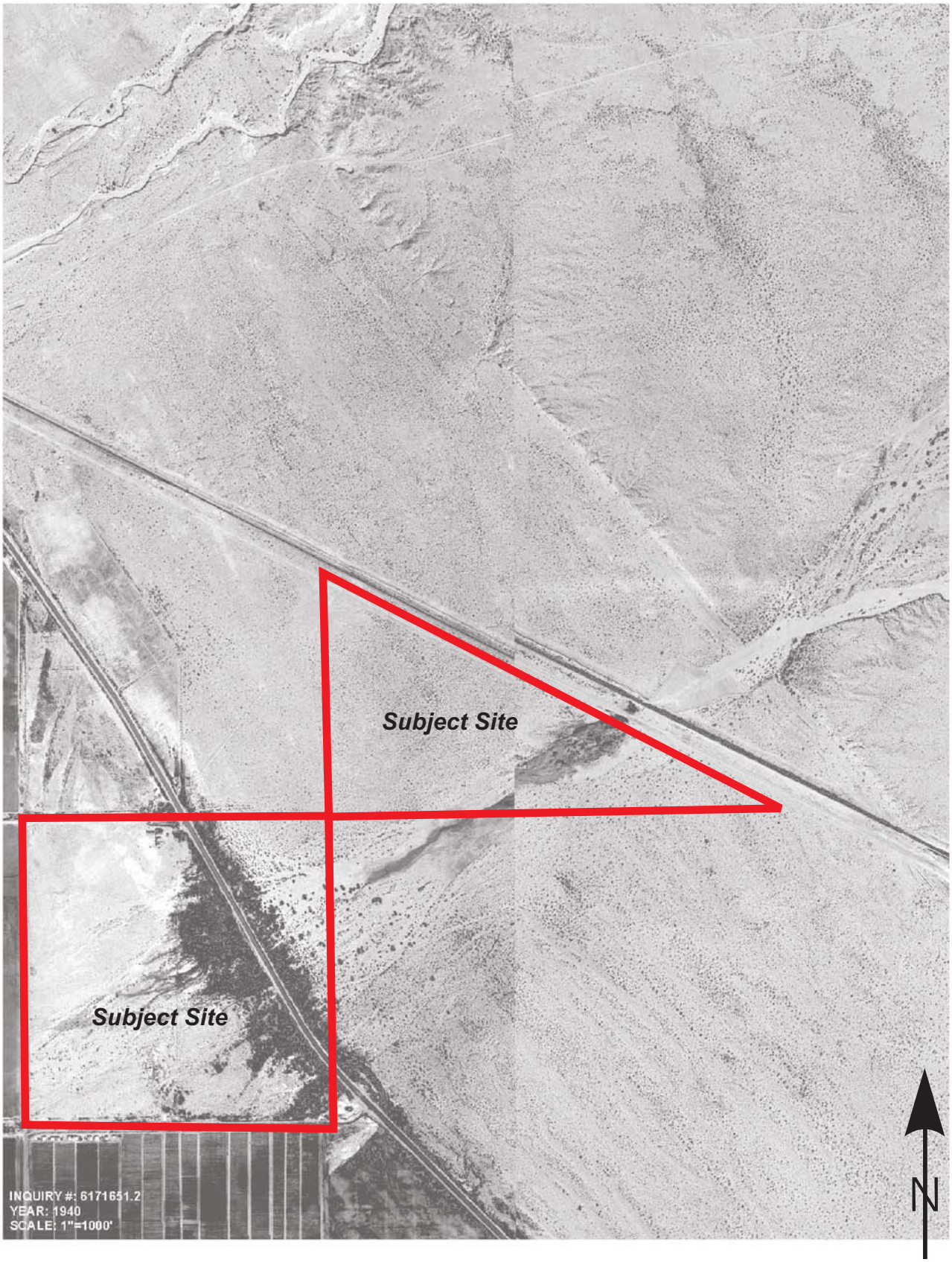
GS Lyon

Project No.: GS2016

1937 Aerial Photograph

Plate 5

PC ORIGINAL PKG



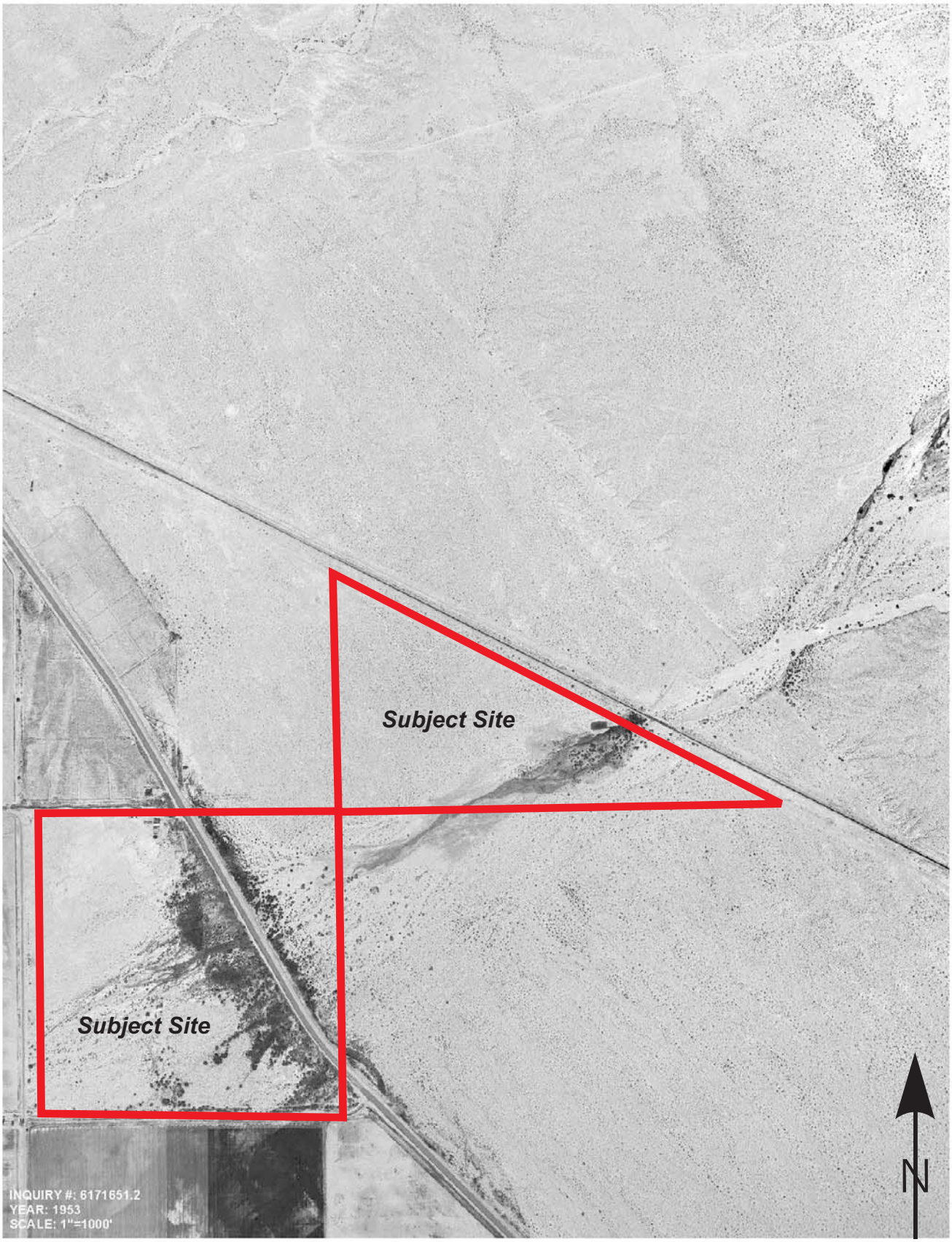
GS Lyon

Project No.: GS2016

1940 Aerial Photograph

Plate 6

PC ORIGINAL PKG



GS Lyon

Project No.: GS2016

1953 Aerial Photograph

Plate 7

PC ORIGINAL PKG

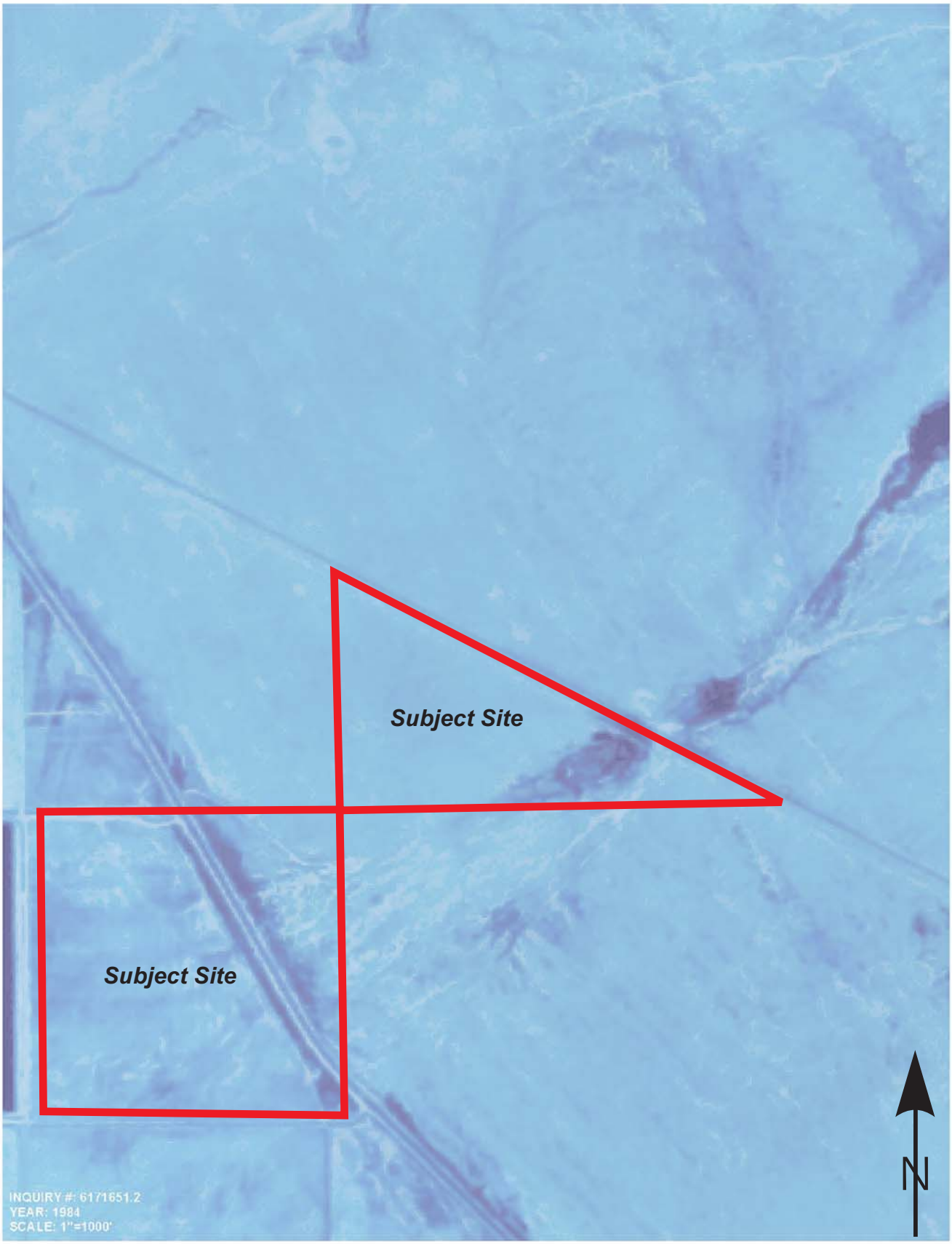
GS Lyon

Project No.: GS2016

1976 Aerial Photograph

Plate 8

PC ORIGINAL PKG



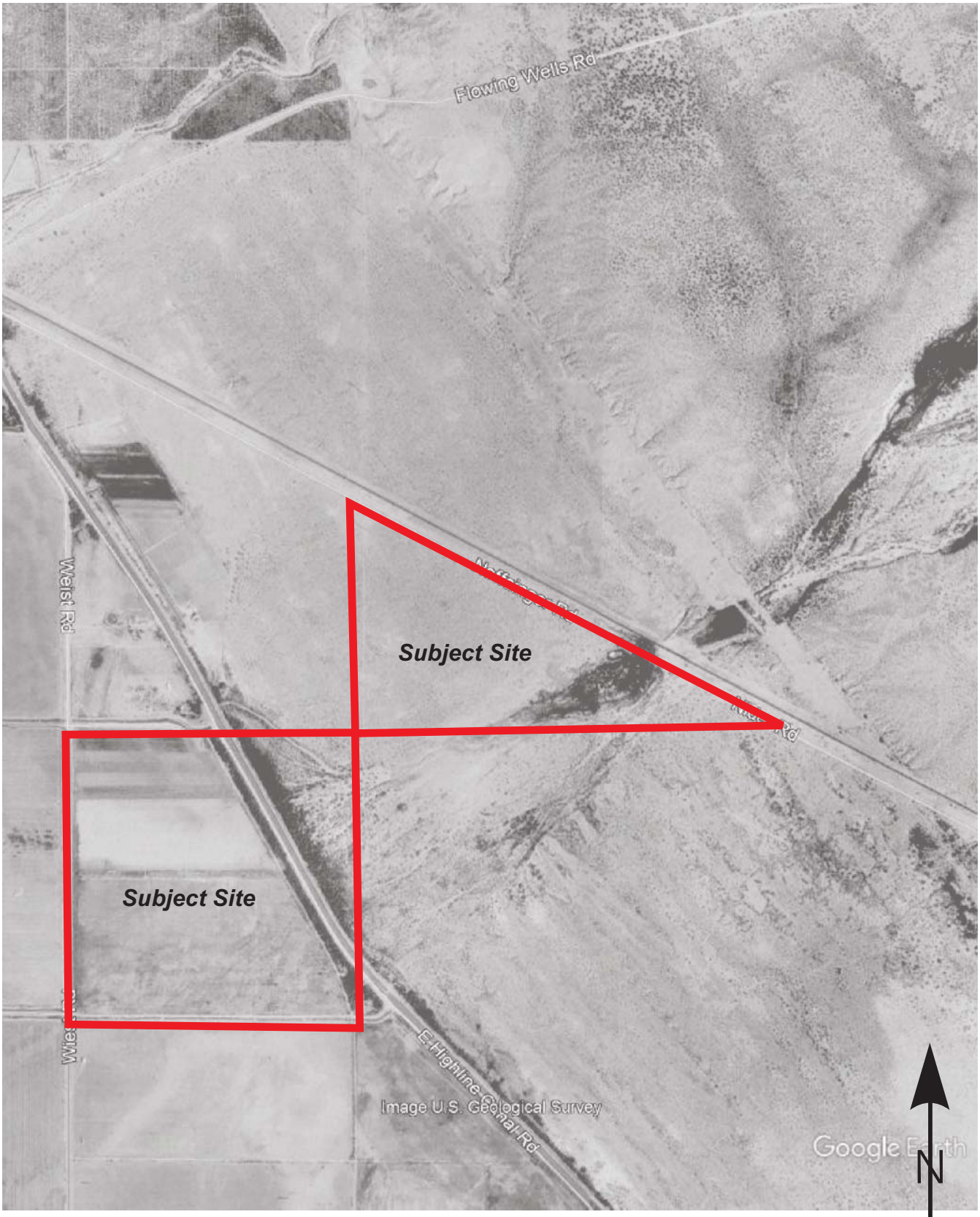
GS Lyon

Project No.: GS2016

1984 Aerial Photograph

Plate 9

PC ORIGINAL PKG



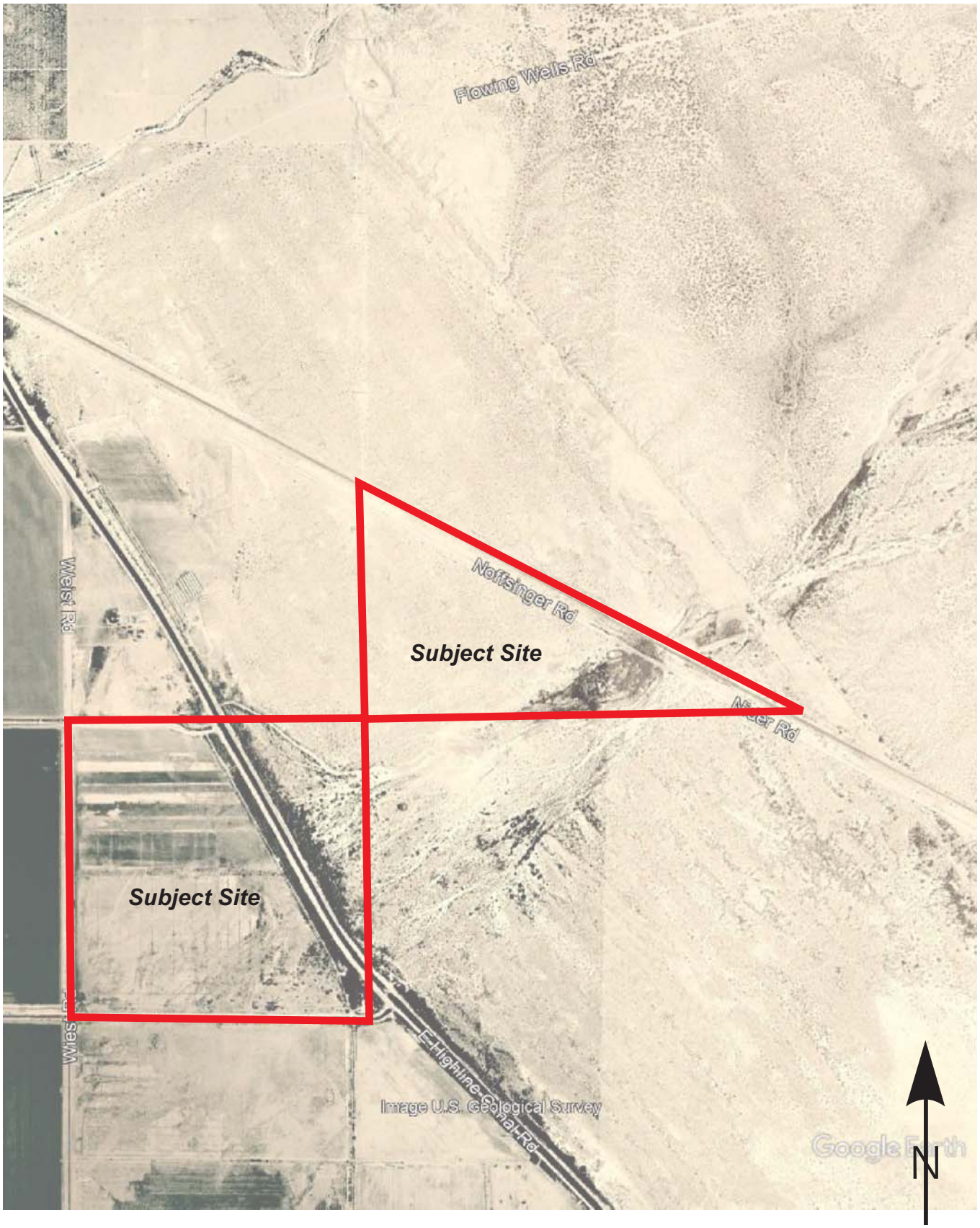
GSLyon

Project No.: GS2016

1992 Aerial Photograph

Plate 10

PC ORIGINAL PKG



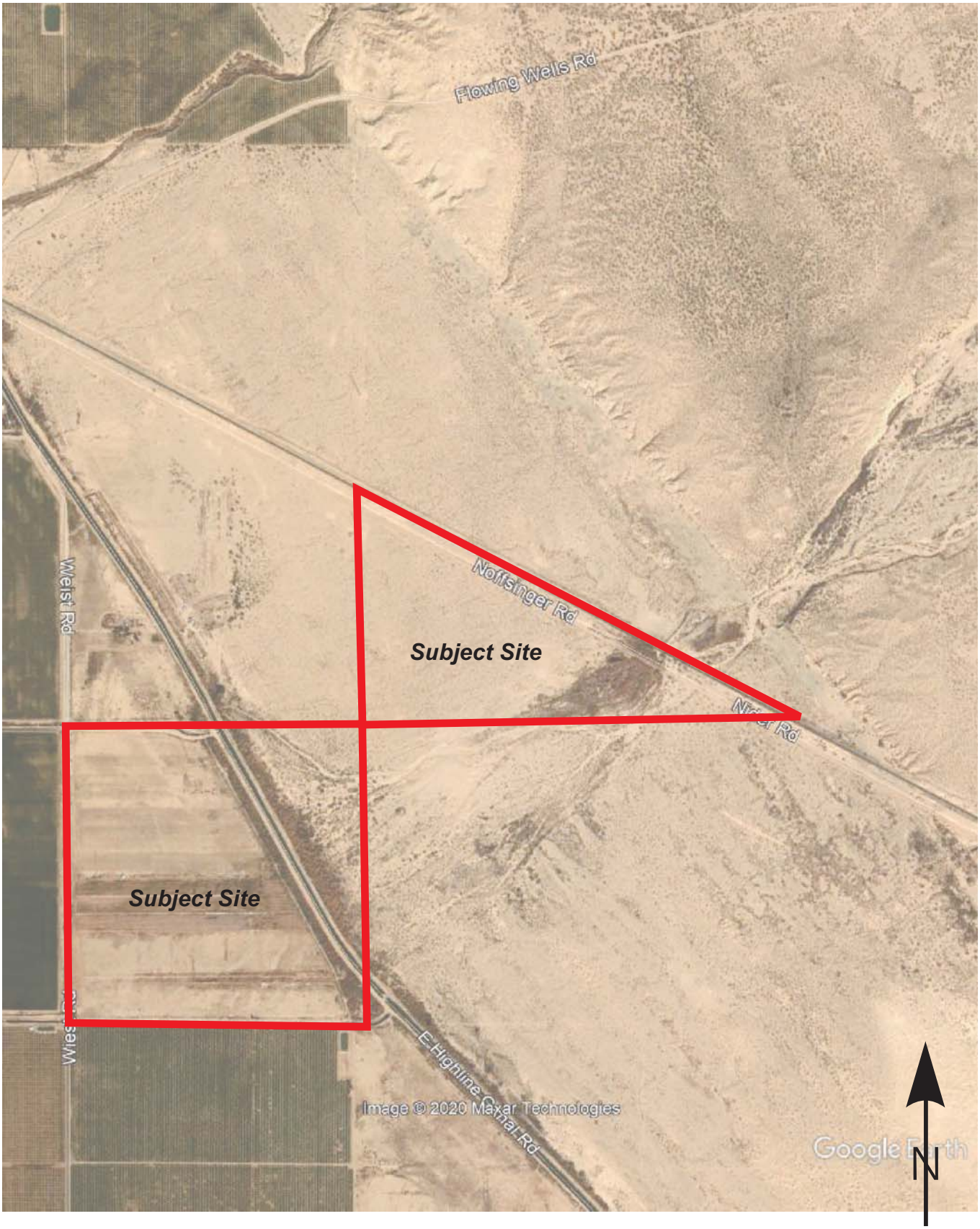
GS Lyon

Project No.: GS2016

1996 Aerial Photograph

Plate 11

PC ORIGINAL PKG



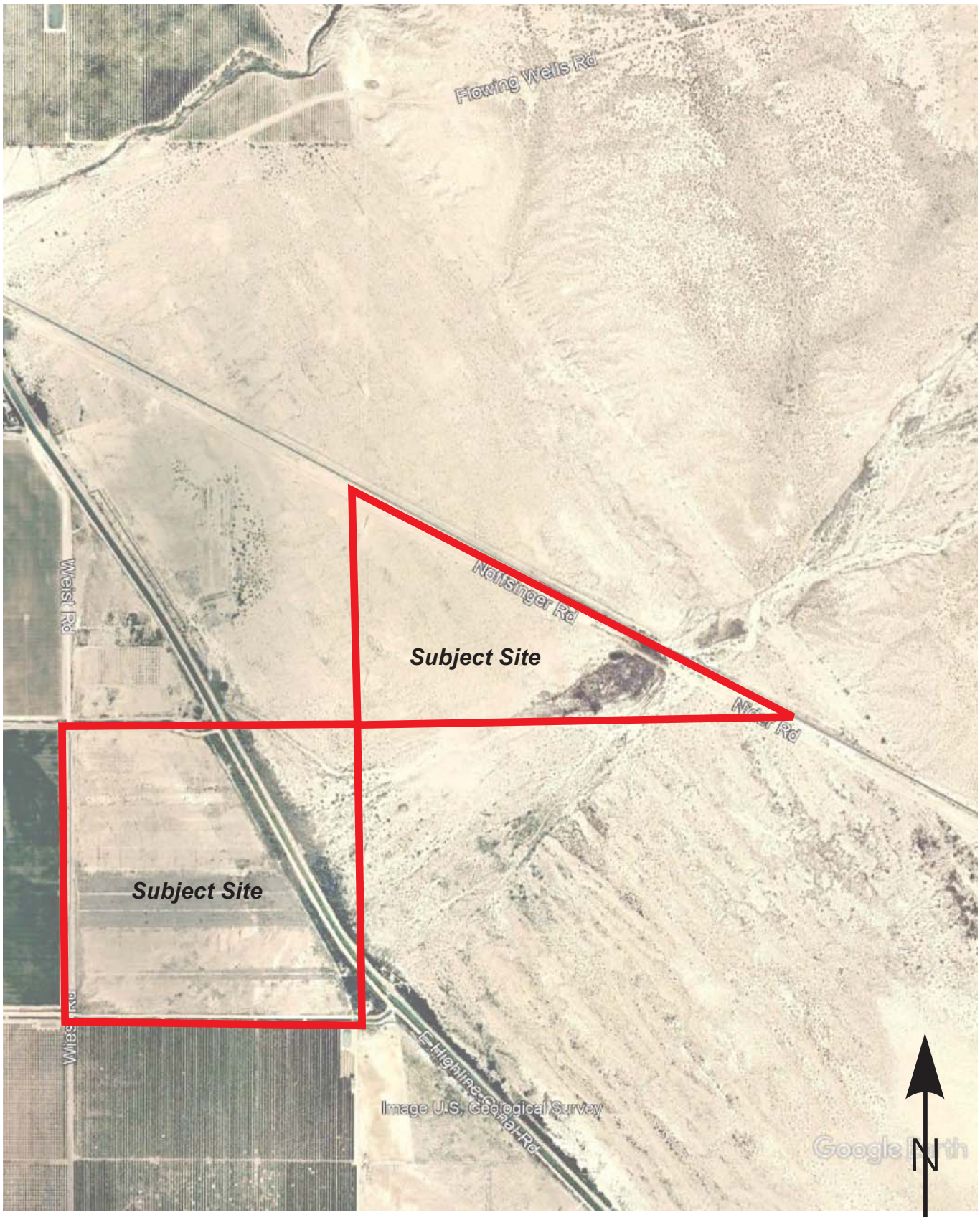
GS Lyon

Project No.: GS2016

2004 Aerial Photograph

Plate 12

PC ORIGINAL PKG



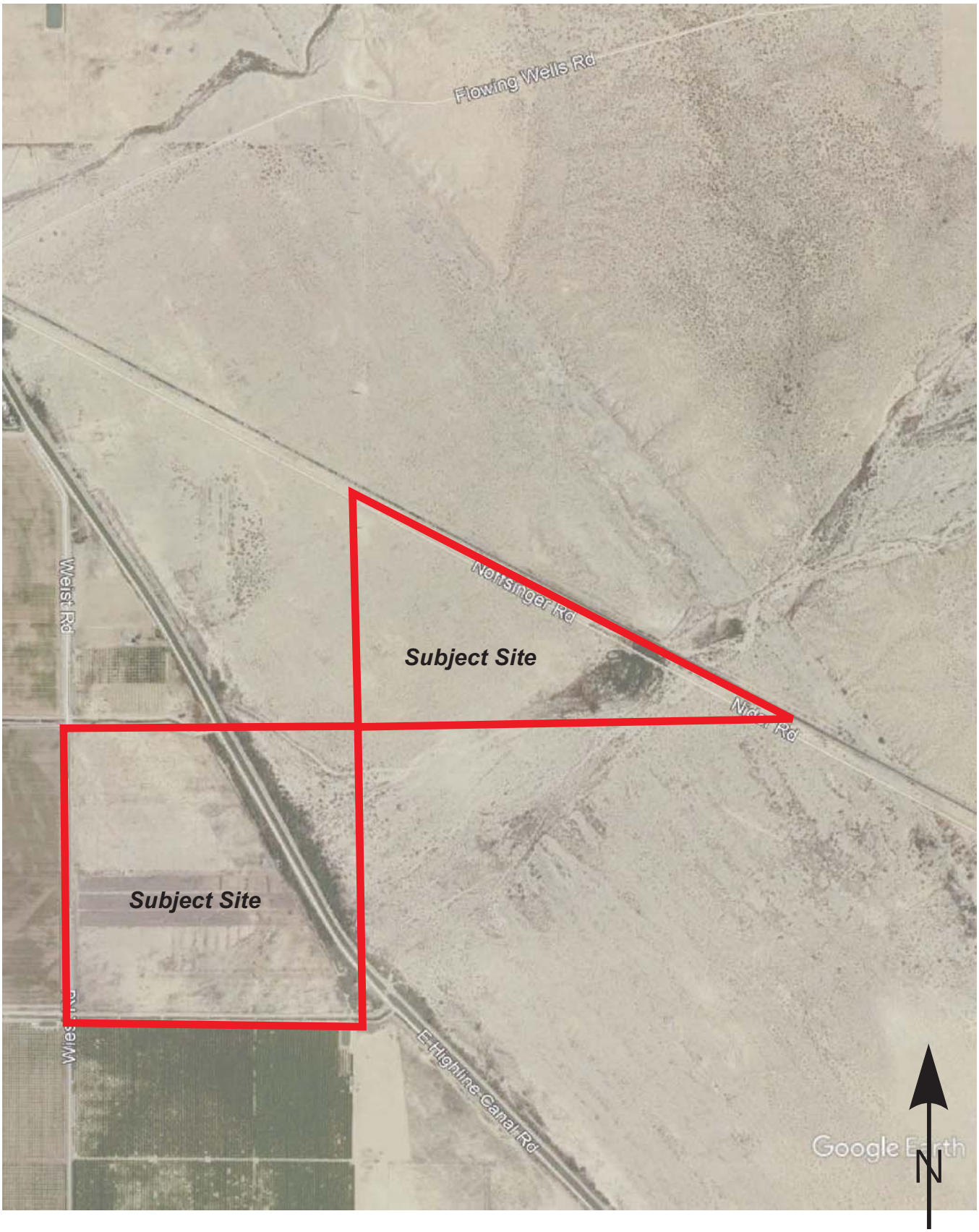
GS Lyon

Project No.: GS2016

2008 Aerial Photograph

Plate 13

PC ORIGINAL PKG



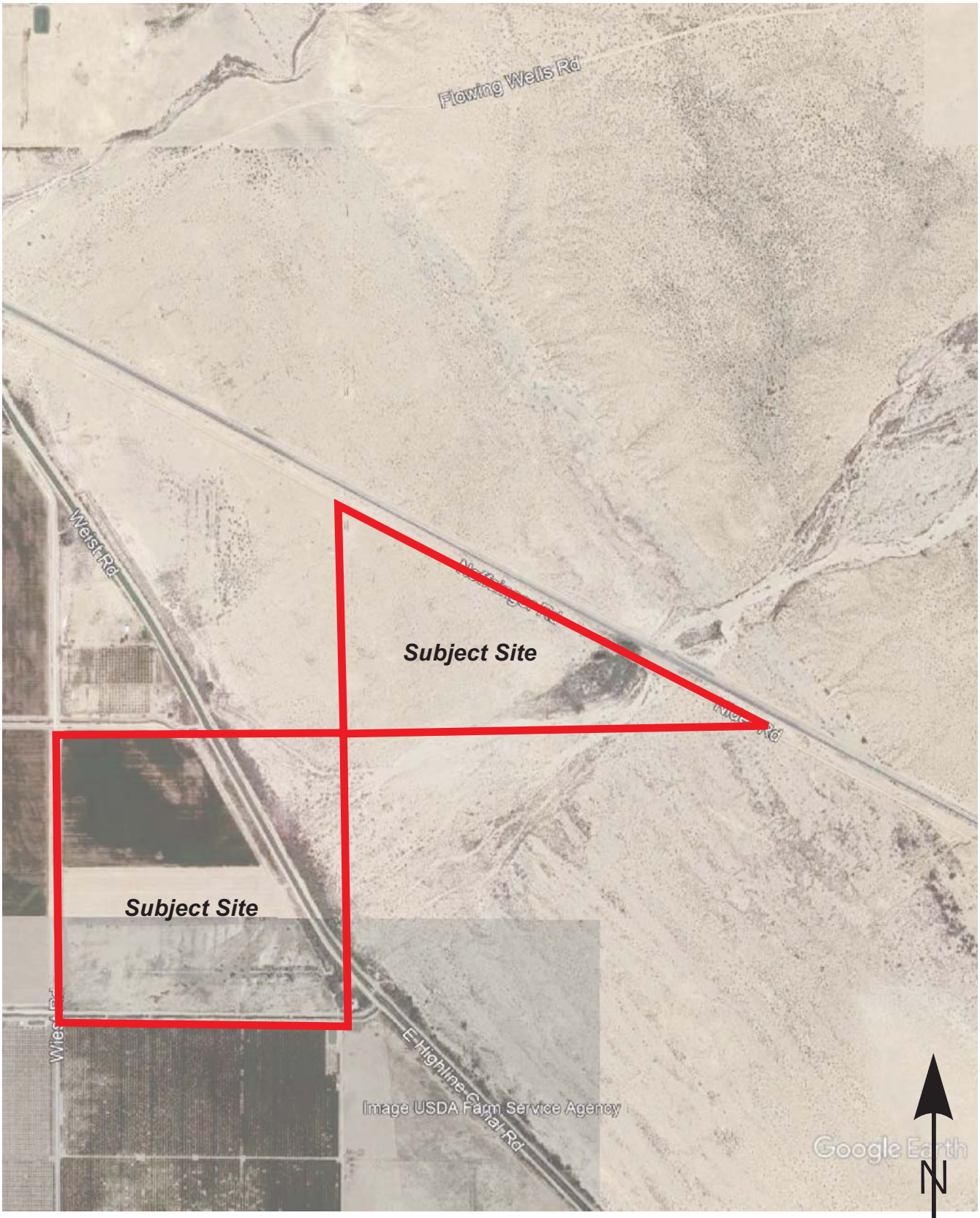
GS Lyon

Project No.: GS2016

2012 Aerial Photograph

Plate 14

PC ORIGINAL PKG



GSLyon

Project No.: GS2016

2015 Aerial Photograph

Plate 15

PC ORIGINAL PKG

APPENDIX D

PC ORIGINAL PKG

Cedar Solar 2

NEC Schrimpf and Wiest Rd. Imperial County

Calipatria, CA 92233

Inquiry Number: 6171651.1

August 28, 2020

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

EDR Historical Topo Map Report

08/28/20

Site Name:

Cedar Solar 2
NEC Schrimpf and Wiest Rd. Ir
Calipatria, CA 92233
EDR Inquiry # 6171651.1

Client Name:

GS Lyon Consultants
780 N. Fourth Street
El Centro, CA 92243
Contact: Peter E. Labrucherie

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by GS Lyon Consultants were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# NA
Project: GS2016

Coordinates:

Latitude:	33.208248 33° 12' 30" North
Longitude:	-115.438914 -115° 26' 20" West
UTM Zone:	Zone 11 North
UTM X Meters:	645493.86
UTM Y Meters:	3675459.43
Elevation:	-4.02' below sea level

Maps Provided:

2012	1940
2002	
1992	
1976	
1965	
1956	
1947	
1945	

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PC ORIGINAL PKG

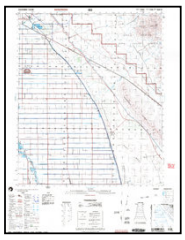
Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets

Iris
2012
7.5-minute, 24000

2002 Source Sheets



Iris
2002
15-minute, 50000

1992 Source Sheets

Iris
1992
7.5-minute, 24000
Aerial Photo Revised 1992

1976 Source Sheets

Iris
1976
7.5-minute, 24000
Aerial Photo Revised 1953

PC ORIGINAL PKG

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

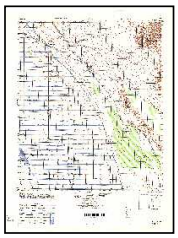
1965 Source Sheets

Iris
1965
7.5-minute, 24000
Aerial Photo Revised 1953

1956 Source Sheets

Iris
1956
7.5-minute, 24000
Aerial Photo Revised 1953

1947 Source Sheets



IRIS
1947
15-minute, 50000

1945 Source Sheets

Iris
1945
15-minute, 62500
Aerial Photo Revised 1940

PC ORIGINAL PKG

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

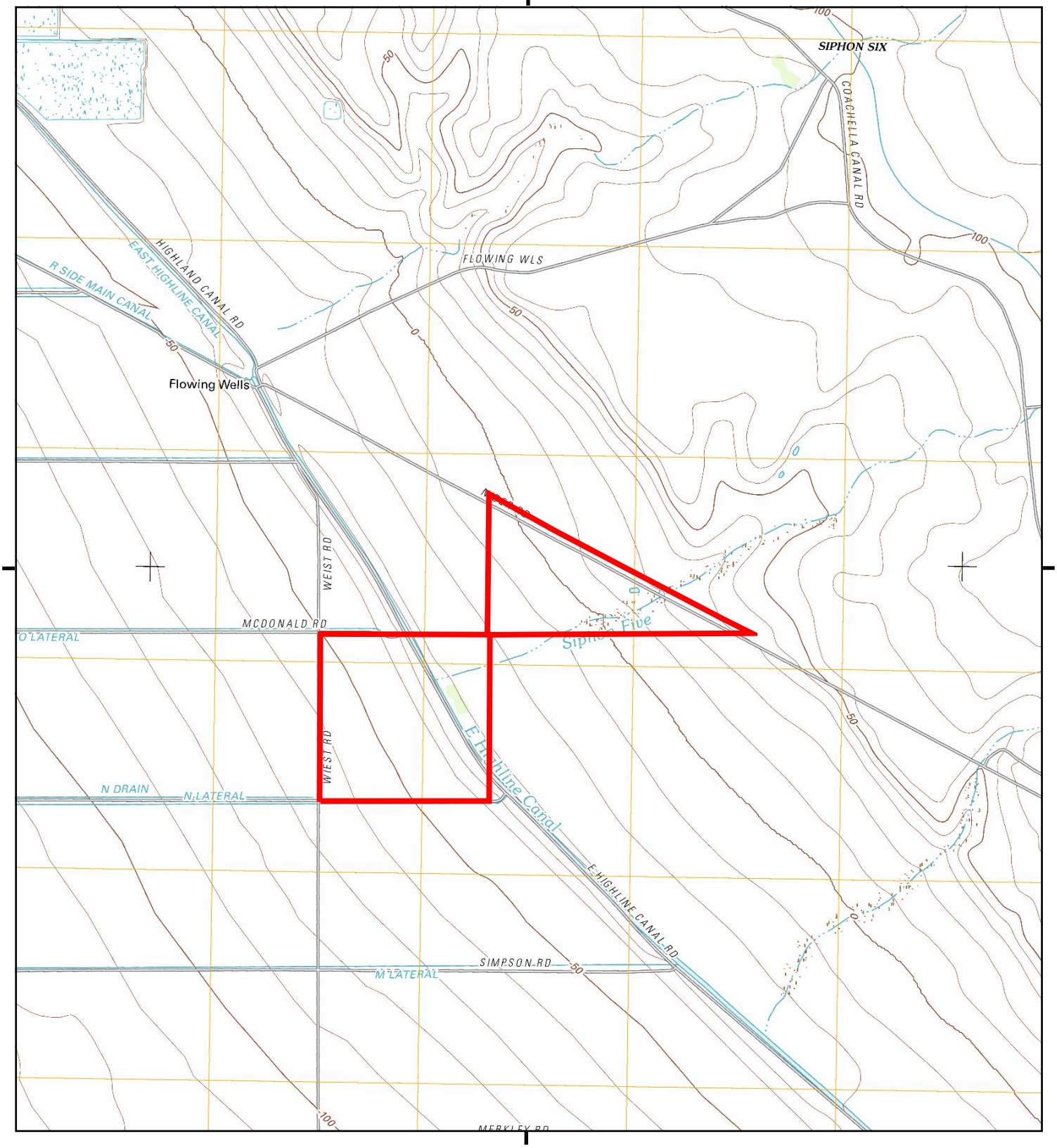
1940 Source Sheets

Iris
1940
15-minute, 62500
Aerial Photo Revised 1940

PC ORIGINAL PKG

Historical Topo Map

2012



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 2012, 7.5-minute

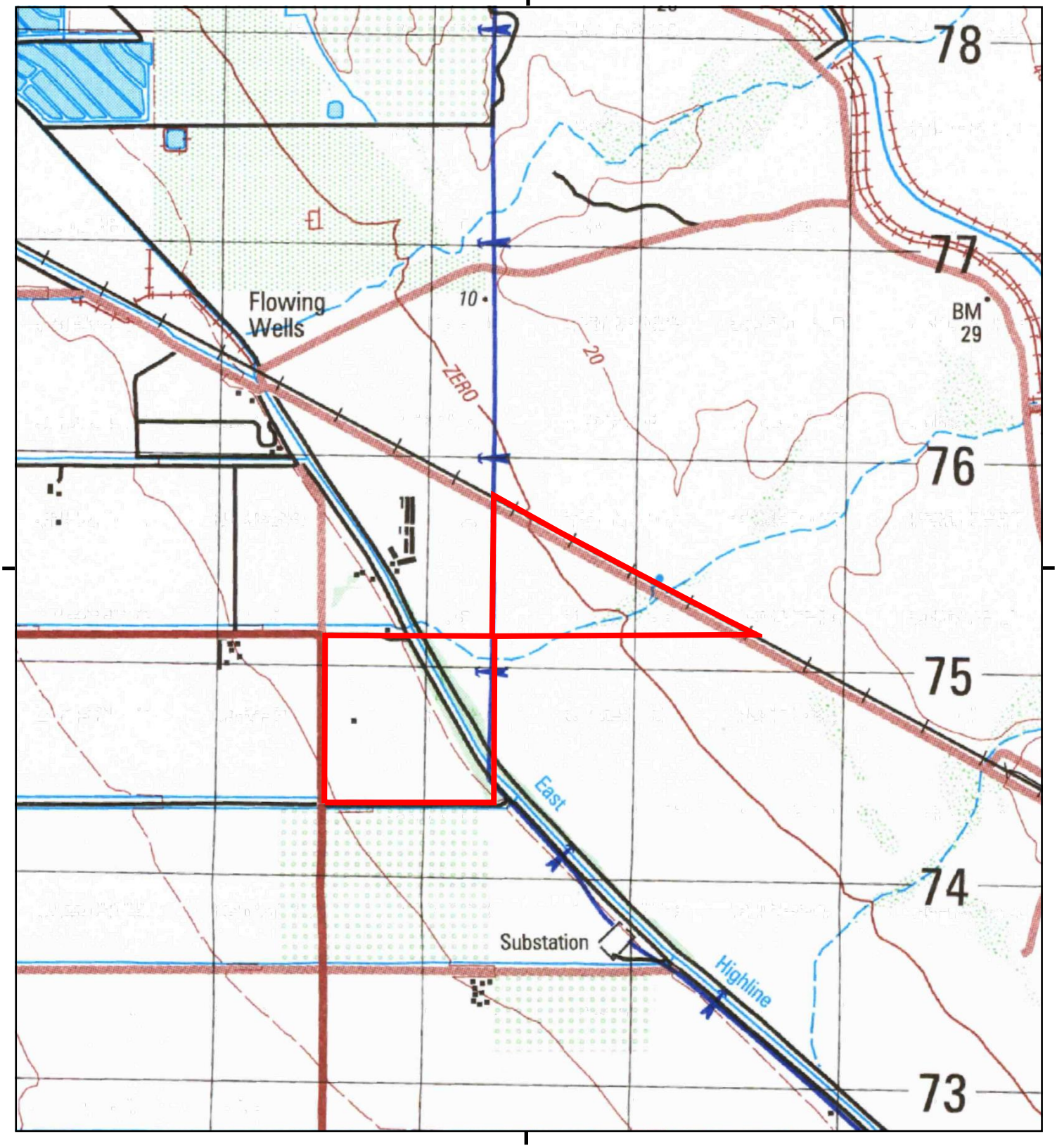
SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

2002



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 2002, 15-minute

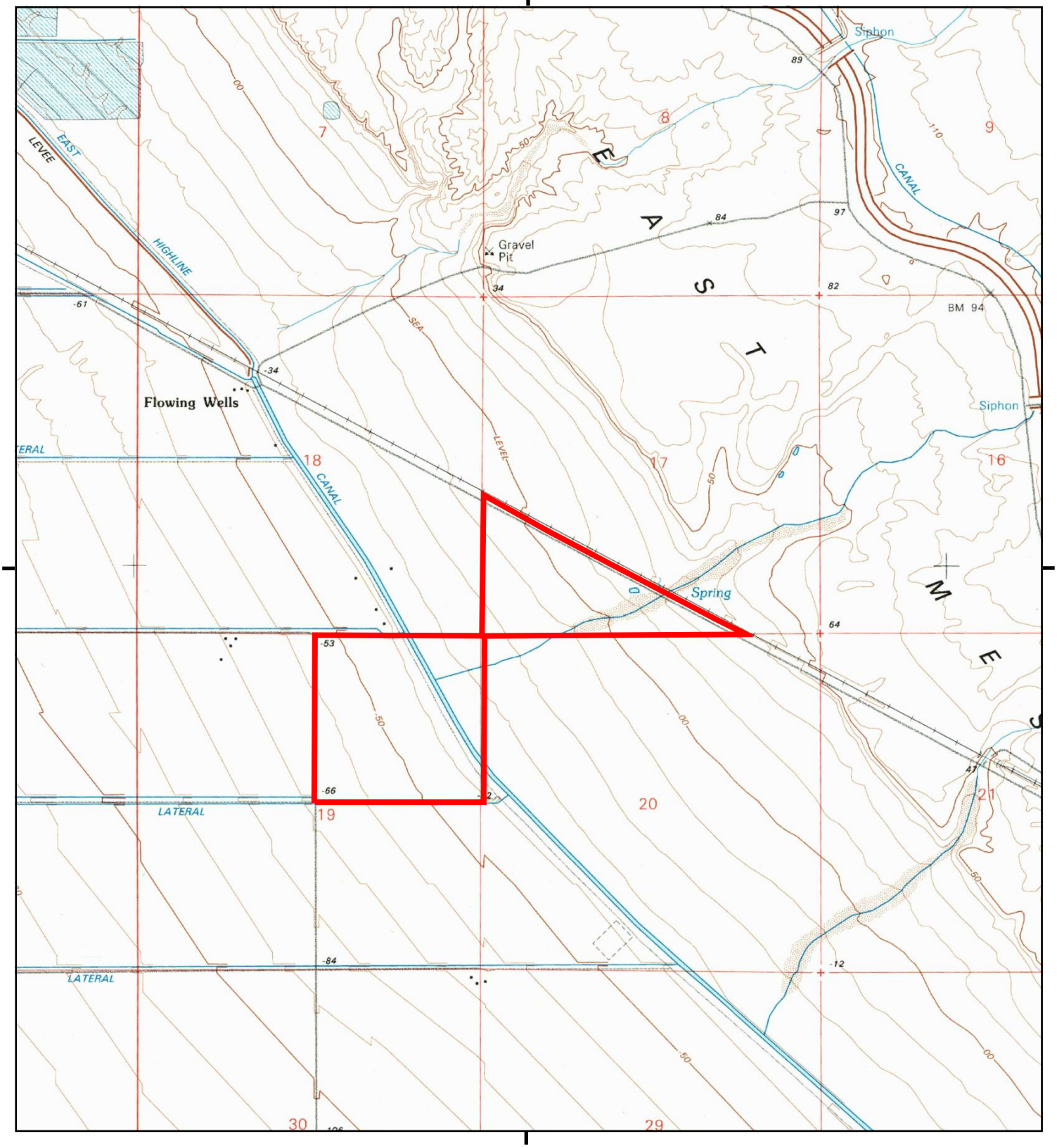
SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1992



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1992, 7.5-minute

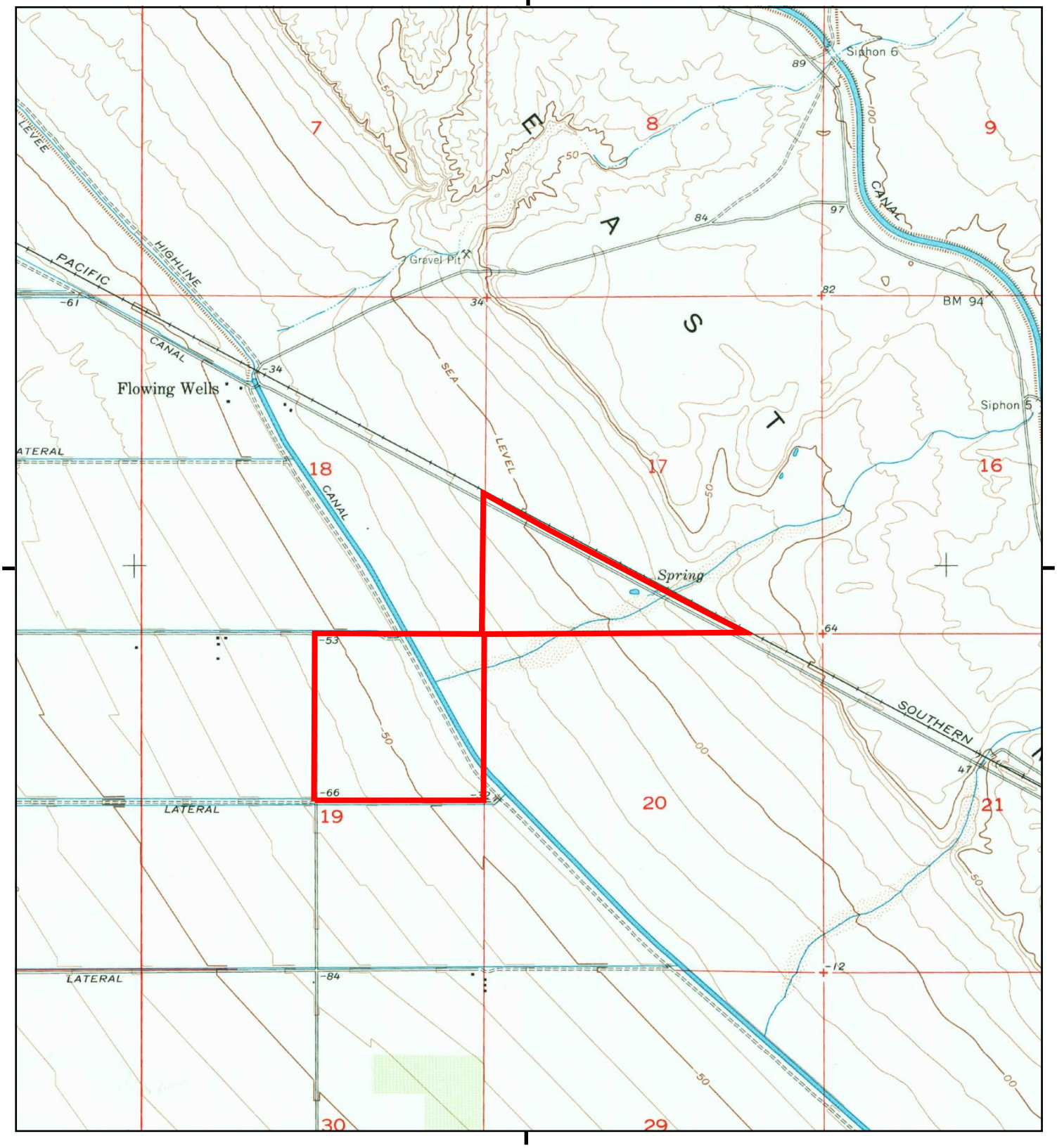
SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1976



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1976, 7.5-minute

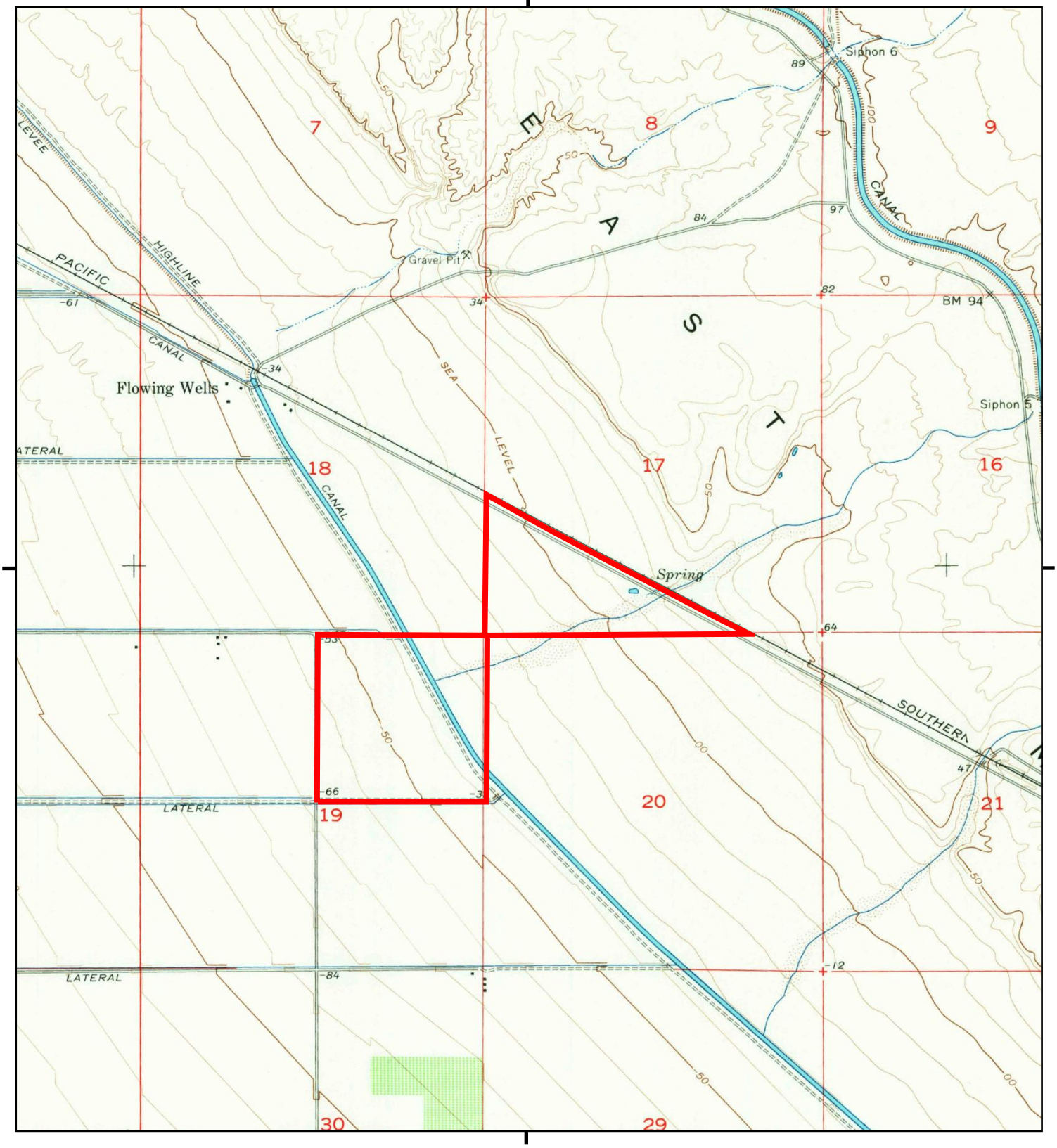
SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1965



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1965, 7.5-minute

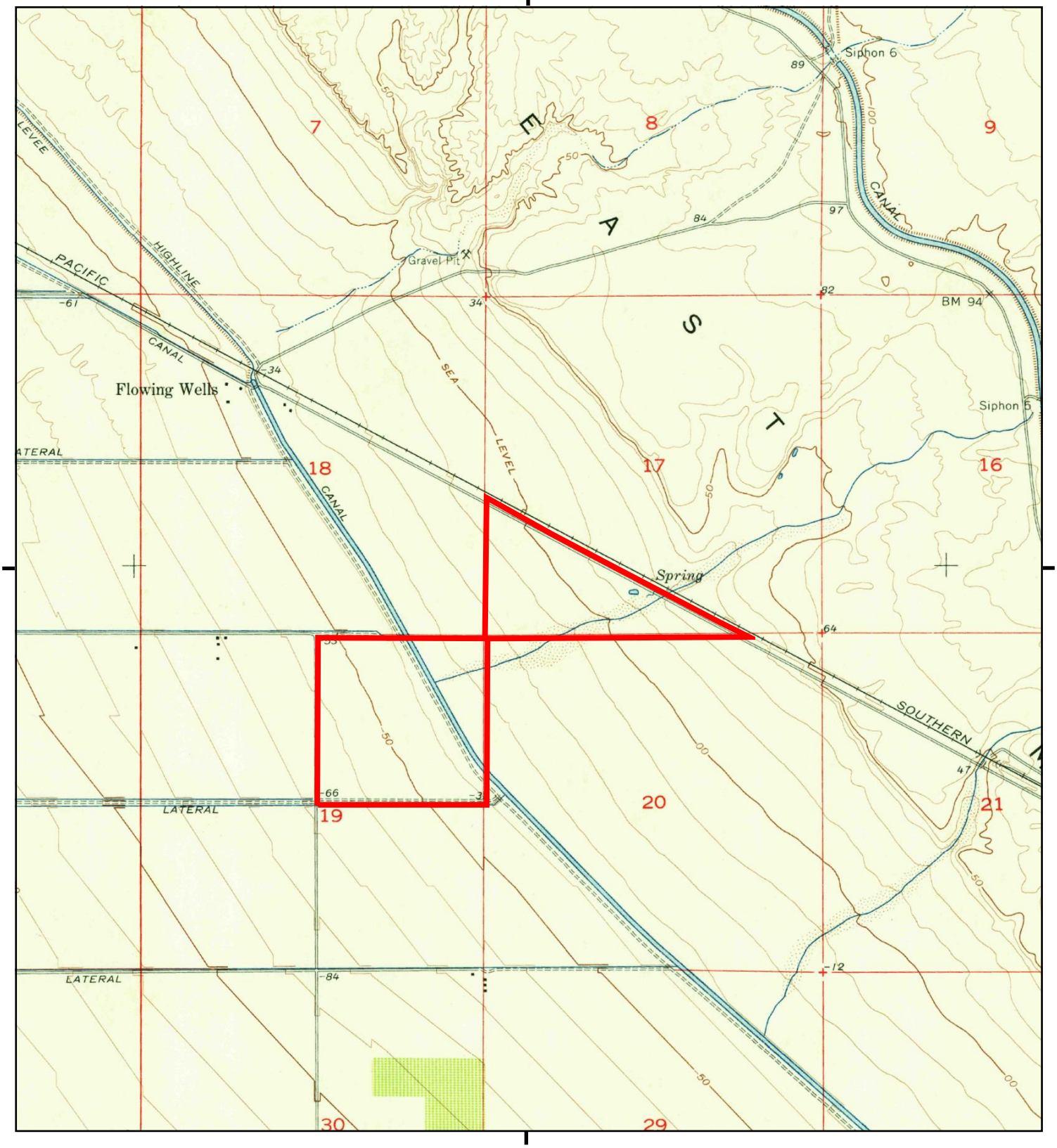
SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1956



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

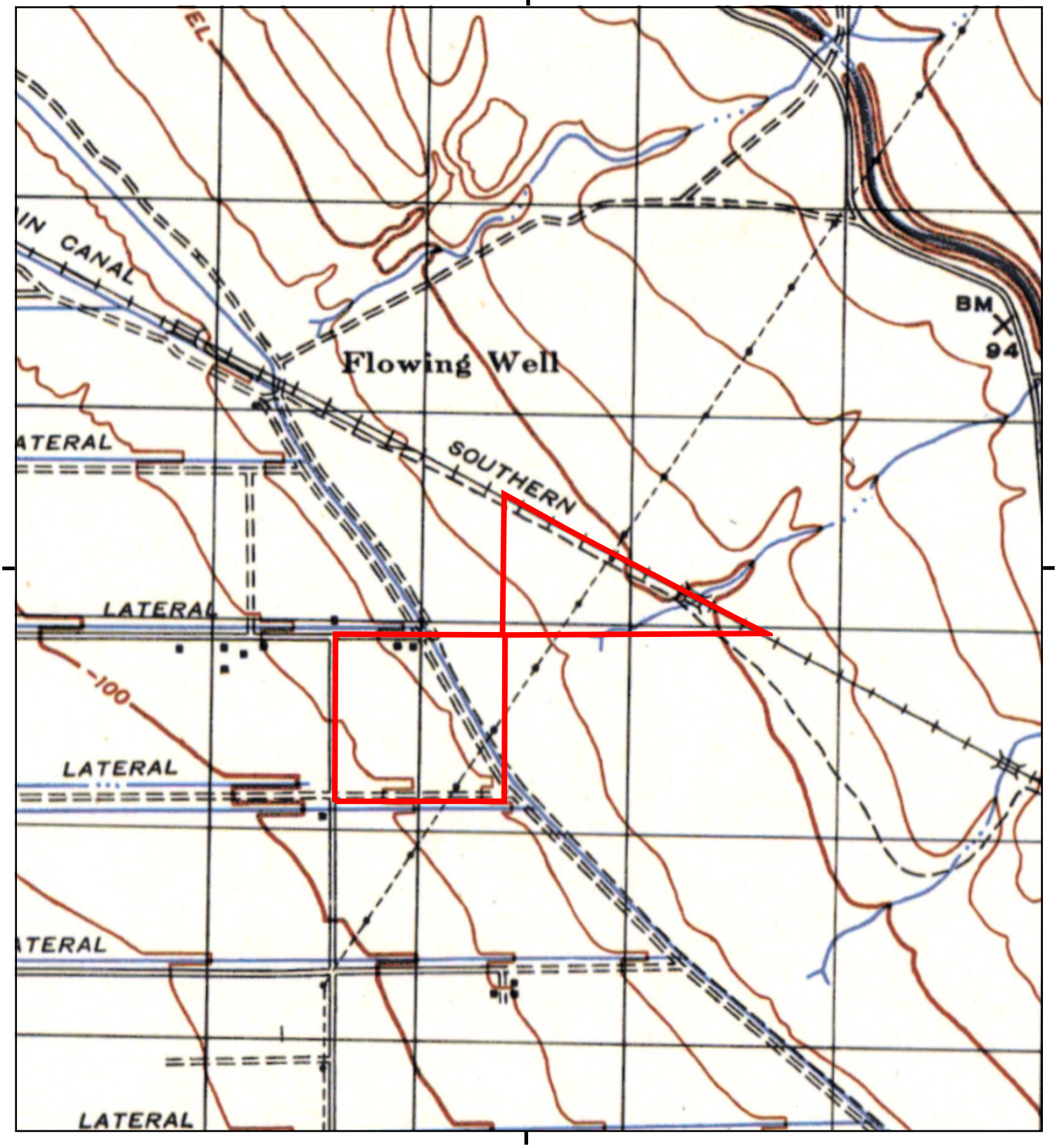
NW N NE
W E
SW S SE

TP, Iris, 1956, 7.5-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, IRIS, 1947, 15-minute

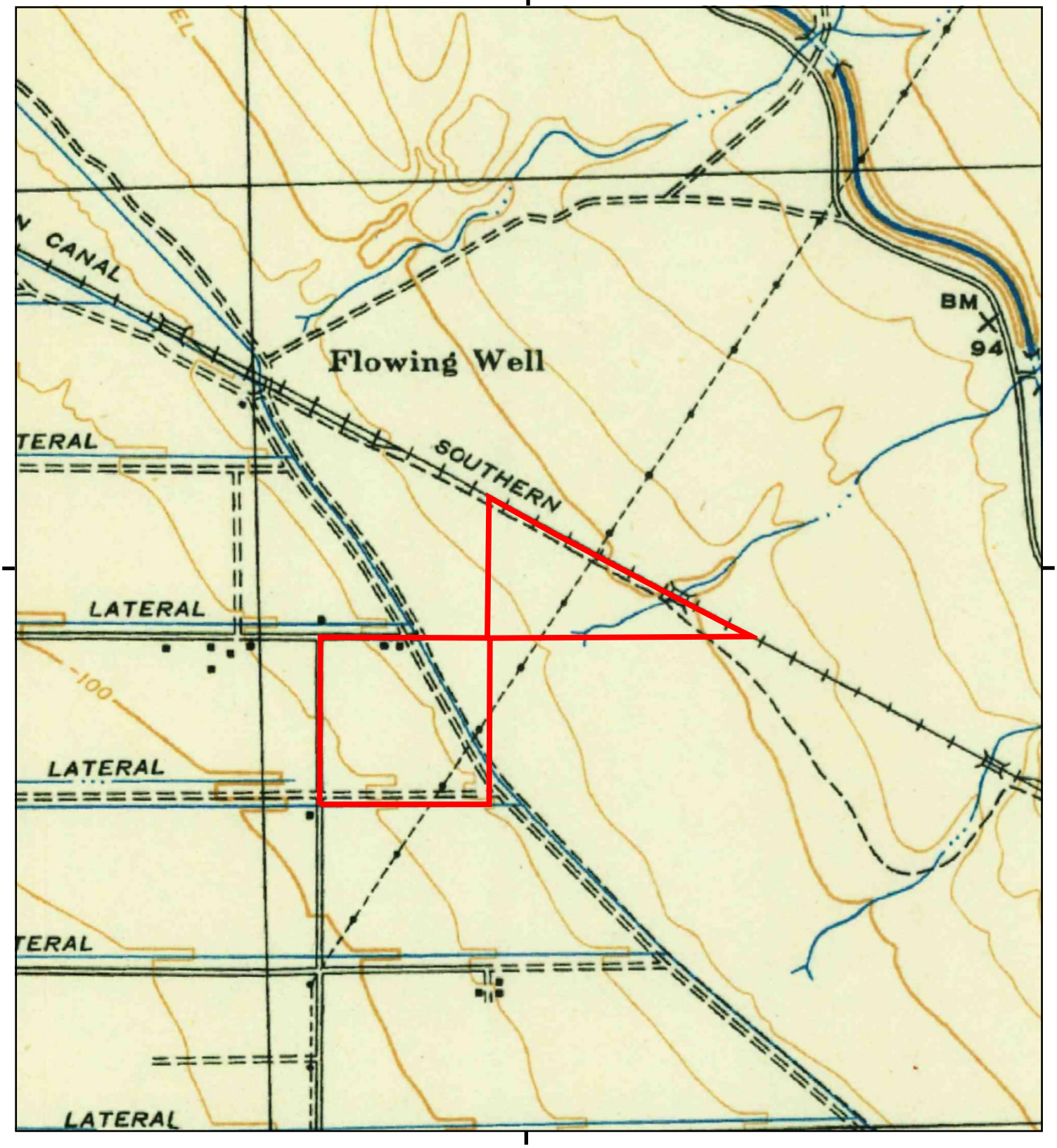
SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1945



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1945, 15-minute

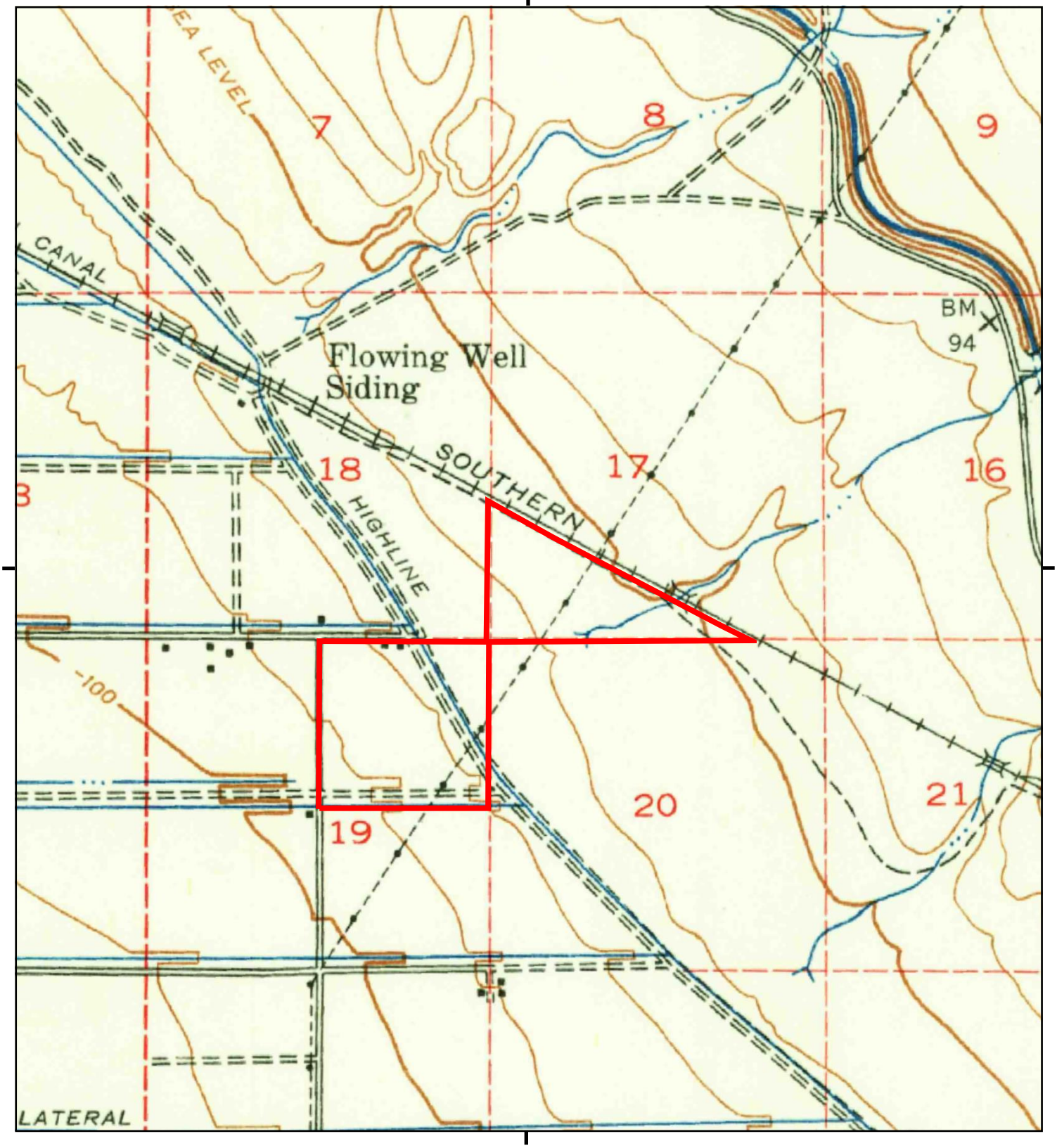
SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

Historical Topo Map

1940



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Iris, 1940, 15-minute

SITE NAME: Cedar Solar 2
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial Co
Calipatria, CA 92233
CLIENT: GS Lyon Consultants

N

PC ORIGINAL PKG

APPENDIX E

PC ORIGINAL PKG

Cedar Solar 2
NEC Schrimpf and Wiest Rd. Imperial County
Calipatria, CA 92233

Inquiry Number: 6171651.3s
August 27, 2020

EDR Area / Corridor Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

PC ORIGINAL PKG

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Mapped Sites Summary	2
Key Map	2
Map Findings Summary	3
Focus Maps	8
Map Findings	26
Orphan Summary	OR-1
Government Records Searched/Data Currency Tracking	GR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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PC ORIGINAL PKG

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

SUBJECT PROPERTY INFORMATION

ADDRESS

NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

TARGET PROPERTY SEARCH RESULTS

The Target Property was identified in the following databases.

Page Numbers and Map Identifcations refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

MINES: Mines Site Location Listing

A review of the MINES list, as provided by EDR, and dated 06/08/2020 has revealed that there is 1 MINES site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
FLOWING WELLS	2095 HIGHWAY 111	2 / 5	26

MINES MRDS: Mineral Resources Data System

A review of the MINES MRDS list, as provided by EDR, and dated 04/06/2018 has revealed that there is 1 MINES MRDS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
FLOWING WELLS PIT		1 / 5	25

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

PC ORIGINAL PKG

EXECUTIVE SUMMARY

Page Numbers and Map Identifcations refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

A review of the MINES list, as provided by EDR, and dated 06/08/2020 has revealed that there is 1 MINES site within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
FLOWING WELLS		N 0 - 1/8 (0.073 mi.)	3 / 2	26

PC ORIGINAL PKG

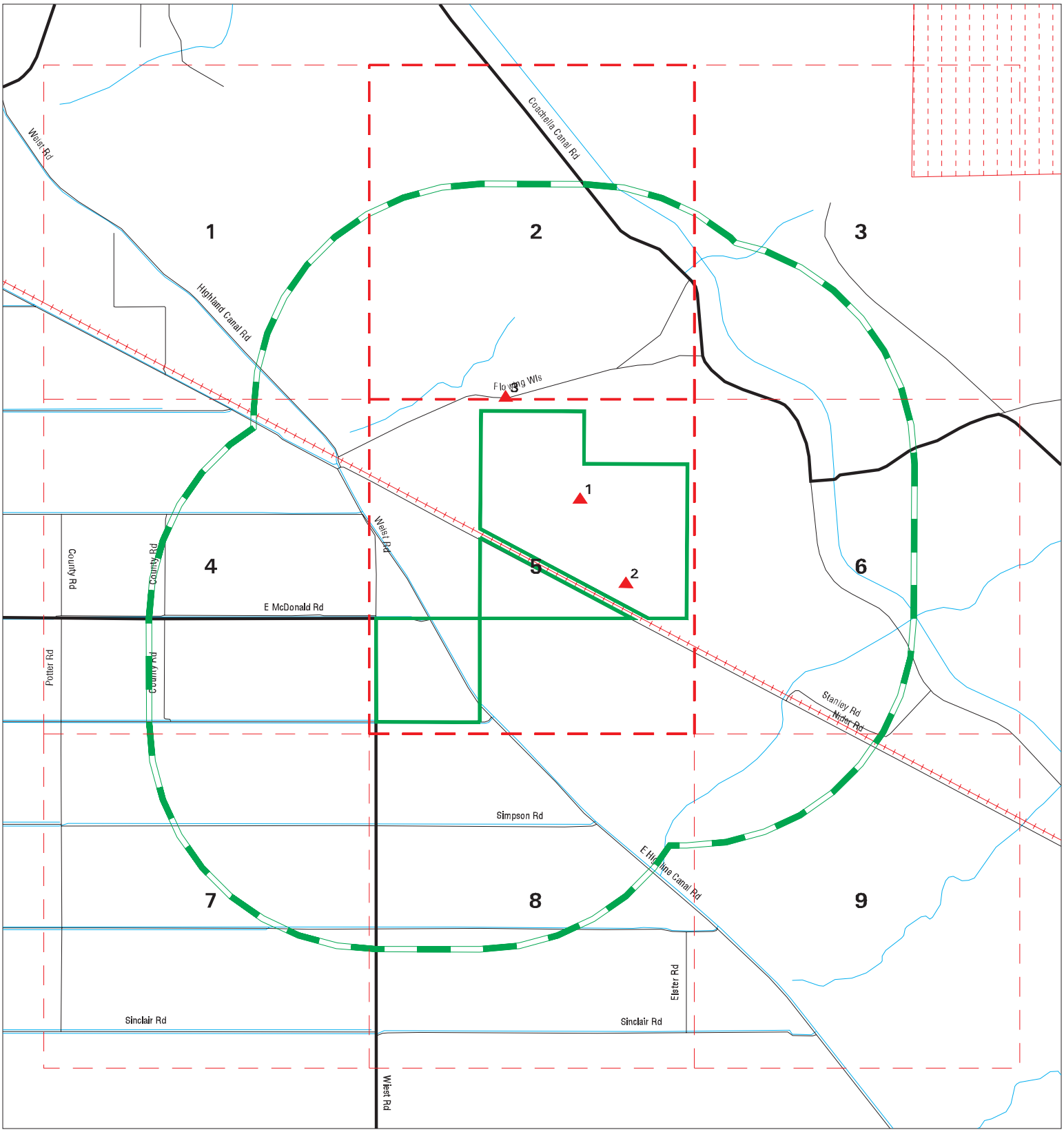
MAPPED SITES SUMMARY

Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
1 / 5	FLOWING WELLS PIT		MINES MRDS	TP
2 / 5	FLOWING WELLS	2095 HIGHWAY 111	MINES	TP
3 / 2	FLOWING WELLS		MINES	388 0.073 North

PC ORIGINAL PKG

Key Map - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/2 1 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20 4:50 PM

PC ORIGINAL PKG

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250	1	1	0	NR	NR	NR	2
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
WDR	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
CERS	TP		NR	NR	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
MINES MRDS	TP	1	NR	NR	NR	NR	NR	1
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		2	1	0	0	0	0	3

PC ORIGINAL PKG

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

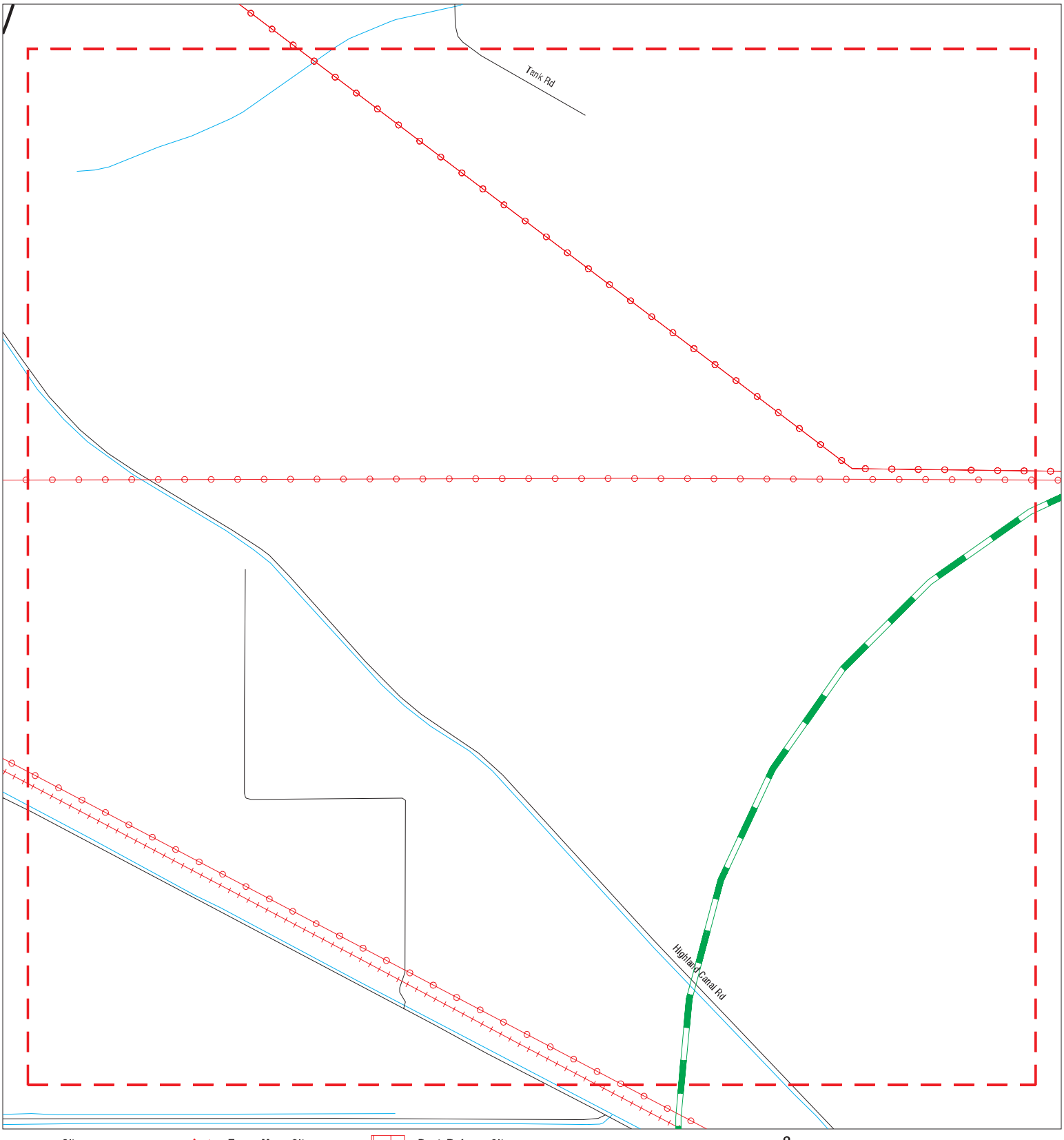
TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

PC ORIGINAL PKG

Focus Map - 1 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 1

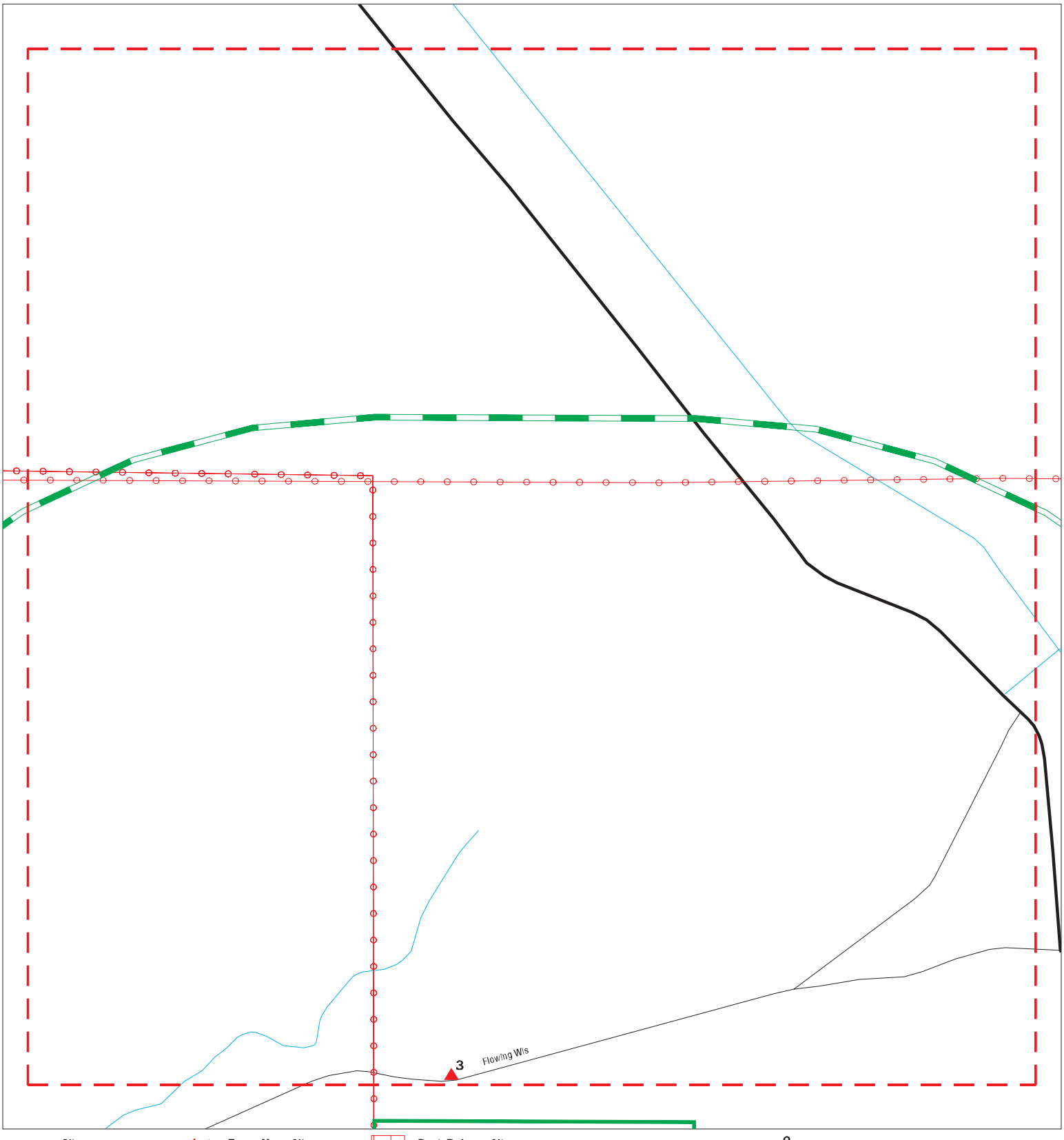
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 2 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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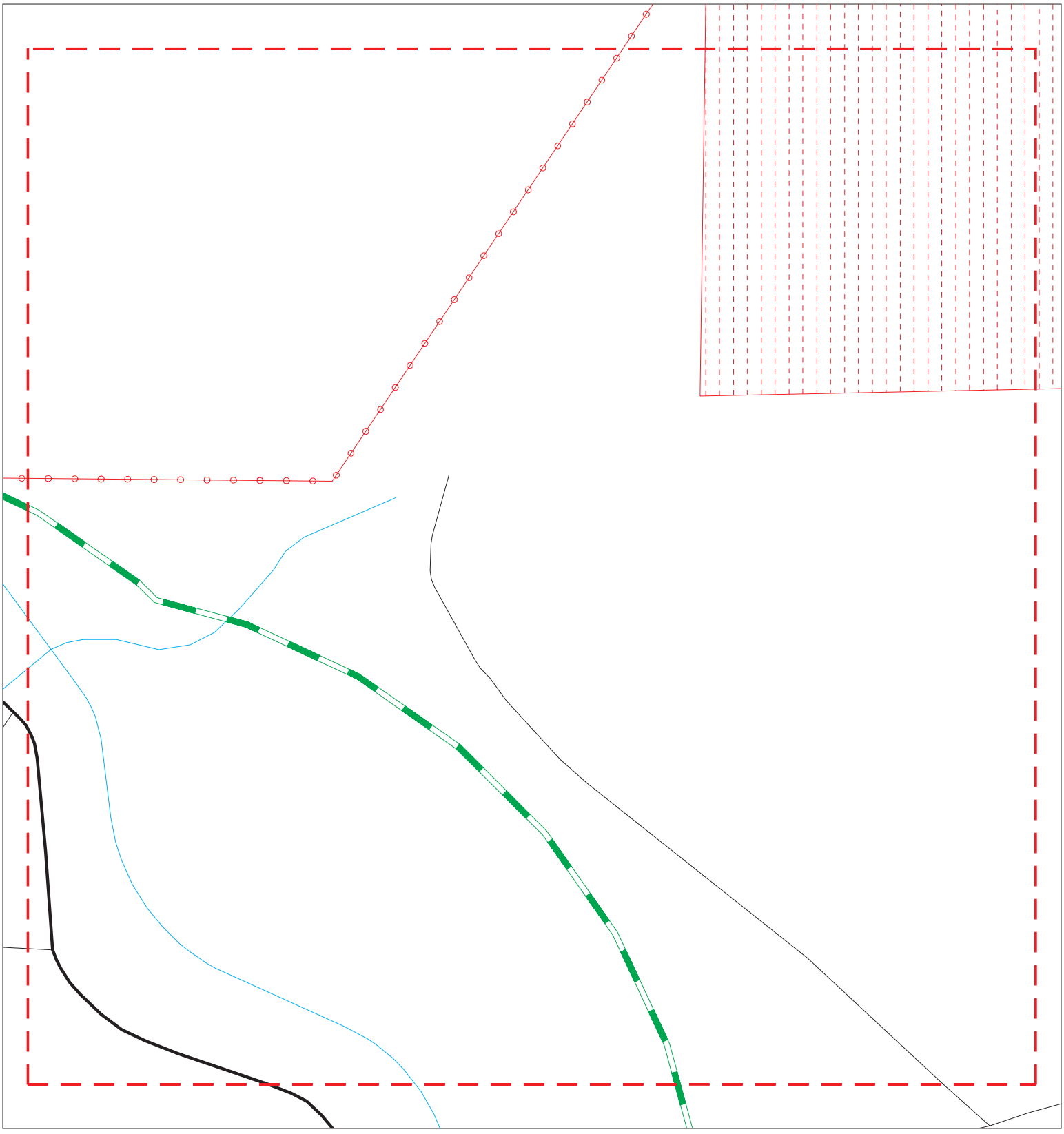
MAPPED SITES SUMMARY - FOCUS MAP 2

Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
3 / 2	FLOWING WELLS		MINES	388 0.073 North

PC ORIGINAL PKG

Focus Map - 3 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 3

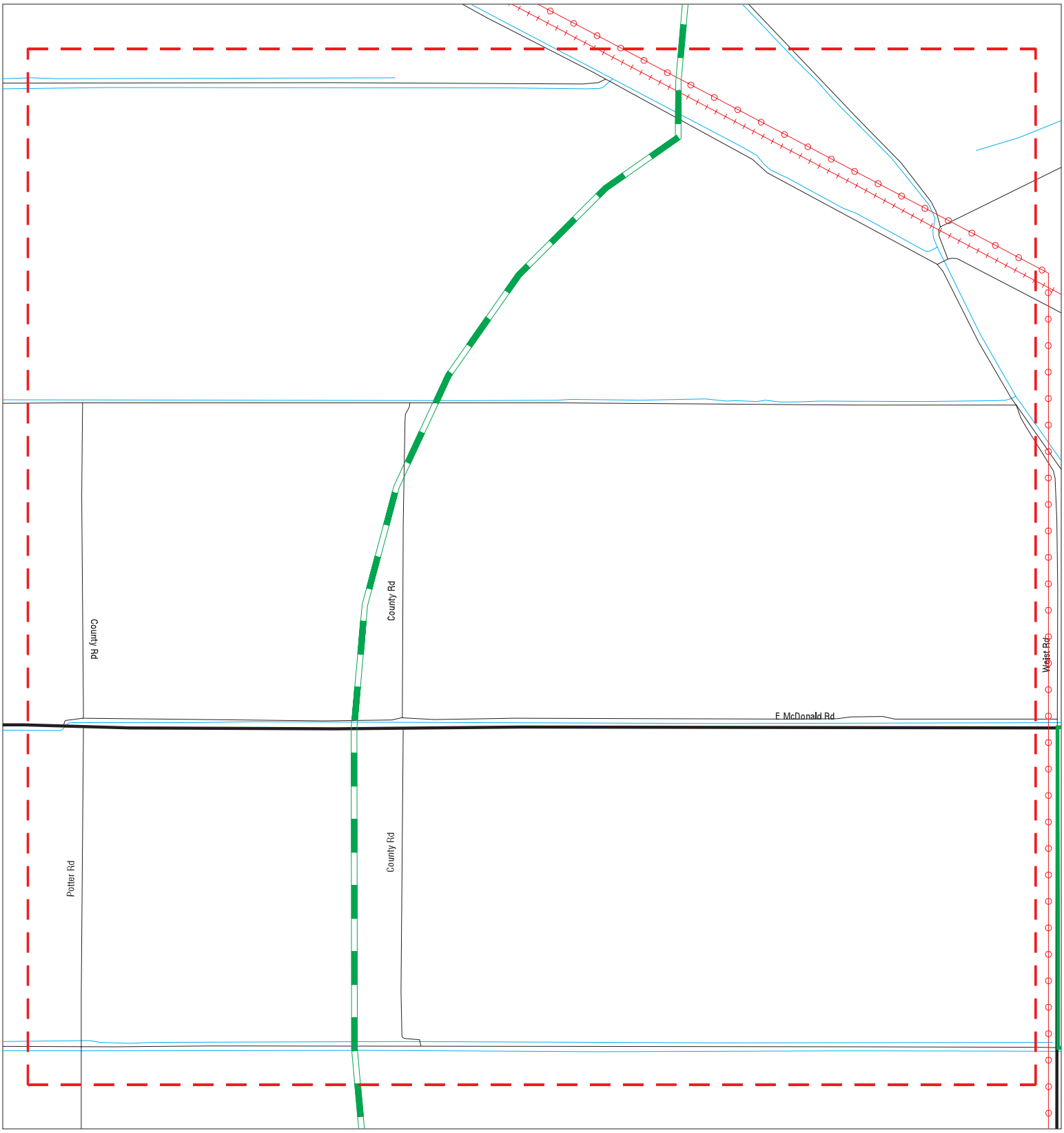
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 4 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 4

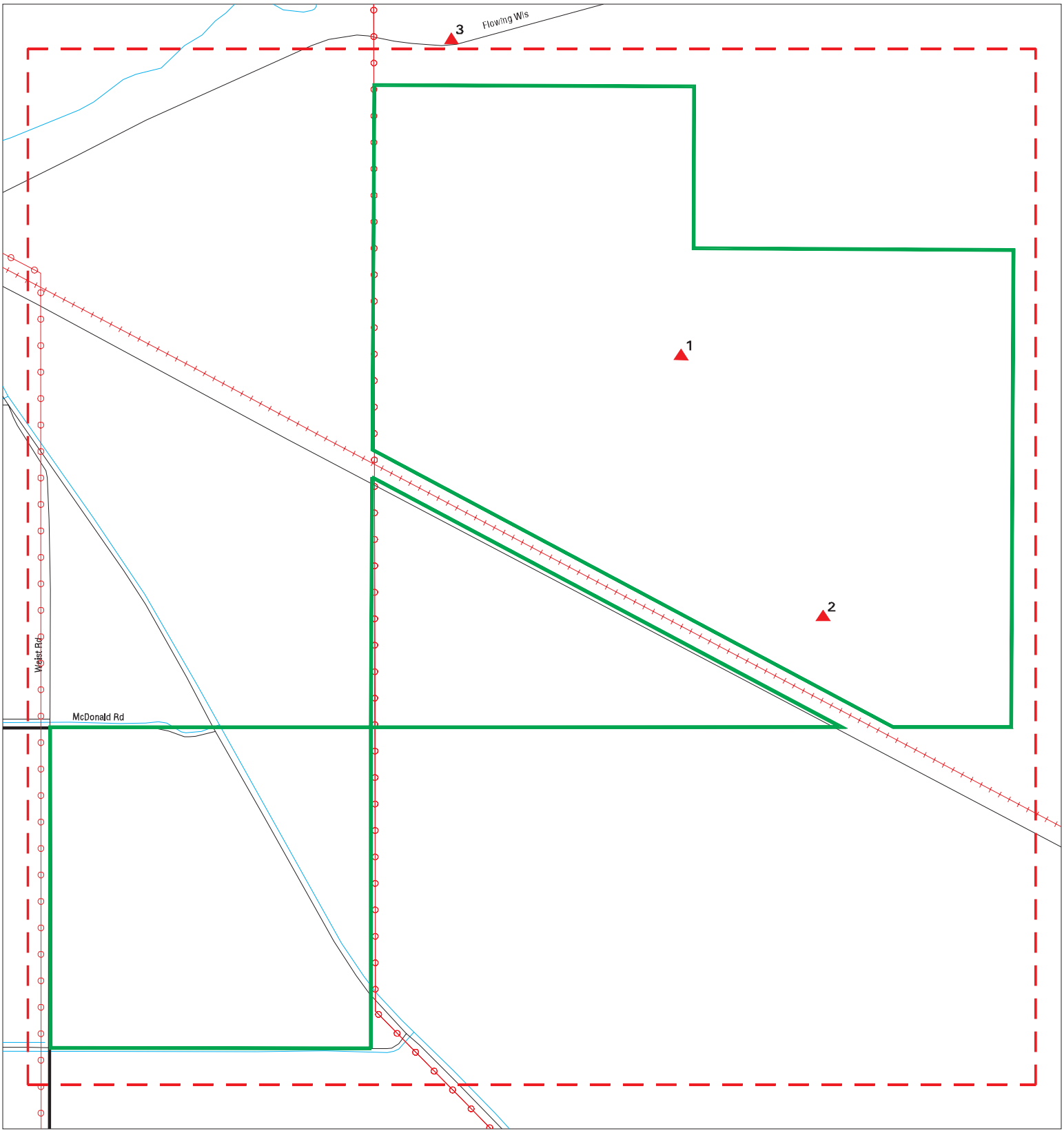
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 5 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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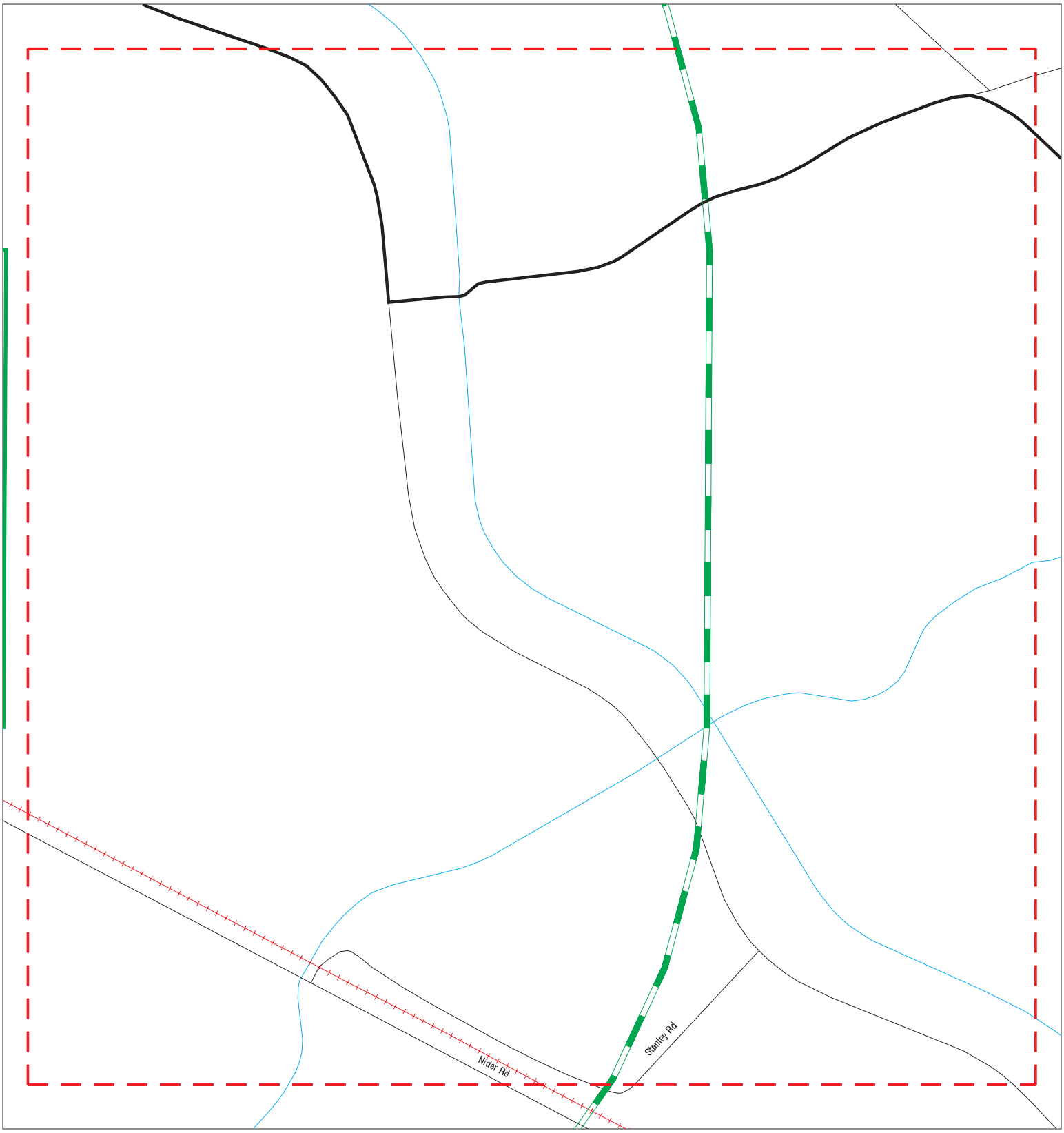
MAPPED SITES SUMMARY - FOCUS MAP 5

Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
1 / 5	FLOWING WELLS PIT		MINES MRDS	TP
2 / 5	FLOWING WELLS	2095 HIGHWAY 111	MINES	TP

PC ORIGINAL PKG

Focus Map - 6 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 6

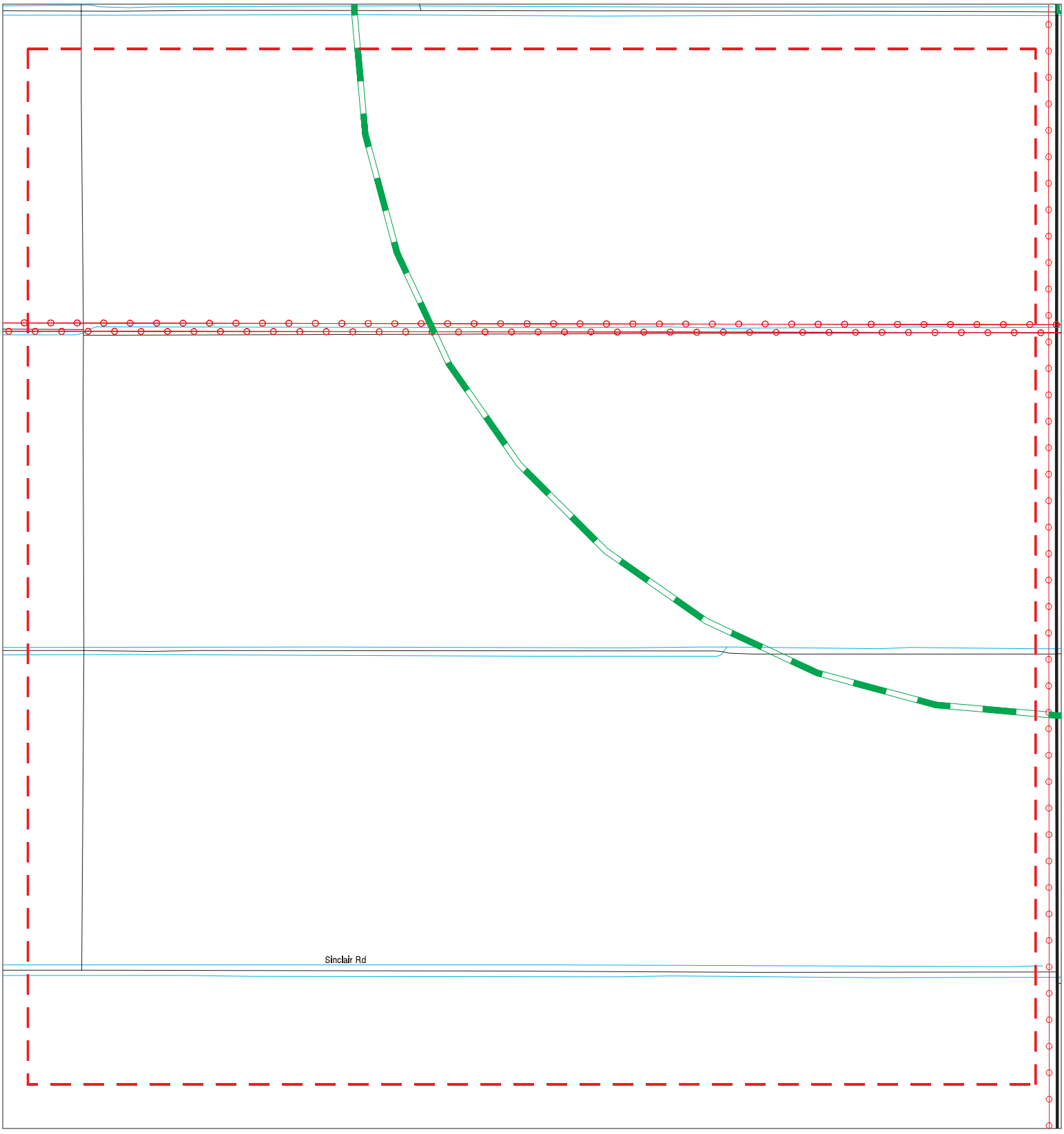
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 7 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 7

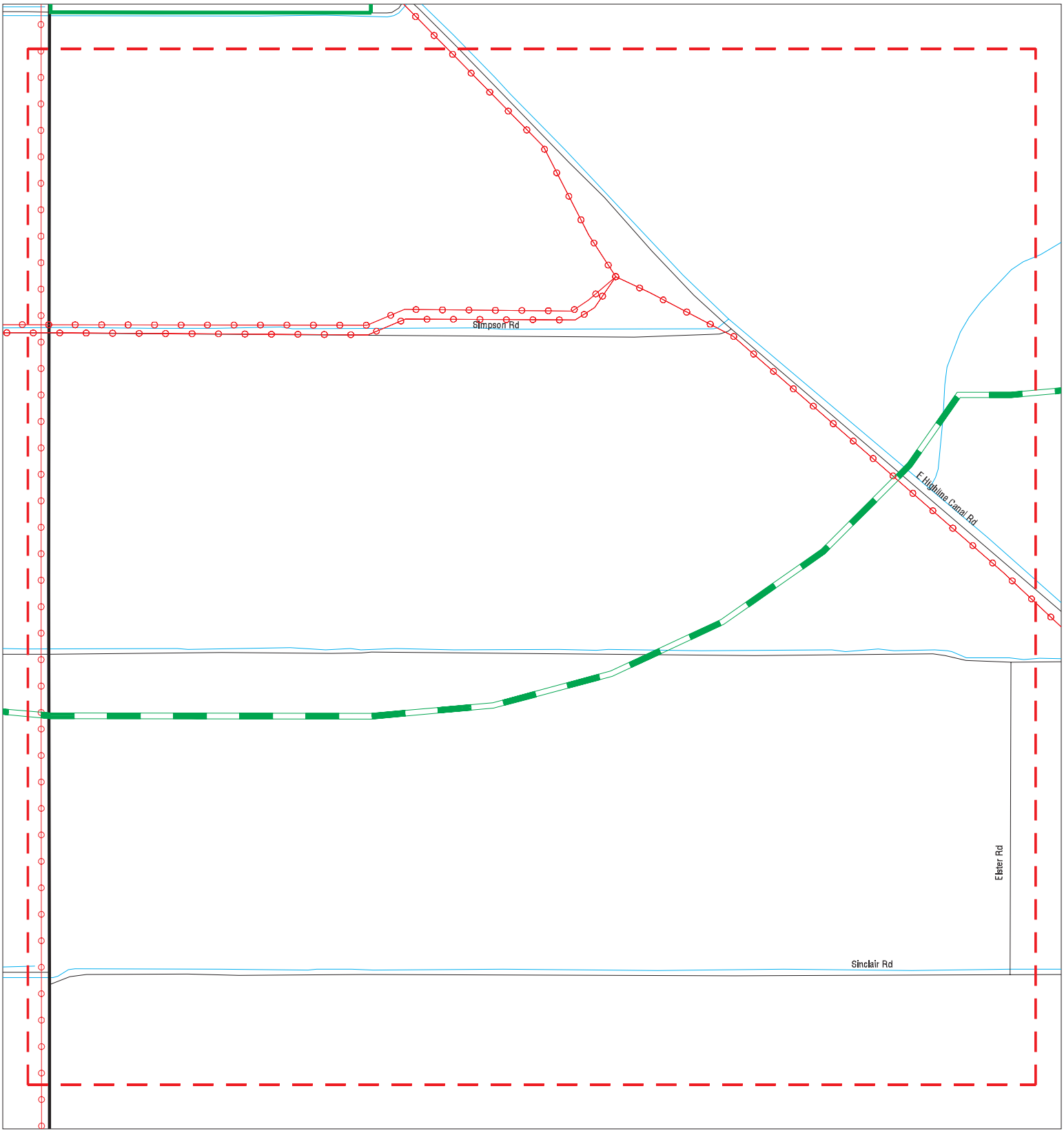
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 8 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 8

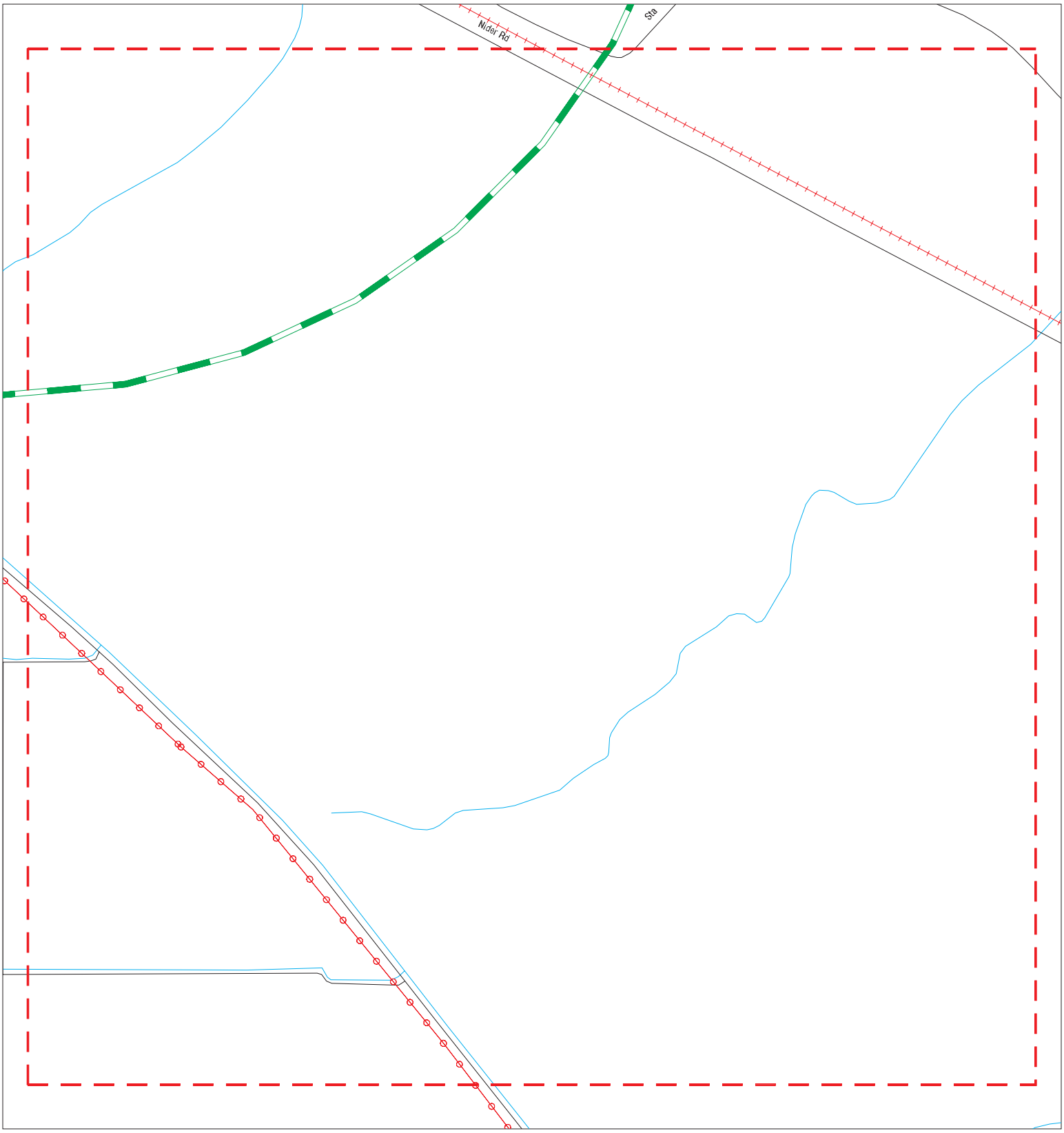
Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

Focus Map - 9 - 6171651.3s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cedar Solar 2	CLIENT: GS Lyon Consultants
ADDRESS: NEC Schrimpf and Wiest Rd. Imperial County	CONTACT: Peter E. Labrucherie
CITY/STATE: Calipatria CA	INQUIRY #: 6171651.3s
ZIP: 92233	DATE: 08/27/20

PC ORIGINAL PKG

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MAPPED SITES SUMMARY - FOCUS MAP 9

Target Property:
NEC SCHRIMPF AND WIEST RD. IMPERIAL COUNTY
CALIPATRIA, CA 92233

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

PC ORIGINAL PKG

1 **FLOWING WELLS PIT** **MINES MRDS** **1025689656**
Target **N/A**
Property **CALIPATRIA, CA 92233**

Actual:
71 ft.

Focus Map:
5

MINES MRDS:

Name:	FLOWING WELLS PIT
Address:	Not reported
Deposit identification Number:	10212004
City,State,Zip:	CALIPATRIA, CALIFORNIA 92233
URL:	https://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10212004
MRDS Identification Number:	Not reported
MAS/MILS Identification Number:	0060250489
Region:	NA
Country:	United States
Primary Commodities:	Sand and Gravel, Construction
Secondary Commodities:	Not reported
Tertiary Commodities:	Not reported
Operation Type:	Surface
Deposit Type:	Not reported
Production Size:	Not reported
Development Status:	Producer
Ore Minerals or Materials:	Not reported
Gangue Minerals or Materials:	Not reported
Other Minerals or Materials:	Not reported
Ore Body Form:	Not reported
Workings Type:	Not reported
Mineral Deposit Model:	Not reported
Alteration Processes:	Not reported
Concentration Processes:	Not reported
Previous Names:	Not reported
Ore Controls:	Not reported
Reporter:	Ridenour, James
Host Rock Unit Name:	Not reported
Host Rock Type:	Not reported
Associated Rock Unit Name:	Not reported
Associated Rock Type Code:	Not reported
Structural Characteristics:	Not reported
Tectonic Setting:	Not reported
References:	Not reported
First Production Year:	Not reported
Began Before/After FPY:	Not reported
Last Production Year:	Not reported
Ended Before/After LPY:	Not reported
Year Discovered:	Not reported
Found Before/After YD:	Not reported
Production History:	Not reported
Discovery Information:	Not reported
Latitude:	33.21396
Longitude:	-115.43271

PC ORIGINAL PKG

2 **FLOWING WELLS** **MINES** **S117661555**
Target **2095 HIGHWAY 111** **N/A**
Property **, CA**

Actual:
32 ft.

Focus Map:
5

MINES:

Name:	FLOWING WELLS
Address:	2095 HIGHWAY 111
City,State,Zip:	CA
Latitude:	33.208056
Longitude:	-115.428889
Lead Agency identification code:	13
Lead Agency name:	County of Imperial
Year of the operator supplied annual report:	2004
Type of report submitted by operator:	2
Number of acres disturbed by the mine:	0
Status of mining operation:	RECLAIMED
Status of mine reclamation:	RECLAMATION CERTIFIED COMPLETE BY LEAD AGENCY
Mine operator:	GRANITE CONSTRUCTION COMPANY
Operator Address:	2095 HIGHWAY 111
Operator City, State, Zip:	EL CENTRO, CA 92243
Operator County:	Not reported
Mine owner:	GRANITE CONSTRUCTION COMPANY
Owner Address:	38000 MONROE ST
Owner City, State, Zip:	INDIO, CA 92203
Owner County:	Not reported
Reclamation plan identification number:	Not reported
Primary product produced by the mine:	Sand and Gravel
Other products produced by the mine:	Not reported
Type of mining utilized by mine:	STREAMBED OR GRAVEL BAR SKIMMING AND PITTING
Conditional use permit identification number:	813-88
Number of acres permitted for mining disturbance:	33
Total amount of funds posted by the mine for reclamation:	Not reported
Financial Assurance Cost Estimate for reclamation:	Not reported

---

3 **FLOWING WELLS** **MINES** **S117661553**
North **N/A**
< 1/8 **, CA**
0.073 mi.
388 ft.

Actual:
75 ft.

Focus Map:
2

MINES:

Name:	FLOWING WELLS
Address:	Not reported
City,State,Zip:	CA
Latitude:	33.221111
Longitude:	-115.438889
Lead Agency identification code:	13
Lead Agency name:	County of Imperial
Year of the operator supplied annual report:	1995
Type of report submitted by operator:	2
Number of acres disturbed by the mine:	0
Status of mining operation:	RECLAIMED
Status of mine reclamation:	RECLAMATION CERTIFIED COMPLETE BY LEAD AGENCY
Mine operator:	IMPERIAL COUNTY, DEPARTMENT OF PUBLIC WORKS
Operator Address:	155 S. 11TH STREET
Operator City, State, Zip:	EL CENTRO, CA 92243
Operator County:	Not reported
Mine owner:	IMPERIAL COUNTY, DEPARTMENT OF PUBLIC WORKS
Owner Address:	155 S. 11TH STREET
Owner City, State, Zip:	EL CENTRO, CA 92243

PC ORIGINAL PKG

FLOWING WELLS (Continued) **S117661553**

Owner County:	Not reported
Reclamation plan identification number:	Not reported
Primary product produced by the mine:	Sand and Gravel
Other products produced by the mine:	Not reported
Type of mining utilized by mine:	OPEN PIT
Conditional use permit identification number:	CA 28594
Number of acres permitted for mining disturbance:	0
Total amount of funds posted by the mine for reclamation:	Not reported
Financial Assurance Cost Estimate for reclamation:	Not reported

PC ORIGINAL PKG

Count: 3 records

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CALIPATRIA	S121645096	HUDSON RANCH I GEOTHERMAL PRODUCTION WEL SITE	DAVIS RD & MCDONALD RD INTERSECTION	92233	CIWQS
IMPERIAL COUNTY	S121637080	ENGH FARMS GEOTHERMAL EXPLORATION	MCDONALD ROAD		CIWQS
NILAND	S126114465		MP: 671.3 SUB DIVISION: YUMA ... WEIST RD AND NOFFSINGER RD	92233	CHMIRS

PC ORIGINAL PKG

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

PC ORIGINAL PKG

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 07/02/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

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SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 57

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

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RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/15/2020
Date Data Arrived at EDR: 05/19/2020
Date Made Active in Reports: 06/18/2020
Number of Days to Update: 30

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 02/13/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 05/15/2020
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/24/2020
Next Scheduled EDR Contact: 09/07/2020
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 02/13/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 05/15/2020
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/24/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Varies

PC ORIGINAL PKG

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/22/2020
Date Data Arrived at EDR: 03/24/2020
Date Made Active in Reports: 06/18/2020
Number of Days to Update: 86

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/27/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/27/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/11/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 08/10/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

PC ORIGINAL PKG

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

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LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)
Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/26/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 78

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

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INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/15/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

PC ORIGINAL PKG

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

PC ORIGINAL PKG

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 02/01/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/06/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

PC ORIGINAL PKG

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/20/2020
Number of Days to Update: 72

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Semi-Annually

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 05/26/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/20/2020
Number of Days to Update: 72

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 06/10/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/26/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 78

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/03/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 07/23/2020
Next Scheduled EDR Contact: 11/01/2020
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 85

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/27/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Quarterly

PC ORIGINAL PKG

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 06/17/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/24/2020
Date Made Active in Reports: 06/05/2020
Number of Days to Update: 73

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/01/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

PC ORIGINAL PKG

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 05/28/2020
Date Data Arrived at EDR: 05/29/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 75

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Varies

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 07/31/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Varies

PC ORIGINAL PKG

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 03/18/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/19/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/27/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2019
Date Data Arrived at EDR: 05/28/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

PC ORIGINAL PKG

Date of Government Version: 04/20/2020
Date Data Arrived at EDR: 04/21/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 83

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 03/18/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/19/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 05/20/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/06/2020
Number of Days to Update: 78

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 08/17/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

PC ORIGINAL PKG

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing
Aboveground storage tank sites

Date of Government Version: 05/04/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 72

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 04/20/2020
Date Data Arrived at EDR: 04/21/2020
Date Made Active in Reports: 07/09/2020
Number of Days to Update: 79

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 05/28/2020
Date Data Arrived at EDR: 05/29/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 75

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

PC ORIGINAL PKG

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 06/01/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 08/14/2020
Number of Days to Update: 73

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 02/27/2020
Date Data Arrived at EDR: 03/24/2020
Date Made Active in Reports: 06/18/2020
Number of Days to Update: 86

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 06/23/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 03/31/2020
Date Data Arrived at EDR: 04/21/2020
Date Made Active in Reports: 07/09/2020
Number of Days to Update: 79

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

PC ORIGINAL PKG

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/25/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 05/13/2020
Date Data Arrived at EDR: 05/18/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 86

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 08/13/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/06/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

PC ORIGINAL PKG

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/05/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/24/2020
Date Made Active in Reports: 06/18/2020
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 07/31/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/06/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/17/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

PC ORIGINAL PKG

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 02/05/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 79

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/14/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 03/01/2020
Date Data Arrived at EDR: 04/21/2020
Date Made Active in Reports: 07/15/2020
Number of Days to Update: 85

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 01/31/2020
Date Data Arrived at EDR: 05/13/2020
Date Made Active in Reports: 08/03/2020
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/15/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PC ORIGINAL PKG

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 34

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 10/09/2019
Date Data Arrived at EDR: 10/11/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 70

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/13/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/25/2019
Date Data Arrived at EDR: 10/25/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 82

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 07/20/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Quarterly

PC ORIGINAL PKG

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 42
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 06/05/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/01/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/06/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 06/24/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

PC ORIGINAL PKG

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 07/27/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2020
Date Data Arrived at EDR: 07/15/2020
Date Made Active in Reports: 07/21/2020
Number of Days to Update: 6

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/06/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Varies

BRS: Biennial Reporting System
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/07/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program
DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites
Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

PC ORIGINAL PKG

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/21/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 08/25/2020
Number of Days to Update: 22

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/01/2020
Date Data Arrived at EDR: 05/21/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 84

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Semi-Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

PC ORIGINAL PKG

Date of Government Version: 05/28/2020
Date Data Arrived at EDR: 05/28/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 77

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 08/26/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Quarterly

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/27/2020
Next Scheduled EDR Contact: 09/07/2020
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/21/2020
Next Scheduled EDR Contact: 09/07/2020
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 03/05/2020
Date Data Arrived at EDR: 03/06/2020
Date Made Active in Reports: 05/29/2020
Number of Days to Update: 84

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 06/19/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/03/2020
Date Data Arrived at EDR: 03/03/2020
Date Made Active in Reports: 05/28/2020
Number of Days to Update: 86

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 08/26/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/17/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 74

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Varies

PC ORIGINAL PKG

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 04/04/2020
Date Data Arrived at EDR: 04/07/2020
Date Made Active in Reports: 06/26/2020
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 07/02/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 08/19/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 05/18/2020
Date Data Arrived at EDR: 05/19/2020
Date Made Active in Reports: 08/03/2020
Number of Days to Update: 76

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/17/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 03/24/2020
Date Made Active in Reports: 06/05/2020
Number of Days to Update: 73

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 06/22/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing

list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 08/14/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: Varies

CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

PC ORIGINAL PKG

Date of Government Version: 05/04/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 72

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

KERN CO CUPA: Hazardous Material Business Plan

A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/05/2020
Date Made Active in Reports: 08/26/2020
Number of Days to Update: 113

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 06/04/2020
Date Data Arrived at EDR: 06/05/2020
Date Made Active in Reports: 08/17/2020
Number of Days to Update: 73

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 08/24/2020
Next Scheduled EDR Contact: 12/13/2020
Data Release Frequency: Annually

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 05/28/2020
Date Data Arrived at EDR: 05/29/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 75

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 03/25/2020
Date Data Arrived at EDR: 03/26/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 81

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 08/17/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Varies

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/24/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 59

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/16/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 04/03/2020
Date Data Arrived at EDR: 04/07/2020
Date Made Active in Reports: 04/15/2020
Number of Days to Update: 8

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

PC ORIGINAL PKG

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 04/09/2020
Date Data Arrived at EDR: 04/10/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/14/2020
Date Data Arrived at EDR: 05/15/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 73

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data
Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 04/15/2020
Date Made Active in Reports: 07/02/2020
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 07/06/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Annually

ICE: ICE
Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 05/18/2020
Date Data Arrived at EDR: 05/19/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 73

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 08/17/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 05/18/2020
Date Data Arrived at EDR: 05/18/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 74

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/17/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Quarterly

PC ORIGINAL PKG

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/08/2020
Date Made Active in Reports: 06/26/2020
Number of Days to Update: 79

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 07/07/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/28/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 08/14/2020
Number of Days to Update: 73

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 05/12/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/28/2020
Number of Days to Update: 77

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/10/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 06/01/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 08/14/2020
Number of Days to Update: 73

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

PC ORIGINAL PKG

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 03/12/2020
Date Data Arrived at EDR: 03/13/2020
Date Made Active in Reports: 05/21/2020
Number of Days to Update: 69

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 08/20/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 06/06/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/20/2020
Number of Days to Update: 72

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)

Underground control injection sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing

Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 11/19/2019
Date Data Arrived at EDR: 01/07/2020
Date Made Active in Reports: 03/09/2020
Number of Days to Update: 62

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Varies

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 06/17/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)

Military privatized sites

PC ORIGINAL PKG

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing
In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/20/2020
Number of Days to Update: 72

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System
The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 06/01/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 08/14/2020
Number of Days to Update: 73

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data
The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 04/20/2020
Date Data Arrived at EDR: 04/21/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 83

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)
Non-Case Information sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

PC ORIGINAL PKG

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)
Other Oil & Gas Projects sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)
Produced water ponds sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Varies

PCS: Permit Compliance System
PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 06/08/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Semi-Annually

PCS INACTIVE: Listing of Inactive PCS Permits
An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Semi-Annually

PCS ENF: Enforcement data
No description is available for this data

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Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 07/01/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 05/21/2020
Next Scheduled EDR Contact: 09/07/2020
Data Release Frequency: Varies

HWTS: Hazardous Waste Tracking System
DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 04/09/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 83

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 08/02/2020
Next Scheduled EDR Contact: 10/18/2020
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

PC ORIGINAL PKG

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 06/30/2020
Date Data Arrived at EDR: 07/01/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 16

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

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CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 05/18/2020
Date Data Arrived at EDR: 05/19/2020
Date Made Active in Reports: 06/01/2020
Number of Days to Update: 13

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 03/27/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 76

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 06/17/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 04/01/2020
Date Data Arrived at EDR: 04/20/2020
Date Made Active in Reports: 07/06/2020
Number of Days to Update: 77

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 04/16/2020
Date Data Arrived at EDR: 04/20/2020
Date Made Active in Reports: 07/08/2020
Number of Days to Update: 79

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 08/13/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/07/2020
Date Data Arrived at EDR: 05/07/2020
Date Made Active in Reports: 07/23/2020
Number of Days to Update: 77

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 08/13/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 01/10/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 76

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/19/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 26

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

PC ORIGINAL PKG

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/09/2020
Date Data Arrived at EDR: 04/10/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 82

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

KERN COUNTY:

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/05/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 73

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/11/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 08/21/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/20/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/14/2020
Number of Days to Update: 77

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 07/08/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Varies

LASSEN COUNTY:

PC ORIGINAL PKG

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/30/2020
Date Data Arrived at EDR: 01/31/2020
Date Made Active in Reports: 04/09/2020
Number of Days to Update: 69

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 06/10/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 03/26/2020
Date Data Arrived at EDR: 03/26/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 81

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/13/2020
Date Data Arrived at EDR: 04/14/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 78

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 07/13/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 01/15/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 51

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 07/08/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/25/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills

This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/30/2012
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 42

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory

A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/25/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory

A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/25/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/25/2020
Date Data Arrived at EDR: 04/14/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 78

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 07/17/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 07/08/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

PC ORIGINAL PKG

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 06/27/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 64

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 02/24/2020
Date Data Arrived at EDR: 02/25/2020
Date Made Active in Reports: 05/07/2020
Number of Days to Update: 72

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 06/24/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/28/2020
Date Data Arrived at EDR: 07/30/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 1

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 07/24/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 05/15/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 08/14/2020
Number of Days to Update: 73

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 08/19/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Varies

MONTEREY COUNTY:

PC ORIGINAL PKG

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 07/13/2020
Date Data Arrived at EDR: 07/15/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 16

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 07/08/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/19/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/19/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/07/2020
Date Made Active in Reports: 07/24/2020
Number of Days to Update: 78

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 07/21/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 05/01/2020
Date Data Arrived at EDR: 05/08/2020
Date Made Active in Reports: 07/24/2020
Number of Days to Update: 77

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 07/31/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/01/2020
Date Data Arrived at EDR: 05/08/2020
Date Made Active in Reports: 07/24/2020
Number of Days to Update: 77

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 07/31/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

PC ORIGINAL PKG

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 05/01/2020
Date Data Arrived at EDR: 05/05/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 73

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/03/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 06/10/2020
Date Made Active in Reports: 08/24/2020
Number of Days to Update: 75

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 03/10/2020
Date Data Arrived at EDR: 03/11/2020
Date Made Active in Reports: 05/20/2020
Number of Days to Update: 70

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/10/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 03/10/2020
Date Data Arrived at EDR: 03/11/2020
Date Made Active in Reports: 05/20/2020
Number of Days to Update: 70

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/10/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/18/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 76

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/02/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/24/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/17/2020
Number of Days to Update: 78

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/02/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List

Cupa facility list

Date of Government Version: 04/24/2020
Date Data Arrived at EDR: 04/28/2020
Date Made Active in Reports: 07/13/2020
Number of Days to Update: 76

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 02/25/2020
Date Data Arrived at EDR: 02/26/2020
Date Made Active in Reports: 05/07/2020
Number of Days to Update: 71

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 06/01/2020
Date Data Arrived at EDR: 06/02/2020
Date Made Active in Reports: 08/14/2020
Number of Days to Update: 73

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/02/2020
Next Scheduled EDR Contact: 09/14/2020
Data Release Frequency: Quarterly

PC ORIGINAL PKG

LF SAN DIEGO: Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 04/09/2020
Date Data Arrived at EDR: 04/10/2020
Date Made Active in Reports: 06/26/2020
Number of Days to Update: 77

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

LUST SAN FRANCISCO: Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 05/04/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 72

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 06/10/2020
Next Scheduled EDR Contact: 09/28/2020
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

PC ORIGINAL PKG

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 05/08/2020
Date Data Arrived at EDR: 05/08/2020
Date Made Active in Reports: 08/03/2020
Number of Days to Update: 87

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/12/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/03/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 05/08/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

PC ORIGINAL PKG

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 08/19/2020
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 04/22/2020
Date Data Arrived at EDR: 04/24/2020
Date Made Active in Reports: 05/07/2020
Number of Days to Update: 13

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 07/28/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/02/2020
Date Data Arrived at EDR: 03/04/2020
Date Made Active in Reports: 05/14/2020
Number of Days to Update: 71

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Quarterly

SONOMA COUNTY:

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CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 02/25/2020
Date Data Arrived at EDR: 02/26/2020
Date Made Active in Reports: 03/11/2020
Number of Days to Update: 14

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 06/30/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/03/2020
Date Data Arrived at EDR: 04/08/2020
Date Made Active in Reports: 06/26/2020
Number of Days to Update: 79

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 06/17/2020
Next Scheduled EDR Contact: 10/05/2020
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 02/04/2020
Date Data Arrived at EDR: 02/05/2020
Date Made Active in Reports: 04/15/2020
Number of Days to Update: 70

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 07/06/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 05/26/2020
Date Data Arrived at EDR: 05/28/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 77

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 08/25/2020
Next Scheduled EDR Contact: 12/14/2020
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 05/18/2020
Date Data Arrived at EDR: 05/19/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 73

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

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Date of Government Version: 04/09/2020
Date Data Arrived at EDR: 04/10/2020
Date Made Active in Reports: 07/01/2020
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 05/14/2020
Date Data Arrived at EDR: 05/15/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 73

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 08/06/2020
Next Scheduled EDR Contact: 11/16/2020
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 07/14/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 03/26/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/09/2020
Number of Days to Update: 77

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 07/20/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/24/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: No Update Planned

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MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 03/26/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/09/2020
Number of Days to Update: 77
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 07/20/2020
Next Scheduled EDR Contact: 11/02/2020
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 05/26/2020
Date Data Arrived at EDR: 06/09/2020
Date Made Active in Reports: 08/20/2020
Number of Days to Update: 72
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/09/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 03/23/2020
Date Data Arrived at EDR: 04/01/2020
Date Made Active in Reports: 06/17/2020
Number of Days to Update: 77
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 06/24/2020
Next Scheduled EDR Contact: 10/12/2020
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/17/2020
Number of Days to Update: 79
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 08/04/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 05/12/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76
Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/10/2020
Next Scheduled EDR Contact: 11/23/2020
Data Release Frequency: No Update Planned

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NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/19/2020
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 07/31/2020
Next Scheduled EDR Contact: 11/09/2020
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/09/2020
Next Scheduled EDR Contact: 10/26/2020
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 10/02/2019
Date Made Active in Reports: 12/10/2019
Number of Days to Update: 69

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/11/2020
Next Scheduled EDR Contact: 11/30/2020
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/04/2020
Next Scheduled EDR Contact: 09/21/2020
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

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AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

STREET AND ADDRESS INFORMATION

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APPENDIX F

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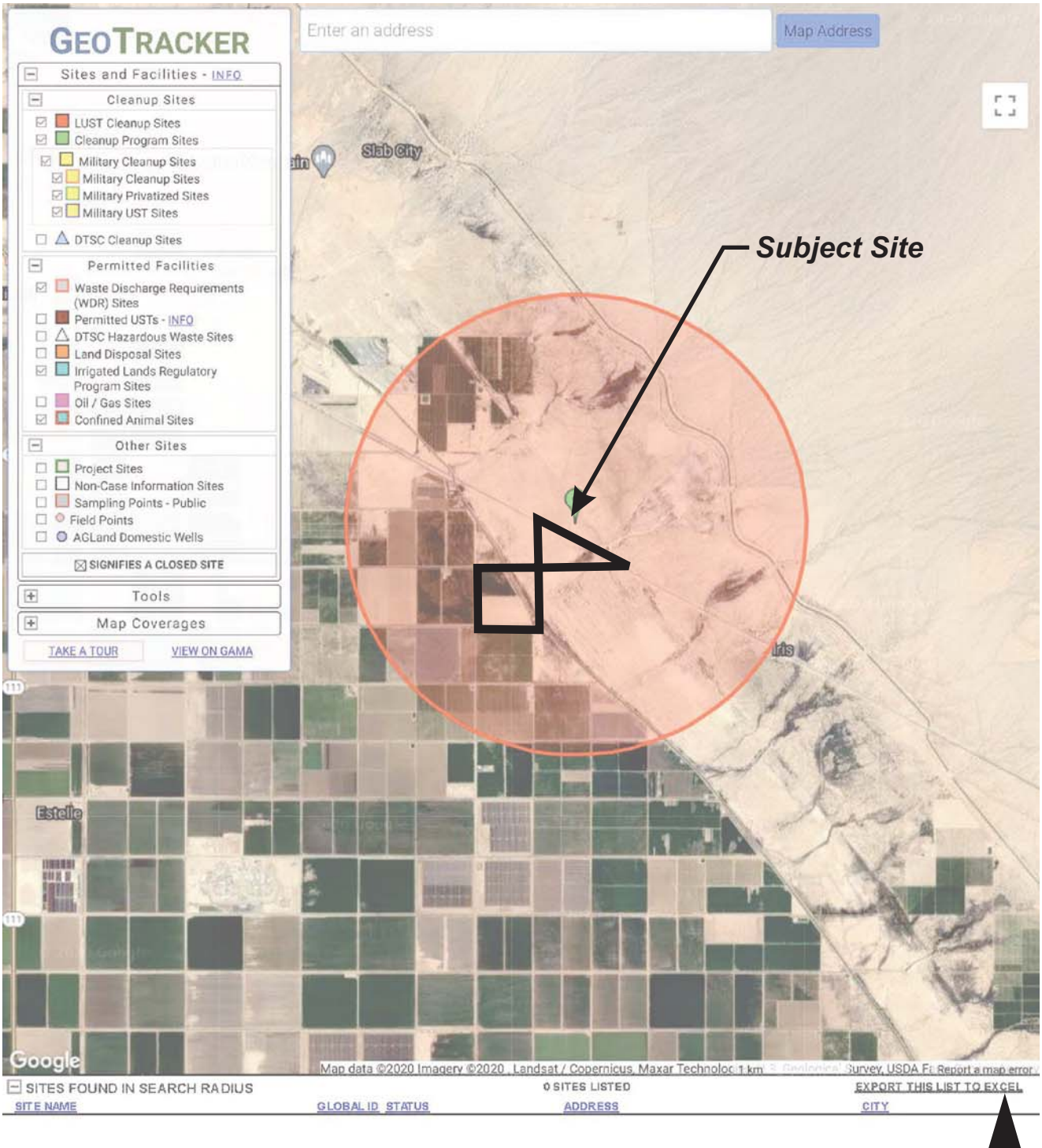
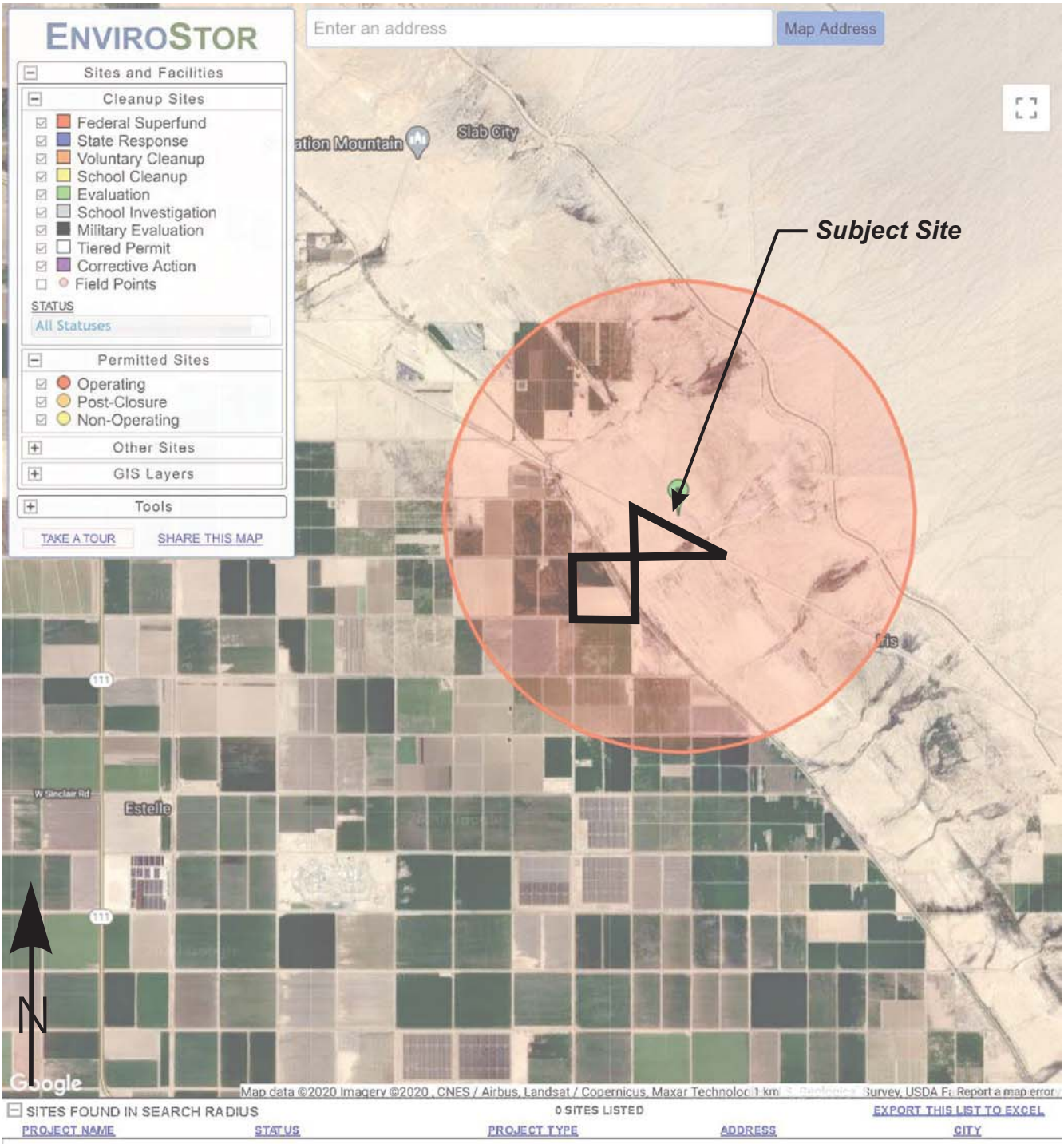


GS Lyon Project No.: GS2016	Geotracker Map	Plate 16

PC ORIGINAL PKG



GS Lyon Project No.: GS2016	Envirostor Map	Plate 17

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APPENDIX G

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FIDELITY NATIONAL TITLE GROUP
FNTG Western Region Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Issuing Policies of Fidelity National Title Insurance Company

Title Officer: Mitch LaRiva
Escrow Officer: Major Accounts OAC

Order No.: 997-**30052457**-ML6

TO:

ZGlobal
604 Sutter Street, Suite 250
Folsom, CA 95630

ATTN: **Jamie Nichole Nagel**
YOUR REFERENCE: **025-260-022**

PROPERTY ADDRESS: No situs APN 025-260-022, Unincorporated County of Imperial, CA

PRELIMINARY REPORT

In response to the application for a policy of title insurance referenced herein, ***Fidelity National Title Company*** *hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a policy or policies of title insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.*

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Attachment One. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Attachment One. Copies of the policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

The policy(s) of title insurance to be issued hereunder will be policy(s) of Fidelity National Title Insurance Company, a Florida Corporation.

Please read the exceptions shown or referred to herein and the exceptions and exclusions set forth in Attachment One of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land.

Countersigned by:

Authorized Signature

PC ORIGINAL PKG

FIDELITY NATIONAL TITLE GROUP
FNTG Western Region Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

PRELIMINARY REPORT

EFFECTIVE DATE: **July 31, 2020 at 7:30 a.m.**

ORDER NO.: 997-30052457-ML6

The form of policy or policies of title insurance contemplated by this report is:

ALTA Standard Owners Policy (6-17-06)

1. THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

   A FEE

2. TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

   DANA TE, an unmarried woman

3. THE LAND REFERRED TO IN THIS REPORT IS DESCRIBED AS FOLLOWS:

   See Exhibit A attached hereto and made a part hereof.

PC ORIGINAL PKG

EXHIBIT A

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA OF UNINCORPORATED COUNTY OF IMPERIAL IN THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

THE NORTHEAST QUARTER OF SECTION 19, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF;

EXCEPTING 1;/2 OF ALL OIL, GAS, HYDROCARBON AND OTHER SUBSTANCES MINERALS AND STEAM IN OR UNDER SAID LAND, RESERVED BY JOHN CHAFFIN, ET AL., BY DEED RECORDED DECEMBER 15, 1975 IN BOOK 1382, PAGE 258 OF OFFICIAL RECORDS.

ALSO EXCEPTING 15% OF ALL OIL, GAS, HYDROCARBON AND OTHER SUBSTANCES MINERALS AND STEAM IN OR UNDER SAID LAND, AS RESERVED BY DAVID F. SCHONEMAN AND DONNA SCHONEMAN, HUSBAND AND WIFE, IN DEED RECORDED JANUARY 30, 1981 AS INSTRUMENT NO. 18, BOOK 1464, PAGE 673 OF OFFICIAL RECORDS.

APN: 025-260-022-000

PC ORIGINAL PKG

EXCEPTIONS

AT THE DATE HEREOF, ITEMS TO BE CONSIDERED AND EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN SAID POLICY FORM WOULD BE AS FOLLOWS:

A. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes to be levied for the fiscal year 2020-2021.

B. Taxes and assessments levied by the Imperial Irrigation District.

C. The lien of supplemental or escaped assessments of property taxes, if any, made pursuant to the provisions of Chapter 3.5 (commencing with Section 75) or Part 2, Chapter 3, Articles 3 and 4, respectively, of the Revenue and Taxation Code of the State of California as a result of the transfer of title to the vestee named in Schedule A or as a result of changes in ownership or new construction occurring prior to Date of Policy.

1. Water rights, claims or title to water, whether or not disclosed by the public records.

2. Easement(s) in favor of the public over any existing roads lying within said Land.

3. Lack of legal right of access to and from a public street or highway.

4. Rights or claims of easements for canals, drains, laterals, irrigation pipelines and gates not recorded in the public records.

5. The right, title or interest which the County of Imperial may have or claim in and to those portions of the herein described lands lying within the boundaries of McDonald Road and Road 8041.

6. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	County of Imperial
Purpose:	Road
Recording Date:	May 12, 1914
Recording No:	Book 59, Page 376 of Deeds
Affects:	Strip of land 60 feet in width affecting portion of said land.
and Recording Date:	February 21, 1919
and Recording No:	Book 96, Page 214 of Deeds

7. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Southern Sierra Power Company
Purpose:	Pole lines and rights incidental thereto
Recording Date:	January 22, 1930
Recording No:	Book 263, Page 103 of Official Records
Affects:	A portion of said land as more particularly described in said document.

PC ORIGINAL PKG

EXCEPTIONS
(Continued)

8. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Imperial Irrigation District
Purpose:	canals, telephone and/or electric power lines
Recording Date:	September 19, 1956
Recording No:	Book 952, Page 290 of Official Records
Affects:	A portion of said land as more particularly described in said document.

9. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Imperial Irrigation District
Purpose:	"O" lateral canal, "N" Lateral canal and East Highline Canal
Recording Date:	September 19, 1956
Recording No:	Book 952, Page 290 of Official Records
Affects:	A portion of said land as more particularly described in said document.

10. Rights incidental to the ownership and development of the mineral interest excepted or reserved in the document recorded December 15, 1975 in Book 1382, Page 258 of Official Records.

11. Rights incidental to the ownership and development of the mineral interest excepted or reserved in the document recorded January 30, 1981 in Book 1464, Page 673 of Official Records.

12. An unrecorded lease with certain terms, covenants, conditions and provisions set forth therein as disclosed by the document

Entitled:	Memorandum of Option and Solar System Site Lease Agreement
Lessor:	Alexander Tang and Dana Te, individuals
Lessee:	91MC 8ME, LLC, a California limited liability company
Recording Date:	January 14, 2011
Recording No:	2011-001092 of Official Records

The present ownership of the leasehold created by said lease and other matters affecting the interest of the lessee are not shown herein.

13. Please be advised that our search did not disclose any open Deeds of Trust of record. If you should have knowledge of any outstanding obligation, please contact the Title Department immediately for further review prior to closing.

14. Any rights of the parties in possession of a portion of, or all of, said Land, which rights are not disclosed by the public records.

The Company will require, for review, a full and complete copy of any unrecorded agreement, contract, license and/or lease, together with all supplements, assignments and amendments thereto, before issuing any policy of title insurance without excepting this item from coverage.

The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

PC ORIGINAL PKG

EXCEPTIONS
(Continued)

15. Any facts an accurate survey would disclose as to the location the exterior boundaries of said land or as to the location of canals, laterals, waste and drain ditches thereon in use by Imperial Irrigation District as part of its irrigation system.

16. Any easements not disclosed by the public records as to matters affecting title to real property, whether or not said easements are visible and apparent.

17. Matters which may be disclosed by an inspection and/or by a correct ALTA/NSPS Land Title Survey of said Land that is satisfactory to the Company, and/or by inquiry of the parties in possession thereof.

PLEASE REFER TO THE "INFORMATIONAL NOTES" AND "REQUIREMENTS" SECTIONS WHICH FOLLOW FOR INFORMATION NECESSARY TO COMPLETE THIS TRANSACTION.

END OF EXCEPTIONS

PC ORIGINAL PKG

REQUIREMENTS SECTION

1. Prior to the close of escrow, the Company requires a Statement of Information to be completed by the following party(s),

   Party(s): All Parties

   The Company reserves the right to add additional items or make further requirements after review of the requested Statement of Information.

2. Unrecorded matters which may be disclosed by an Owner's Affidavit or Declaration. A form of the Owner's Affidavit/Declaration is attached to this Preliminary Report/Commitment. This Affidavit/Declaration is to be completed by the record owner of the land and submitted for review prior to the closing of this transaction. Your prompt attention to this requirement will help avoid delays in the closing of this transaction. Thank you.

   The Company reserves the right to add additional items or make further requirements after review of the requested Affidavit/Declaration.

END OF REQUIREMENTS

PC ORIGINAL PKG

INFORMATIONAL NOTES SECTION

1. Note: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	025-260-022-000
Fiscal Year:	2019-2020
1st Installment:	$2,340.93
2nd Installment:	$2,340.93
Exemption:	$0.00
Code Area:	058-003

2. Note: The policy of title insurance will include an arbitration provision. The Company or the insured may demand arbitration. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. Please ask your escrow or title officer for a sample copy of the policy to be issued if you wish to review the arbitration provisions and any other provisions pertaining to your Title Insurance coverage.

3. Notice: Please be aware that due to the conflict between federal and state laws concerning the cultivation, distribution, manufacture or sale of marijuana, the Company is not able to close or insure any transaction involving Land that is associated with these activities.

4. Pursuant to Government Code Section 27388.1, as amended and effective as of 1-1-2018, a Documentary Transfer Tax (DTT) Affidavit may be required to be completed and submitted with each document when DTT is being paid or when an exemption is being claimed from paying the tax. If a governmental agency is a party to the document, the form will not be required. DTT Affidavits may be available at a Tax Assessor-County Clerk-Recorder.

5. Note: There are NO conveyances affecting said Land recorded within 24 months of the date of this report.

END OF INFORMATIONAL NOTES

Mitch LaRiva/jh

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Wire Fraud Alert

This Notice is not intended to provide legal or professional advice. If you have any questions, please consult with a lawyer.

All parties to a real estate transaction are targets for wire fraud and many have lost hundreds of thousands of dollars because they simply relied on the wire instructions received via email, without further verification. **If funds are to be wired in conjunction with this real estate transaction, we strongly recommend verbal verification of wire instructions through a known, trusted phone number prior to sending funds.**

In addition, the following non-exclusive self-protection strategies are recommended to minimize exposure to possible wire fraud.

- **NEVER RELY** on emails purporting to change wire instructions. Parties to a transaction rarely change wire instructions in the course of a transaction.
- **ALWAYS VERIFY** wire instructions, specifically the ABA routing number and account number, by calling the party who sent the instructions to you. DO NOT use the phone number provided in the email containing the instructions, use phone numbers you have called before or can otherwise verify. **Obtain the phone number of relevant parties to the transaction as soon as an escrow account is opened**. DO NOT send an email to verify as the email address may be incorrect or the email may be intercepted by the fraudster.
- **USE COMPLEX EMAIL PASSWORDS** that employ a combination of mixed case, numbers, and symbols. Make your passwords greater than eight (8) characters. Also, change your password often and do NOT reuse the same password for other online accounts.
- **USE MULTI-FACTOR AUTHENTICATION** for email accounts. Your email provider or IT staff may have specific instructions on how to implement this feature.

For more information on wire-fraud scams or to report an incident, please refer to the following links:

Federal Bureau of Investigation:
http://www.fbi.gov

Internet Crime Complaint Center:
http://www.ic3.gov

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FIDELITY NATIONAL TITLE GROUP
FNTG Western Region
Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Notice of Available Discounts

Pursuant to Section 2355.3 in Title 10 of the California Code of Regulations Fidelity National Financial, Inc. and its subsidiaries ("FNF") must deliver a notice of each discount available under our current rate filing along with the delivery of escrow instructions, a preliminary report or commitment. Please be aware that the provision of this notice does not constitute a waiver of the consumer's right to be charged the filed rate. As such, your transaction may not qualify for the below discounts.

You are encouraged to discuss the applicability of one or more of the below discounts with a Company representative. These discounts are generally described below; consult the rate manual for a full description of the terms, conditions and requirements for such discount. These discounts only apply to transactions involving services rendered by the FNF Family of Companies. This notice only applies to transactions involving property improved with a one-to-four family residential dwelling.

Not all discounts are offered by every FNF Company. The discount will only be applicable to the FNF Company as indicated by the named discount.

FNF Underwritten Title Company	**Underwritten by FNF Underwriters**
CTC – Chicago Title company	CTIC – Chicago Title Insurance Company
CLTC – Commonwealth Land Title Company	CLTIC - Commonwealth Land Title Insurance Company
FNTC – Fidelity National Title Company of California	FNTIC – Fidelity National Title Insurance Company
FNTCCA - Fidelity National Title Company of California	FNTIC - Fidelity National Title Insurance Company
TICOR – Ticor Title Company of California	CTIC – Chicago Title Insurance Company
LTC – Lawyer's Title Company	CLTIC – Commonwealth Land Title Insurance Company
SLTC – ServiceLink Title Company	CTIC – Chicago Title Insurance Company

Available Discounts

DISASTER LOANS (CTIC, CLTIC, FNTIC)
The charge for a Lender's Policy (Standard or Extended coverage) covering the financing or refinancing by an owner of record, within twenty-four (24) months of the date of a declaration of a disaster area by the government of the United States or the State of California on any land located in said area, which was partially or totally destroyed in the disaster, will be fifty percent (50%) of the appropriate title insurance rate.

CHURCHES OR CHARITABLE NON-PROFIT ORGANIZATIONS (CTIC, FNTIC)
On properties used as a church or for charitable purposes within the scope of the normal activities of such entities, provided said charge is normally the church's obligation the charge for an owner's policy shall be fifty percent (50%) to seventy percent (70%) of the appropriate title insurance rate, depending on the type of coverage selected. The charge for a lender's policy shall be forty (40%) to fifty percent (50%) of the appropriate title insurance rate, depending on the type of coverage selected.

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FIDELITY NATIONAL FINANCIAL, INC.
PRIVACY NOTICE

Effective April 9, 2020

Fidelity National Financial, Inc. and its majority-owned subsidiary companies (collectively, "FNF," "our," or "we") respect and are committed to protecting your privacy. This Privacy Notice explains how we collect, use, and protect personal information, when and to whom we disclose such information, and the choices you have about the use and disclosure of that information.

A limited number of FNF subsidiaries have their own privacy notices. If a subsidiary has its own privacy notice, the privacy notice will be available on the subsidiary's website and this Privacy Notice does not apply.

Collection of Personal Information

FNF may collect the following categories of Personal Information:

- contact information (*e.g.*, name, address, phone number, email address);
- demographic information (*e.g.*, date of birth, gender, marital status);
- identity information (*e.g.* Social Security Number, driver's license, passport, or other government ID number);
- financial account information (*e.g.* loan or bank account information); and
- other personal information necessary to provide products or services to you.

We may collect Personal Information about you from:

- information we receive from you or your agent;
- information about your transactions with FNF, our affiliates, or others; and
- information we receive from consumer reporting agencies and/or governmental entities, either directly from these entities or through others.

Collection of Browsing Information

FNF automatically collects the following types of Browsing Information when you access an FNF website, online service, or application (each an "FNF Website") from your Internet browser, computer, and/or device:

- Internet Protocol (IP) address and operating system;
- browser version, language, and type;
- domain name system requests; and
- browsing history on the FNF Website, such as date and time of your visit to the FNF Website and visits to the pages within the FNF Website.

Like most websites, our servers automatically log each visitor to the FNF Website and may collect the Browsing Information described above. We use Browsing Information for system administration, troubleshooting, fraud investigation, and to improve our websites. Browsing Information generally does not reveal anything personal about you, though if you have created a user account for an FNF Website and are logged into that account, the FNF Website may be able to link certain browsing activity to your user account.

Other Online Specifics

Cookies. When you visit an FNF Website, a "cookie" may be sent to your computer. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. Information gathered using cookies helps us improve your user experience. For example, a cookie can help the website load properly or can customize the display page based on your browser type and user preferences. You can choose whether or not to accept cookies by changing your Internet browser settings. Be aware that doing so may impair or limit some functionality of the FNF Website.

Web Beacons. We use web beacons to determine when and how many times a page has been viewed. This information is used to improve our websites.

Do Not Track. Currently our FNF Websites do not respond to "Do Not Track" features enabled through your browser.

Links to Other Sites. FNF Websites may contain links to unaffiliated third-party websites. FNF is not responsible for the privacy practices or content of those websites. We recommend that you read the privacy policy of every website you visit.

Use of Personal Information

FNF uses Personal Information for three main purposes:

- To provide products and services to you or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you about our, our affiliates', and others' products and services, jointly or independently.

When Information Is Disclosed

We may disclose your Personal Information and Browsing Information in the following circumstances:

- to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to nonaffiliated service providers who provide or perform services or functions on our behalf and who agree to use the information only to provide such services or functions;

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- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to jointly market financial products or services to you;
- to law enforcement or authorities in connection with an investigation, or in response to a subpoena or court order; or
- in the good-faith belief that such disclosure is necessary to comply with legal process or applicable laws, or to protect the rights, property, or safety of FNF, its customers, or the public.

The law does not require your prior authorization and does not allow you to restrict the disclosures described above. Additionally, we may disclose your information to third parties for whom you have given us authorization or consent to make such disclosure. We do not otherwise share your Personal Information or Browsing Information with nonaffiliated third parties, except as required or permitted by law. We may share your Personal Information with affiliates (other companies owned by FNF) to directly market to you. Please see "Choices with Your Information" to learn how to restrict that sharing.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of bankruptcy, reorganization, insolvency, receivership, or an assignment for the benefit of creditors. By submitting Personal Information and/or Browsing Information to FNF, you expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings.

Security of Your Information
We maintain physical, electronic, and procedural safeguards to protect your Personal Information.

Choices With Your Information
If you do not want FNF to share your information among our affiliates to directly market to you, you may send an "opt out" request by email, phone, or physical mail as directed at the end of this Privacy Notice. We do not share your Personal Information with nonaffiliates for their use to direct market to you without your consent.

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you.

For California Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties, except as permitted by California law. For additional information about your California privacy rights, please visit the "California Privacy" link on our website (https://fnf.com/pages/californiaprivacy.aspx) or call (888) 413-1748.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 934-3354 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.
For Oregon Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not disclose information about your creditworthiness to our affiliates and will not disclose your personal information, financial information, credit report, or health information to nonaffiliated third parties to market to you, other than as permitted by Vermont law, unless you authorize us to make those disclosures.

Information From Children
The FNF Websites are not intended or designed to attract persons under the age of eighteen (18).We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian.

International Users
FNF's headquarters is located within the United States. If you reside outside the United States and choose to provide Personal Information or Browsing Information to us, please note that we may transfer that information outside of your country of residence. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection, transfer, and use of such information in accordance with this Privacy Notice.

FNF Website Services for Mortgage Loans
Certain FNF companies provide services to mortgage loan servicers, including hosting websites that collect customer information on behalf of mortgage loan servicers (the "Service Websites"). The Service Websites may contain links to both this Privacy Notice and the mortgage loan servicer or lender's privacy notice. The sections of this Privacy Notice titled When Information is Disclosed, Choices with Your Information, and Accessing and Correcting Information do not apply to the Service Websites. The mortgage loan servicer or lender's privacy notice governs use, disclosure, and access to your Personal Information. FNF does not share Personal Information collected through the Service Websites, except as required or authorized by contract with the mortgage loan servicer or lender, or as required by law or in the good-faith belief that such disclosure is necessary: to comply with a legal process or applicable law, to enforce this Privacy Notice, or to protect the rights, property, or safety of FNF or the public.

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Your Consent To This Privacy Notice; Notice Changes; Use of Comments or Feedback

By submitting Personal Information and/or Browsing Information to FNF, you consent to the collection and use of the information in accordance with this Privacy Notice. We may change this Privacy Notice at any time. The Privacy Notice's effective date will show the last date changes were made. If you provide information to us following any change of the Privacy Notice, that signifies your assent to and acceptance of the changes to the Privacy Notice. We may use comments or feedback that you submit to us in any manner without notice or compensation to you.

Accessing and Correcting Information; Contact Us

If you have questions, would like to correct your Personal Information, or want to opt-out of information sharing for affiliate marketing, send your requests to privacy@fnf.com, by phone to (888) 934-3354, or by mail to:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer

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ATTACHMENT ONE (Revised 05-06-16)

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE POLICY – 1990

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division; and
   f. environmental protection.
   This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;

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c. that result in no loss to You; or
d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.
   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.
8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

- For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 10,000.00
Covered Risk 18:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 19:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 21:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 5,000.00

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13 or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

{Except as provided in Schedule B - Part II,{ t{or T}his policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

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{PART I

{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.}

PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:}

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:
{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown in the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records. }
7. {Variable exceptions such as taxes, easements, CC&R's, etc. shown here.}

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PC ORIGINAL PKG

ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY – ASSESSMENTS PRIORITY (04-02-15)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

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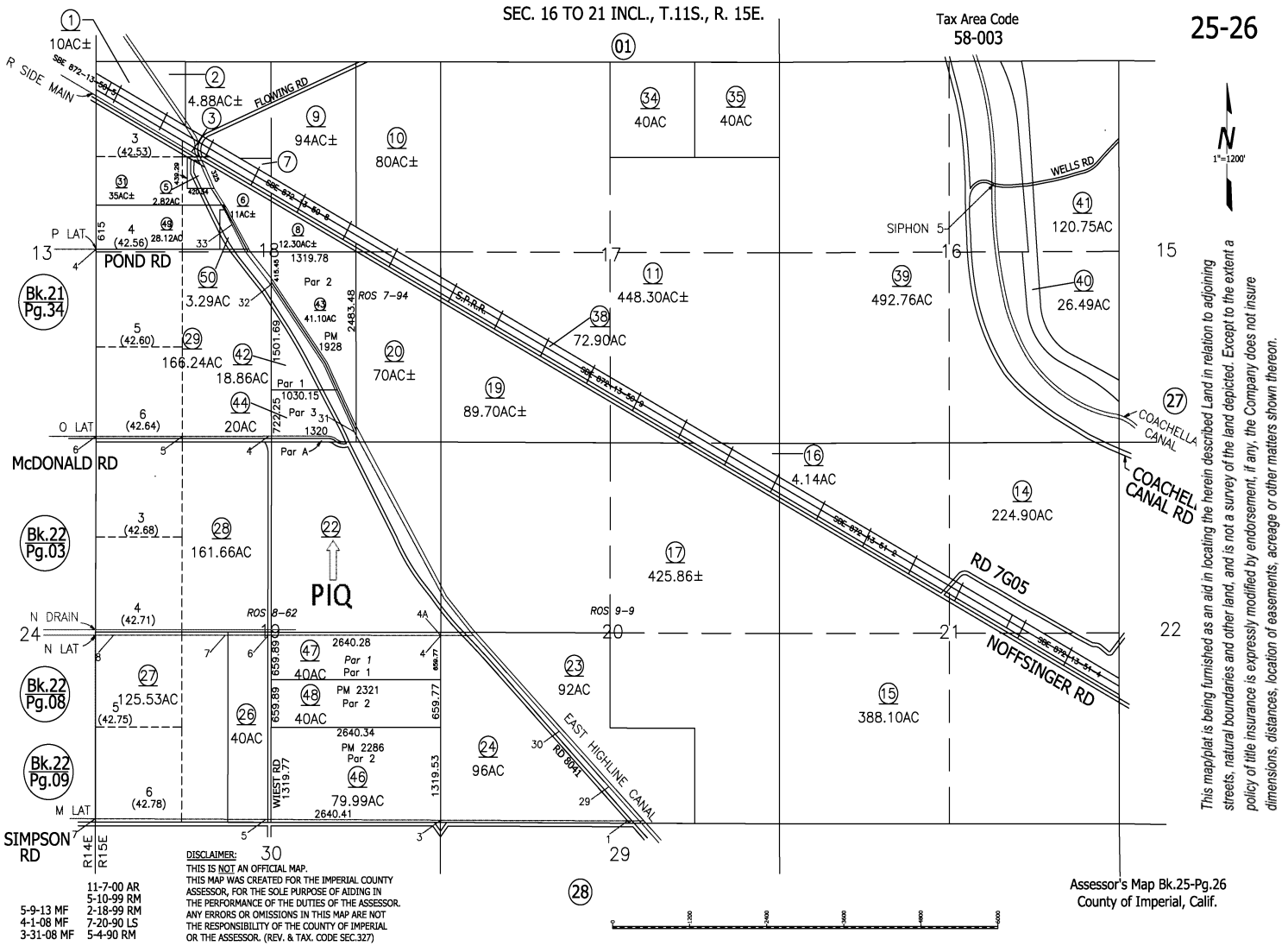

This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.

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OWNER'S DECLARATION

Escrow No.: 30052457-997-MAT-ML6
Property Address: No situs APN 025-260-022
Unincorporated County of Imperial, CA

The undersigned hereby declares as follows:

1. (Fill in the applicable paragraph and strike the other)

   a. Declarant ("Owner") is the owner or lessee, as the case may be, of certain premises located at No situs APN 025-260-022, Unincorporated County of Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

   b. Declarant is the _____ of _____ ("Owner"), which is the owner or lessee, as the case may be, of certain premises located at No situs APN 025-260-022, Unincorporated County of Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

2. (Fill in the applicable paragraph and strike the other)

   a. During the period of six months immediately preceding the date of this declaration no work has been done, no surveys or architectural or engineering plans have been prepared, and no materials have been furnished in connection with the erection, equipment, repair, protection or removal of any building or other structure on the Land or in connection with the improvement of the Land in any manner whatsoever.

   b. During the period of six months immediately preceding the date of this declaration certain work has been done and materials furnished in connection with _____ upon the Land in the approximate total sum of $_____, but no work whatever remains to be done and no materials remain to be furnished to complete the construction in full compliance with the plans and specifications, nor are there any unpaid bills incurred for labor and materials used in making such improvements or repairs upon the Land, or for the services of architects, surveyors or engineers, except as follows: _____. Owner, by the undersigned Declarant, agrees to and does hereby indemnify and hold harmless Fidelity National Title Company against any and all claims arising therefrom.

3. Owner has not previously conveyed the Land; is not a debtor in bankruptcy (and if a partnership, the general partner thereof is not a debtor in bankruptcy); and has not received notice of any pending court action affecting the title to the Land.

4. Except as shown in the above-referenced Preliminary Report/Commitment, there are no unpaid or unsatisfied mortgages, deeds of trust, Uniform Commercial Code financing statements, regular assessments, special assessments, periodic assessments or any assessment from any source, claims of lien, special assessments, or taxes that constitute a lien against the Land or that affect the Land but have not been recorded in the public records. There are no violations of the covenants, conditions and restrictions as shown in the above-referenced Preliminary Report/Commitment.

5. The Land is currently in use as _____; _____ occupy/occupies the Land; and the following are all of the leases or other occupancy rights affecting the Land:

   _____

6. There are no other persons or entities that assert an ownership interest in the Land, nor are there unrecorded easements, claims of easement, or boundary disputes that affect the Land.

7. There are no outstanding options to purchase or rights of first refusal affecting the Land.

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8. Between the most recent Effective Date of the above-referenced Preliminary Report/Commitment and the date of recording of the Insured Instrument(s), Owner has not taken or allowed, and will not take or allow, any action or inaction to encumber or otherwise affect title to the Land.

This declaration is made with the intention that Fidelity National Title Company (the "Company") and its policy issuing agents will rely upon it in issuing their title insurance policies and endorsements. Owner, by the undersigned Declarant, agrees to indemnify the Company against loss or damage (including attorneys fees, expenses, and costs) incurred by the Company as a result of any untrue statement made herein.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on _____ at _____.

Signature: _____

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FIDELITY NATIONAL TITLE GROUP
FNTG Western Region Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Issuing Policies of Fidelity National Title Insurance Company

Title Officer: Mitch LaRiva
Escrow Officer: Major Accounts OAC

Order No.: 997-**30052456**-ML6

TO:

ZGlobal
604 Sutter Street, Suite 250
Folsom, CA 95630

ATTN: **Jamie Nichole Nagel**
YOUR REFERENCE: **025-260-011 & 019**

PROPERTY ADDRESS: **No situs APN 025-260-011 & 025-260-019, Unincorporated County of Imperial, CA**

PRELIMINARY REPORT

*In response to the application for a policy of title insurance referenced herein, **Fidelity National Title Company** hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a policy or policies of title insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.*

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Attachment One. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Attachment One. Copies of the policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

The policy(s) of title insurance to be issued hereunder will be policy(s) of Fidelity National Title Insurance Company, a Florida Corporation.

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Please read the exceptions shown or referred to herein and the exceptions and exclusions set forth in Attachment One of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land.

Countersigned by:

Authorized Signature

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FNTG Western Region Energy Services
Chicago Title • Commonwealth • Fidelity National Title • Ticor Title

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

PRELIMINARY REPORT

EFFECTIVE DATE: **July 31, 2020 at 7:30 a.m.**

ORDER NO.: 997-30052456-ML6

The form of policy or policies of title insurance contemplated by this report is:

ALTA Standard Owners Policy (6-17-06)

1. THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

   A FEE

2. TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

   MARJORIE A. GARDNER as Trustee of The Marjorie A. Hoffmeister Gardner Trust dated May 26, 1998, as to an undivided 10% interest;

   LESLEY ANN ASH, Successor Trustee of Exemption Trust under the Bay Family Trust dated April 9, 2003, as to an undivided 9.45% interest and LESLEY ANN ASH, Successor Trustee of Survivor's Trust under the Bay Family Trust dated April 9, 2003, as to an undivided 35.55% interest, subject to Item No. 8 of Schedule "B" and Item No's. 1 and 2 of Requirements; and

   JOSEPH G. CLARK, Trustee of The Joseph G. Clark Revocable Trust of 2017, as to an undivided 45% interest

3. THE LAND REFERRED TO IN THIS REPORT IS DESCRIBED AS FOLLOWS:

   See Exhibit A attached hereto and made a part hereof.

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EXHIBIT A

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA OF UNINCORPORATED COUNTY OF IMPERIAL IN THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

SECTION 17, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPTING A STRIP OF LAND 200 FEET WIDE CONTAINING 22 ACRES LYING EQUALLY ON EACH SIDE OF THE CENTERLINE OF THE SOUTHERN PACIFIC RAILROAD COMPANY RIGHT OF WAY AS NOW CONSTRUCTED, RESERVED BY SOUTHERN PACIFIC LAND COMPANY BY DEED RECORDED OCTOBER 16, 1951 IN BOOK 823, PAGE 299 OF OFFICIAL RECORDS.

ALSO EXCEPTING THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 17.

APN 025-260-011-000 AND APN 025-260-019-000

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EXCEPTIONS

AT THE DATE HEREOF, ITEMS TO BE CONSIDERED AND EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN SAID POLICY FORM WOULD BE AS FOLLOWS:

A. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes to be levied for the fiscal year 2020-2021.

B. Taxes and assessments levied by the Imperial Irrigation District.

C. The lien of supplemental or escaped assessments of property taxes, if any, made pursuant to the provisions of Chapter 3.5 (commencing with Section 75) or Part 2, Chapter 3, Articles 3 and 4, respectively, of the Revenue and Taxation Code of the State of California as a result of the transfer of title to the vestee named in Schedule A or as a result of changes in ownership or new construction occurring prior to Date of Policy.

1. Water rights, claims or title to water, whether or not disclosed by the public records.

2. Easement(s) in favor of the public over any existing roads lying within said Land.

3. Lack of legal right of access to and from a public street or highway.

4. The right, title or interest which the County of Imperial may have or claim in and to those portions of the herein described lands lying within the bounds of Noffsinger Road.

5. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Southern Sierras Power Company, a corporation, it's successors and/or assigns
Purpose:	Power transmission line
Recording Date:	July 19, 1930
Recording No:	Book 283, Page 9 of Official Records
Affects:	A portion of said land as more particularly described in said document.

6. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	R. S. Harrington, et ux.
Purpose:	Drain canal
Recording Date:	July 11, 1952
Recording No:	Book 841, Page 484 of Official Records
Affects:	A portion of said land as more particularly described in said document.

7. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Imperial Irrigation District, it's successors and/or assigns
Purpose:	Power line or lines, underground and/or overhead and necessary appurtenances together with the right of ingress and egress
Recording Date:	December 22, 1987
Recording No:	book 1594, Page 1685 of Official Records
Affects:	The West 100 feet of said land, except Southern Pacific Railroad right of way.

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EXCEPTIONS
(Continued)

8. The effect of a Grant Deed dated May 16, 2013, executed by Leslie Ann Ash, Trustee of the Bay Family Trust dated April 9, 2003, grantor to Victoria Gabbard, a married woman, as her sole and separate property, Grantee, recorded June 16, 2013 as Instrument No. 2013010916 of Official Records.

   Recital on said document states "This deed is intended to sever any joint Tenancy Deed".

9. A document entitled "Easement Deed by Court Order in Settlement of Landowner Action", issued out of the United States District Court for the Northern District of California San Francisco Division, Case No. 3:11-cv-02599-TEH, recorded January 30, 2014 as Instrument No. 2014001714 of Official Records.

   Said document provides for a Telecommunications Cable System Easement together with right of reasonable ingress and egress.

   Subject to the terms, conditions and provisions contained therein.

10. Any invalidity or defect in the title of the vestees in the event that the trust referred to herein is invalid or fails to grant sufficient powers to the trustee(s) or in the event there is a lack of compliance with the terms and provisions of the trust instrument.

    If title is to be insured in the trustee(s) of a trust, (or if their act is to be insured), this Company will require a Trust Certification pursuant to California Probate Code Section 18100.5.

    The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

11. Please be advised that our search did not disclose any open Deeds of Trust of record. If you should have knowledge of any outstanding obligation, please contact the Title Department immediately for further review prior to closing.

12. Any rights of the parties in possession of a portion of, or all of, said Land, which rights are not disclosed by the public records.

    The Company will require, for review, a full and complete copy of any unrecorded agreement, contract, license and/or lease, together with all supplements, assignments and amendments thereto, before issuing any policy of title insurance without excepting this item from coverage.

    The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

13. Any facts an accurate survey would disclose as to the location the exterior boundaries of said land or as to the location of canals, laterals, waste and drain ditches thereon in use by Imperial Irrigation District as part of its irrigation system.

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EXCEPTIONS
(Continued)

14. Any easements not disclosed by the public records as to matters affecting title to real property, whether or not said easements are visible and apparent.

15. Matters which may be disclosed by an inspection and/or by a correct ALTA/NSPS Land Title Survey of said Land that is satisfactory to the Company, and/or by inquiry of the parties in possession thereof.

PLEASE REFER TO THE "INFORMATIONAL NOTES" AND "REQUIREMENTS" SECTIONS WHICH FOLLOW FOR INFORMATION NECESSARY TO COMPLETE THIS TRANSACTION.

END OF EXCEPTIONS

PC ORIGINAL PKG

REQUIREMENTS SECTION

1. The Company will require either (a) a complete copy of the trust agreement and any amendments thereto certified by the trustee(s) to be a true and complete copy with respect to the hereinafter named trust, or (b) a Certification, pursuant to California Probate Code Section 18100.5, executed by all of the current trustee(s) of the hereinafter named trust, a form of which is attached.

   Name of Trust: Exemption Trust Under the Bay Family Trust Dated April 9, 2003

2. The Company will require either (a) a complete copy of the trust agreement and any amendments thereto certified by the trustee(s) to be a true and complete copy with respect to the hereinafter named trust, or (b) a Certification, pursuant to California Probate Code Section 18100.5, executed by all of the current trustee(s) of the hereinafter named trust, a form of which is attached.

   Name of Trust: Survivor's Trust Under the Bay Family Trust Dated April 9, 2003

3. Prior to the close of escrow, the Company requires a Statement of Information to be completed by the following party(s),

   Party(s): All Parties

   The Company reserves the right to add additional items or make further requirements after review of the requested Statement of Information.

4. Unrecorded matters which may be disclosed by an Owner's Affidavit or Declaration. A form of the Owner's Affidavit/Declaration is attached to this Preliminary Report/Commitment. This Affidavit/Declaration is to be completed by the record owner of the land and submitted for review prior to the closing of this transaction. Your prompt attention to this requirement will help avoid delays in the closing of this transaction. Thank you.

   The Company reserves the right to add additional items or make further requirements after review of the requested Affidavit/Declaration.

END OF REQUIREMENTS

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INFORMATIONAL NOTES SECTION

1. Note: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	025-260-011-000
Fiscal Year:	2019-2020
1st Installment:	$148.44
2nd Installment:	$148.44
Exemption:	$0.00
Code Area:	058-003

   Affects: A portion of the Land described herein.

2. Note: Property taxes, including any personal property taxes and any assessments collected with taxes, are paid. For proration purposes the amounts were:

Tax Identification No.:	025-260-019-000
Fiscal Year:	2019-2020
1st Installment:	$48.86
2nd Installment:	$48.86
Exemption:	$0.00
Code Area:	058-003

   Affects: A portion of the Land described herein.

3. Note: The policy of title insurance will include an arbitration provision. The Company or the insured may demand arbitration. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. Please ask your escrow or title officer for a sample copy of the policy to be issued if you wish to review the arbitration provisions and any other provisions pertaining to your Title Insurance coverage.

4. Notice: Please be aware that due to the conflict between federal and state laws concerning the cultivation, distribution, manufacture or sale of marijuana, the Company is not able to close or insure any transaction involving Land that is associated with these activities.

5. Pursuant to Government Code Section 27388.1, as amended and effective as of 1-1-2018, a Documentary Transfer Tax (DTT) Affidavit may be required to be completed and submitted with each document when DTT is being paid or when an exemption is being claimed from paying the tax. If a governmental agency is a party to the document, the form will not be required. DTT Affidavits may be available at a Tax Assessor-County Clerk-Recorder.

6. Note: There are NO conveyances affecting said Land recorded within 24 months of the date of this report.

END OF INFORMATIONAL NOTES

Mitch LaRiva/jh

PC ORIGINAL PKG

WIRE SAFE™ | Inquire before you wire!

Wire Fraud Alert

This Notice is not intended to provide legal or professional advice. If you have any questions, please consult with a lawyer.

All parties to a real estate transaction are targets for wire fraud and many have lost hundreds of thousands of dollars because they simply relied on the wire instructions received via email, without further verification. **If funds are to be wired in conjunction with this real estate transaction, we strongly recommend verbal verification of wire instructions through a known, trusted phone number prior to sending funds.**

In addition, the following non-exclusive self-protection strategies are recommended to minimize exposure to possible wire fraud.

- **NEVER RELY** on emails purporting to change wire instructions. Parties to a transaction rarely change wire instructions in the course of a transaction.
- **ALWAYS VERIFY** wire instructions, specifically the ABA routing number and account number, by calling the party who sent the instructions to you. DO NOT use the phone number provided in the email containing the instructions, use phone numbers you have called before or can otherwise verify. **Obtain the phone number of relevant parties to the transaction as soon as an escrow account is opened**. DO NOT send an email to verify as the email address may be incorrect or the email may be intercepted by the fraudster.
- **USE COMPLEX EMAIL PASSWORDS** that employ a combination of mixed case, numbers, and symbols. Make your passwords greater than eight (8) characters. Also, change your password often and do NOT reuse the same password for other online accounts.
- **USE MULTI-FACTOR AUTHENTICATION** for email accounts. Your email provider or IT staff may have specific instructions on how to implement this feature.

For more information on wire-fraud scams or to report an incident, please refer to the following links:

Federal Bureau of Investigation:
http://www.fbi.gov

Internet Crime Complaint Center:
http://www.ic3.gov

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Fidelity National Title Company
4210 Riverwalk Parkway, Suite 200
Riverside, CA 92505
Phone: (951) 710-5912 • Fax:

Notice of Available Discounts

Pursuant to Section 2355.3 in Title 10 of the California Code of Regulations Fidelity National Financial, Inc. and its subsidiaries ("FNF") must deliver a notice of each discount available under our current rate filing along with the delivery of escrow instructions, a preliminary report or commitment. Please be aware that the provision of this notice does not constitute a waiver of the consumer's right to be charged the filed rate. As such, your transaction may not qualify for the below discounts.

You are encouraged to discuss the applicability of one or more of the below discounts with a Company representative. These discounts are generally described below; consult the rate manual for a full description of the terms, conditions and requirements for such discount. These discounts only apply to transactions involving services rendered by the FNF Family of Companies. This notice only applies to transactions involving property improved with a one-to-four family residential dwelling.

Not all discounts are offered by every FNF Company. The discount will only be applicable to the FNF Company as indicated by the named discount.

FNF Underwritten Title Company	**Underwritten by FNF Underwriters**
CTC – Chicago Title company	CTIC – Chicago Title Insurance Company
CLTC – Commonwealth Land Title Company	CLTIC - Commonwealth Land Title Insurance Company
FNTC – Fidelity National Title Company of California	FNTIC – Fidelity National Title Insurance Company
FNTCCA - Fidelity National Title Company of California	FNTIC - Fidelity National Title Insurance Company
TICOR – Ticor Title Company of California	CTIC – Chicago Title Insurance Company
LTC – Lawyer's Title Company	CLTIC – Commonwealth Land Title Insurance Company
SLTC – ServiceLink Title Company	CTIC – Chicago Title Insurance Company

Available Discounts

DISASTER LOANS (CTIC, CLTIC, FNTIC)
The charge for a Lender's Policy (Standard or Extended coverage) covering the financing or refinancing by an owner of record, within twenty-four (24) months of the date of a declaration of a disaster area by the government of the United States or the State of California on any land located in said area, which was partially or totally destroyed in the disaster, will be fifty percent (50%) of the appropriate title insurance rate.

CHURCHES OR CHARITABLE NON-PROFIT ORGANIZATIONS (CTIC, FNTIC)
On properties used as a church or for charitable purposes within the scope of the normal activities of such entities, provided said charge is normally the church's obligation the charge for an owner's policy shall be fifty percent (50%) to seventy percent (70%) of the appropriate title insurance rate, depending on the type of coverage selected. The charge for a lender's policy shall be forty (40%) to fifty percent (50%) of the appropriate title insurance rate, depending on the type of coverage selected.

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FIDELITY NATIONAL FINANCIAL, INC.
PRIVACY NOTICE

Effective April 9, 2020

Fidelity National Financial, Inc. and its majority-owned subsidiary companies (collectively, "FNF," "our," or "we") respect and are committed to protecting your privacy. This Privacy Notice explains how we collect, use, and protect personal information, when and to whom we disclose such information, and the choices you have about the use and disclosure of that information.

A limited number of FNF subsidiaries have their own privacy notices. If a subsidiary has its own privacy notice, the privacy notice will be available on the subsidiary's website and this Privacy Notice does not apply.

Collection of Personal Information

FNF may collect the following categories of Personal Information:

- contact information (*e.g.*, name, address, phone number, email address);
- demographic information (*e.g.*, date of birth, gender, marital status);
- identity information (*e.g.* Social Security Number, driver's license, passport, or other government ID number);
- financial account information (*e.g.* loan or bank account information); and
- other personal information necessary to provide products or services to you.

We may collect Personal Information about you from:

- information we receive from you or your agent;
- information about your transactions with FNF, our affiliates, or others; and
- information we receive from consumer reporting agencies and/or governmental entities, either directly from these entities or through others.

Collection of Browsing Information

FNF automatically collects the following types of Browsing Information when you access an FNF website, online service, or application (each an "FNF Website") from your Internet browser, computer, and/or device:

- Internet Protocol (IP) address and operating system;
- browser version, language, and type;
- domain name system requests; and
- browsing history on the FNF Website, such as date and time of your visit to the FNF Website and visits to the pages within the FNF Website.

Like most websites, our servers automatically log each visitor to the FNF Website and may collect the Browsing Information described above. We use Browsing Information for system administration, troubleshooting, fraud investigation, and to improve our websites. Browsing Information generally does not reveal anything personal about you, though if you have created a user account for an FNF Website and are logged into that account, the FNF Website may be able to link certain browsing activity to your user account.

Other Online Specifics

Cookies. When you visit an FNF Website, a "cookie" may be sent to your computer. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. Information gathered using cookies helps us improve your user experience. For example, a cookie can help the website load properly or can customize the display page based on your browser type and user preferences. You can choose whether or not to accept cookies by changing your Internet browser settings. Be aware that doing so may impair or limit some functionality of the FNF Website.

Web Beacons. We use web beacons to determine when and how many times a page has been viewed. This information is used to improve our websites.

Do Not Track. Currently our FNF Websites do not respond to "Do Not Track" features enabled through your browser.

Links to Other Sites. FNF Websites may contain links to unaffiliated third-party websites. FNF is not responsible for the privacy practices or content of those websites. We recommend that you read the privacy policy of every website you visit.

Use of Personal Information

FNF uses Personal Information for three main purposes:

- To provide products and services to you or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you about our, our affiliates', and others' products and services, jointly or independently.

When Information Is Disclosed

We may disclose your Personal Information and Browsing Information in the following circumstances:

- to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to nonaffiliated service providers who provide or perform services or functions on our behalf and who agree to use the information only to provide such services or functions;

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- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to jointly market financial products or services to you;
- to law enforcement or authorities in connection with an investigation, or in response to a subpoena or court order; or
- in the good-faith belief that such disclosure is necessary to comply with legal process or applicable laws, or to protect the rights, property, or safety of FNF, its customers, or the public.

The law does not require your prior authorization and does not allow you to restrict the disclosures described above. Additionally, we may disclose your information to third parties for whom you have given us authorization or consent to make such disclosure. We do not otherwise share your Personal Information or Browsing Information with nonaffiliated third parties, except as required or permitted by law. We may share your Personal Information with affiliates (other companies owned by FNF) to directly market to you. Please see "Choices with Your Information" to learn how to restrict that sharing.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of bankruptcy, reorganization, insolvency, receivership, or an assignment for the benefit of creditors. By submitting Personal Information and/or Browsing Information to FNF, you expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings.

Security of Your Information
We maintain physical, electronic, and procedural safeguards to protect your Personal Information.

Choices With Your Information
If you do not want FNF to share your information among our affiliates to directly market to you, you may send an "opt out" request by email, phone, or physical mail as directed at the end of this Privacy Notice. We do not share your Personal Information with nonaffiliates for their use to direct market to you without your consent.

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you.

For California Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties, except as permitted by California law. For additional information about your California privacy rights, please visit the "California Privacy" link on our website (https://fnf.com/pages/californiaprivacy.aspx) or call (888) 413-1748.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 934-3354 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.
For Oregon Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not disclose information about your creditworthiness to our affiliates and will not disclose your personal information, financial information, credit report, or health information to nonaffiliated third parties to market to you, other than as permitted by Vermont law, unless you authorize us to make those disclosures.

Information From Children
The FNF Websites are not intended or designed to attract persons under the age of eighteen (18).We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian.

International Users
FNF's headquarters is located within the United States. If you reside outside the United States and choose to provide Personal Information or Browsing Information to us, please note that we may transfer that information outside of your country of residence. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection, transfer, and use of such information in accordance with this Privacy Notice.

FNF Website Services for Mortgage Loans
Certain FNF companies provide services to mortgage loan servicers, including hosting websites that collect customer information on behalf of mortgage loan servicers (the "Service Websites"). The Service Websites may contain links to both this Privacy Notice and the mortgage loan servicer or lender's privacy notice. The sections of this Privacy Notice titled When Information is Disclosed, Choices with Your Information, and Accessing and Correcting Information do not apply to the Service Websites. The mortgage loan servicer or lender's privacy notice governs use, disclosure, and access to your Personal Information. FNF does not share Personal Information collected through the Service Websites, except as required or authorized by contract with the mortgage loan servicer or lender, or as required by law or in the good-faith belief that such disclosure is necessary: to comply with a legal process or applicable law, to enforce this Privacy Notice, or to protect the rights, property, or safety of FNF or the public.

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Your Consent To This Privacy Notice; Notice Changes; Use of Comments or Feedback

By submitting Personal Information and/or Browsing Information to FNF, you consent to the collection and use of the information in accordance with this Privacy Notice. We may change this Privacy Notice at any time. The Privacy Notice's effective date will show the last date changes were made. If you provide information to us following any change of the Privacy Notice, that signifies your assent to and acceptance of the changes to the Privacy Notice. We may use comments or feedback that you submit to us in any manner without notice or compensation to you.

Accessing and Correcting Information; Contact Us

If you have questions, would like to correct your Personal Information, or want to opt-out of information sharing for affiliate marketing, send your requests to privacy@fnf.com, by phone to (888) 934-3354, or by mail to:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer

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ATTACHMENT ONE (Revised 05-06-16)

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE POLICY – 1990

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division; and
   f. environmental protection.
   This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;

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c. that result in no loss to You; or
d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.
   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.
8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

- For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 10,000.00
Covered Risk 18:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 19:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 21:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 5,000.00

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13 or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

{Except as provided in Schedule B - Part II,{ t{or T}his policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

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{PART I

{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.}

PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:}

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:
{The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown in the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records. }
7. {Variable exceptions such as taxes, easements, CC&R's, etc. shown here.}

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ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY – ASSESSMENTS PRIORITY (04-02-15)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

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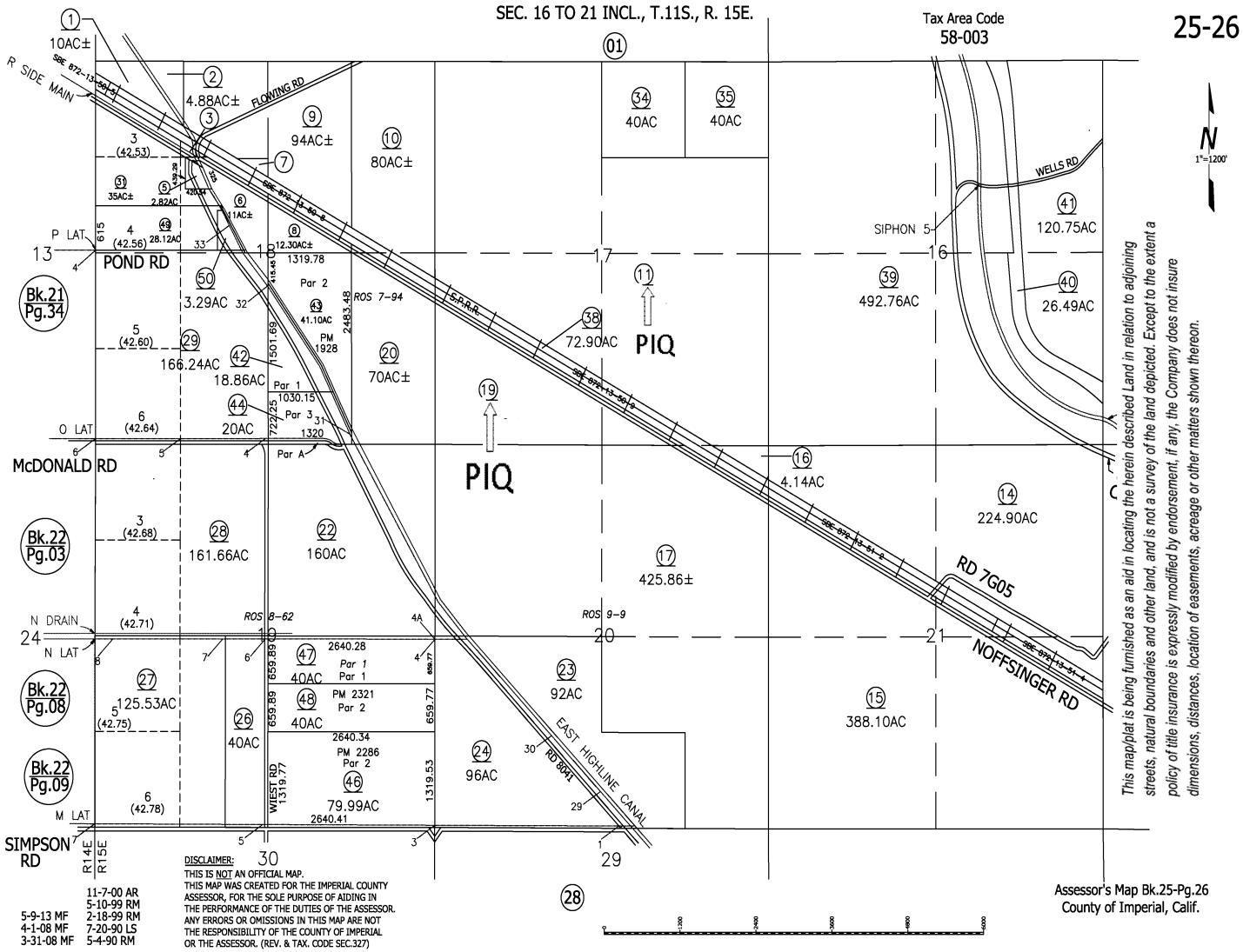

This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.

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RECORDING REQUESTED BY
Fidelity National Title Company
WHEN RECORDED MAIL TO:
=addressee=

ORDER NO.: **30052456-997-ML6**

SPACE ABOVE THIS LINE FOR RECORDER'S USE

CERTIFICATION OF TRUST
California Probate Code Section 18100.5

The undersigned declare(s) under penalty of perjury under the laws of the State of California that the following is true and correct:

1. The Trust known as _____, executed on _____, is a valid and existing trust.

2. The name(s) of the settlor(s) of the Trust is (are): _____
_____

3. The name(s) of the currently acting trustee(s) is (are): _____
_____

4. The trustee(s) of the Trust have the following powers (initial applicable line(s)):
_____Power to acquire additional property.
_____Power to sell and execute deeds.
_____Power to encumber, and execute deeds of trust.
_____Other: _____

5. The Trust is (check one): _____ Revocable _____ Irrevocable

The name of the person who may revoke the Trust is: _____

6. The number of trustees who must sign documents in order to exercise the powers of the Trust is (are): _____, whose name(s) is (are): _____

7. Title to Trust assets is to be taken as follows: _____

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8. The Trust has not been revoked, modified or amended in any manner which would cause the representations contained herein to be incorrect.

9. I (we) am (are) all of the currently acting trustees.

10. I (we) understand that I (we) may be required to provide copies of excerpts from the original Trust documents which designate the trustees and confer the power to act in the pending transaction.

Dated: _____

(Acknowledgement must be attached)

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CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

PC ORIGINAL PKG

RECORDING REQUESTED BY
Fidelity National Title Company
WHEN RECORDED MAIL TO:
=addressee=

ORDER NO.: **30052456-997-ML6**

SPACE ABOVE THIS LINE FOR RECORDER'S USE

CERTIFICATION OF TRUST
California Probate Code Section 18100.5

The undersigned declare(s) under penalty of perjury under the laws of the State of California that the following is true and correct:

1. The Trust known as _____, executed on _____, is a valid and existing trust.

2. The name(s) of the settlor(s) of the Trust is (are): _____
_____

3. The name(s) of the currently acting trustee(s) is (are): _____
_____

4. The trustee(s) of the Trust have the following powers (initial applicable line(s)):
_____Power to acquire additional property.
_____Power to sell and execute deeds.
_____Power to encumber, and execute deeds of trust.
_____Other: _____

5. The Trust is (check one): _____ Revocable _____ Irrevocable

The name of the person who may revoke the Trust is: _____

6. The number of trustees who must sign documents in order to exercise the powers of the Trust is (are): _____, whose name(s) is (are): _____

7. Title to Trust assets is to be taken as follows: _____

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8. The Trust has not been revoked, modified or amended in any manner which would cause the representations contained herein to be incorrect.

9. I (we) am (are) all of the currently acting trustees.

10. I (we) understand that I (we) may be required to provide copies of excerpts from the original Trust documents which designate the trustees and confer the power to act in the pending transaction.

Dated: _____

(Acknowledgement must be attached)

PC ORIGINAL PKG

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

CERTIFICATE OF ACKNOWLEDGEMENT OF NOTARY PUBLIC

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF } SS:

On _____ before me,
_____,
a Notary Public, personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s)whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s)on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

PC ORIGINAL PKG

OWNER'S DECLARATION

Escrow No.: 30052456-997-MAT-ML6
Property Address: No situs APN 025-260-011 & 025-260-019
Unincorporated County of Imperial, CA

The undersigned hereby declares as follows:

1. (Fill in the applicable paragraph and strike the other)

   a. Declarant ("Owner") is the owner or lessee, as the case may be, of certain premises located at No situs APN 025-260-011 & 025-260-019, Unincorporated County of Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

   b. Declarant is the _____ of _____ ("Owner"), which is the owner or lessee, as the case may be, of certain premises located at No situs APN 025-260-011 & 025-260-019, Unincorporated County of Imperial, CA, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").

2. (Fill in the applicable paragraph and strike the other)

   a. During the period of six months immediately preceding the date of this declaration no work has been done, no surveys or architectural or engineering plans have been prepared, and no materials have been furnished in connection with the erection, equipment, repair, protection or removal of any building or other structure on the Land or in connection with the improvement of the Land in any manner whatsoever.

   b. During the period of six months immediately preceding the date of this declaration certain work has been done and materials furnished in connection with _____ upon the Land in the approximate total sum of $_____, but no work whatever remains to be done and no materials remain to be furnished to complete the construction in full compliance with the plans and specifications, nor are there any unpaid bills incurred for labor and materials used in making such improvements or repairs upon the Land, or for the services of architects, surveyors or engineers, except as follows: _____. Owner, by the undersigned Declarant, agrees to and does hereby indemnify and hold harmless Fidelity National Title Company against any and all claims arising therefrom.

3. Owner has not previously conveyed the Land; is not a debtor in bankruptcy (and if a partnership, the general partner thereof is not a debtor in bankruptcy); and has not received notice of any pending court action affecting the title to the Land.

4. Except as shown in the above-referenced Preliminary Report/Commitment, there are no unpaid or unsatisfied mortgages, deeds of trust, Uniform Commercial Code financing statements, regular assessments, special assessments, periodic assessments or any assessment from any source, claims of lien, special assessments, or taxes that constitute a lien against the Land or that affect the Land but have not been recorded in the public records. There are no violations of the covenants, conditions and restrictions as shown in the above-referenced Preliminary Report/Commitment.

5. The Land is currently in use as _____; _____ occupy/occupies the Land; and the following are all of the leases or other occupancy rights affecting the Land:

   _____

6. There are no other persons or entities that assert an ownership interest in the Land, nor are there unrecorded easements, claims of easement, or boundary disputes that affect the Land.

7. There are no outstanding options to purchase or rights of first refusal affecting the Land.

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8. Between the most recent Effective Date of the above-referenced Preliminary Report/Commitment and the date of recording of the Insured Instrument(s), Owner has not taken or allowed, and will not take or allow, any action or inaction to encumber or otherwise affect title to the Land.

This declaration is made with the intention that Fidelity National Title Company (the "Company") and its policy issuing agents will rely upon it in issuing their title insurance policies and endorsements. Owner, by the undersigned Declarant, agrees to indemnify the Company against loss or damage (including attorneys fees, expenses, and costs) incurred by the Company as a result of any untrue statement made herein.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on _____ at _____.

Signature: _____

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APPENDIX H

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780 N. 4th Street
El Centro, CA 92243
(760) 337-1100

Phase I Environmental Site Assessment (ESA)
User Questionnaire

1) Environmental liens that are filed or recorded against the *property*.

Did a search of *recorded land title records* (or judicial records where appropriate) identify any environmental liens filed or recorded against the *property* under federal, tribal, state, or local law?

Not to our knowledge.

2) Activity and use limitations that are in place on the *property* or that have been filed or recorded against the *property*.

Did a search of *recorded land title records* (or judicial records where appropriate) identify any AULs, such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the property and/or have been filed or recorded against the *property* under federal, tribal, state or local law?

Not to our knowledge.

3) Specialized knowledge or experience of the person seeking to qualify for the LLP.

Do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the *property* or an *adjoining property* so that you would have specialized knowledge of the chemicals and processes used by this type of business?

No.

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4) Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.

Does the purchase price being paid for this *property* reasonable reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

Yes.

5) Commonly known or *reasonably ascertainable* information about the *property*.

Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases? For example,

a. Do you know the past uses of the *property*?

   Vacant Land

b. Do you know of specific chemicals or oils that are present or once were present at the *property*?

   None that we know of or suspect.

c. Do you know of spills or other chemical releases that have taken place at the *property*?

   None that we know of or suspect.

d. Do you know of any environmental cleanups that have taken place at the *property*?

   None that we know of or suspect.

6) The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.

Based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of releases at the *property*?

None that we know of or suspect.

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Additional Information

1) Reason why Phase I ESA is required:

Conditional Use Permit for proposed development project.

2) Type of Property:

Commercial	☐
Industrial	☐
Residential	☐
Vacant/Undeveloped	☒
Other _____	

Type of Transaction:

Purchase	☐
Financing	☐
Sale	☐
Lease	☐
Other _____	

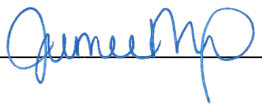
3) Complete and correct address for the property:

No situs. APN's 025-260-019 and 025-260-022.

4) Are there any existing environmental report, documents, correspondence, etc. available for review?
None.

User Name/Company: Jamie Nagel/Apex Energy Solutions, LLC

Address: 604 Sutter Street, Suite 250
Folsom, CA 95630

User Signature: 

Date: 12/10/2020

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APPENDIX I

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Jeffrey O. Lyon, PE
Principal Engineer

Education

B.S. Civil Engineering (Magna Cum Laude)
California Polytechnic University, Pomona Campus 1978

Registration

Registered Civil Engineer No. 31921, California
Registered Civil Engineer No. 16994, Arizona

Professional Experience

1987 - Present	Principal Engineer Southland Geotechnical, Inc.
1982 - 1987	Principal Engineer Lyon Engineers, Inc.
1978 - 1981	Partner/Senior Engineer Tesco Engineering
1974 - 1977	Survey Party Chief Tesco Engineering
1972 - 1973	Survey Party Chief Lyon & Associates

Summary of Experience

As Principal Engineer, Mr. Lyon is responsible for financial and technical management of all employees in Southland Geotechnical's four branch offices. Mr. Lyon has performed site investigations for residential subdivisions, geogrid-reinforced slopes, shopping centers, military airfields, roadways, administration and office buildings, elementary and high schools, goldmine mill processing facilities, hydro-electric plants, power transmission lines, electrical substations, co-generation power plants and geothermal power plants. He has provided design for drilled piers, driven piles, stone columns and floating (rigid) mats, and has performed seismic risk evaluations, ground shaking analyses, liquefaction studies and liquefaction induced settlements studies. Mr. Lyon has conducted Phase I and Phase II ESA's throughout the Imperial and Coachella Valleys for over 7 years. Mr. Lyon's experience also includes forensic investigations for foundation/structural distress to residential, commercial and educational facilities, and has performed pressure grout stabilization and lifting for distress remediation.

Selected Project Experience

- **Aten Road Improvements, Imperial, CA**

Performed Phase I environmental site assessment for improvements to Aten Road in accordance to CalTrans requirements.

- **Gateway to the Americas, Calexico, CA**

Conducted Phase I ESA, geologic hazards study and geotechnical investigation including liquefaction evaluation for 1,700 acre development associated with new Port of Entry east of Calexico

- **El Centro Magistrate Court, El Centro, CA**

Conducted geotechnical investigation and Phase I ESA for new Federal Magistrate Court building at site with soft soil conditions requiring foundation settlement analysis

- **El Centro Regional Medical Center, El Centro, CA**

Conducted Phase I ESA and geotechnical investigation for 50,000 sf, 2-story addition to the medical center's emergency room, operating rooms, and recovery rooms.

- **Brawley Union High School, Brawley, CA**

Conducted Phase II investigation for PCB and lead contamination of surficial soil and hydrocarbon contamination of subsurface soil of a property proposed for purchase.

- **EW Corporation Site, Westmorland, CA**

Conducted Phase II investigation for hydrocarbon contamination of subsurface soil of a service station site with leaking underground storage tanks prior to property purchase

- **Various Apartment Complexes, Imperial County, CA**

Conducted Phase I environmental investigation at numerous proposed apartment complex site within the Imperial Valley

- **Hwy 98 Improvements, Imperial, CA**

Performed Phase I environmental site assessment for improvements to Hwy 98 for a new intersection in accordance to CalTrans requirements.

Professional Affiliations

American Society of Civil Engineers, Member
American Society of Testing Materials, Member
American Concrete Institute, Certified Examiner
Association of Professional Firms Practicing in the Geosciences, Member

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GS Lyon

Steven K. Williams, CEG
Senior Engineering Geologist

Education
M.S. Geology
University of Utah, 1993
B.S. Geology
University of Utah, 1989

Registration
Registered Geologist
Arizona 3759
California 6975
Certified Engineering Geologist
California 2261

Professional Experience

2000 – Present	Project Geologist GS Lyon Consultants, Inc.
1994 - 2000	Staff Geologist GS Lyon Consultants, Inc.
1994	Field Geologist Bureau of Land Management
1991 - 1992	Exploration Geologist Kennecott Corporation

Summary of Experience
Mr. Williams has performed geotechnical investigations in southern California and southwestern Arizona. His field experience includes logging of soil borings and exploratory trenches, collection and documentation of soil samples, collection of field geotechnical data, and monitoring pile driving operations. Mr. Williams is also responsible for preparing computer generated data and figures, drafting and subsequent writing of geotechnical reports for a variety of projects including road improvements, fault studies, liquefaction potential evaluation, foundation preparation, seepage studies, structural distress, and soil investigations. He has performed geotechnical, geologic, and environmental studies for a wide variety of projects including correctional facilities, water and wastewater facilities, schools, residential subdivisions, commercial developments, and landfills throughout southern California and southwestern Arizona.

Mr. Williams also performs Phase I Environmental Site Assessments throughout the Imperial and Coachella Valleys. The scope of work for these projects typically include a site reconnaissance, review of government records pertaining to previous site uses, and preparation of a report identifying potential environmental risks.

He also conducts investigations for the potential of asbestos-containing materials and lead-based paint in old building projects and potential for soil contamination by hydrocarbons, pesticides, and other hazardous materials.

Professional Affiliations
Geological Society of America, Member

Selected Project Experience
- **El Centro Seniors Apartments, El Centro, CA**

Performed Phase I and Phase II environmental site assessments for apartment complex at old school district office site with underground storage tanks.
- **Central Main Canal Seepage Study, Imperial, CA**

Conducted 6-month groundwater seepage study for Imperial Irrigation District to evaluate high groundwater levels in Sandalwood Glen Subdivision
- **Gateway to the Americas, Calexico, CA**

Conducted Phase I ESA, geologic hazards study and geotechnical investigation including liquefaction evaluation for 1,700 acre development associated with new Port of Entry east of Calexico
- **El Centro Magistrate Court, El Centro, CA**

Conducted geotechnical investigation and Phase I ESA for new Federal Magistrate Court building at site with soft soil conditions requiring foundation settlement analysis
- **El Centro Regional Medical Center, El Centro, CA**

Conducted Phase I ESA and geotechnical investigation for 50,000 sf, 2-story addition to the medical center's emergency room, operating rooms, and recovery rooms.
- **Brawley Union High School, Brawley, CA**

Conducted Phase II investigation for PCB and lead contamination of surficial soil and hydrocarbon contamination of subsurface soil of a property proposed for purchase.
- **EW Corporation Site, Westmorland, CA**

Conducted Phase II investigation for hydrocarbon contamination of subsurface soil of a service station site with leaking underground storage tanks prior to property purchase
- **Various Apartment Complexes, Imperial County, CA**

Conducted Phase I environmental investigation at numerous proposed apartment complex site within the Imperial Valley
- **Oasis Elementary School, Mecca, CA**

Conducted PEA environmental investigation for the new Oasis Elementary School prior to construction of school

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Peter LaBrucherie, PE
Staff Engineer

Education

B.S. Civil Engineering
California Polytechnic University, San Luis Obispo, 2011

M.S. Civil Engineering
California Polytechnic University, San Luis Obispo, 2012

Registration
Professional Engineer C84812, California

Professional Experience

2013 - Present	Staff Engineer GS Lyon, Inc.
2012 - 2013	Project Engineer BNBuilders.

Summary of Experience
As an Environmental Technician, Mr. LaBrucherie performs Phase I Environmental Site Assessments in Imperial County. The scope of work for these assessments typically includes site reconnaissance, review of government records pertaining to previous site uses, and preparation of a report identifying potential environmental risks.

Selected Project Experience

Seville Solar Farm, Westmorland, CA
Conducted Phase I environmental site assessment for solar project located about 9 miles northwest of Westmorland, Ca.

Clean Harbors Facility, Westmorland, CA
Conducted annual reports which included flood diversion, photo documentation and post closure for waste facility located about 5 miles west of Westmorland, Ca.

Ching Properties, Brawley, CA
Conducted Phase I environmental site assessment for vacant property located in Brawley, Ca.

Chelsea - 470 W. Wall Road, Imperial, CA
Conducted Phase I environmental site assessment for vacant property located in Imperial, Ca. Property is being proposed for apartment complex.

1409 E. Alamo Road, Holtville, CA
Conducted Phase I environmental site assessment for property (mostly vacant with some unused shop buildings and abandoned residential home) located west of Holtville, Ca.

BUSD School Site, Brawley, CA
Conducted Phase I environmental site assessment for school site proposal on a vacant property located in south Brawley, Ca.

CR&R Direct Transfer, El Centro, CA
Conducted Phase I environmental site assessment for commercial property (large warehouse and office with large laydown area) located in El Centro, Ca.

Villa Primavera Apartments, Calexico, CA
Conducted Phase I environmental site assessment for vacant property located in Calexico, Ca.

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Noise Impact Assessment

Vega SES Complex Solar Energy Storage Project

County of Imperial, California

Prepared For:

Vega SES 2, LLC
Vega SES 3, LLC
Apex Energy Solutions, Inc.
604 Sutter Street,
Folsom, CA 95630

December 2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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LIST OF ACRONYMS AND ABBREVIATIONS

A-3-RE	Heavy Agriculture with a Renewable Energy Overlay
A-2-RE	General Agriculture with a Renewable Energy Overlay
CEQA	California Environmental Quality Act

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CNEL	Community Noise Equivalent Level
dB	Decibel
dBA	Decibel is A-weighted
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
IID	Imperial Irrigation District
L_{eq}	Measure of ambient noise
HSAT	Horizontal single-axis tracker
MW	Megawatts
OPR	Office of Planning and Research
OSHA	Federal Occupational Safety and Health Administration
OSHPD	Office of State Health Planning and Development
PPV	Peak particle velocity
Project	Vega SES Complex Solar Energy Storage Facilities
RMS	Root mean square
S-2-RE	Open Space Preservation Zone with a Renewable Energy Overlay
SR	State Route
WEAL	Western Electro-Acoustic Laboratory, Inc.

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1.0 INTRODUCTION

This report documents the results of a Noise Impact Assessment completed for the Vega Complex Solar Energy Storage Project (Project), which includes the construction of up to a nominal 240-megawatt (MW) alternating current solar photovoltaic (PV) energy generation system with an integrated 240 MW battery storage system (known as Vega 2), a nominal 60 MW alternating current PV energy generation system with an integrated 60 MW battery storage system (known as Vega 3), and a nominal 50 MW alternating current solar PV energy generation system with an integrated 50 MW battery storage system (known as Vega 5), all spanning approximately 1,963 acres of land in the County of Imperial, California. This report was prepared as a comparison of predicted Project noise levels to noise standards promulgated by the County of Imperial General Plan Noise Element. The purpose of this report is to estimate Project-generated noise and to determine the level of impact the Project would have on the environment.

1.1 Project Overview

The Project proposes to construct a cluster of alternating current solar PV energy generation systems totaling 350 Megawatts (MWs) with accompanying battery storage. The Project consists of three individual site locations which make up the Vega SES Complex. Vega 2 is located on three non-contiguous parcels totaling 1,323 acres, Vega 3 is located on a 640-acre parcel but only compromising 230 acres, and Vague 5 is located on three parcels totaling 410 acres. It is proposed that Vega 2 & 3 will be constructed together beginning in early 2023 with Vega 5 being constructed in 2024.

All systems would be utilizing either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The individual PV systems would be arranged in large arrays by placing them in columns spaced approximately ten feet apart to maximize operational performance and to allow access for panel cleaning and maintenance.

1.2 Project Location and Description

The total combined Project Site area spans approximately 1,963 acres and is located 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City (see Figure 1. Project Vicinity). The Site is transected by the Coachella and East Highline Canals and the Union Pacific Railway in northcentral Imperial County, California.

1.3 Applicable Land Use Regulations

All Project parcels for Vega 2 & 3 are designated as "Recreation/Open Space" in the Imperial County General Plan and are zoned S-2-RE (Open Space/Preservation with a Renewable Energy overlay). Pursuant to Section 91703.02 (CONDITIONAL USE PERMITS), Renewable Energy Projects must be located within the Renewable Energy Overlay Zone and may be permitted only through the issuance of a Conditional Use Permit (CUP) as approved by the Approving Authority unless otherwise allowed by applicable law. All Project parcels in Vega 5 are designated as "Recreation/Open Space" in the Imperial County General Plan. Two of the Vega 5 properties are zoned S-2-RE (areas with intent to preserve the cultural, biological, and open spaces that are rich and natural as well as cultural resources). The third Vega 5 property is zoned A-

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2-RE (areas that are suitable and intended primarily for agricultural uses [limited] and agricultural related compatible uses), A-3-RE (areas that are suitable for agricultural land uses; to prevent the encroachment of incompatible uses onto and within agricultural lands; and to prohibit the premature conversion of such lands to non-agricultural uses) and S-2-RE (see above). At present, all portions of the proposed Project (Vega 2 & 3, and 5) are located within the Renewable Energy Zone.

1.4 Project Site Access

The Project Area would be accessible from McDonald Road, a paved road off State Route 111. The Vega 5 Project Site is located at the eastern end of McDonald Road. Access to the Vega 2 and 3 Project Site would require an additional 1.65 miles of travel on Wiest Road and Flowing Wells Road. Both of which are unpaved.

1.5 Project Construction

Construction activities would involve demolition and grubbing, grading of the Project Site to establish access roads and pads for electrical equipment (inverters and step–up transformers), trenching for underground electrical collection lines, and the installation of solar equipment and security fencing. The construction of each Project component (Vega 2 & 3 and Vega 5) is estimated to take 12-18 months each and would begin in early 2023. A temporary, portable construction supply container would be located at the Project Site at the beginning of construction and removed at the end of construction. The number of on–site construction workers for Vega 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the Vega 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on–site construction workers for the Vega 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the Vega 5 battery storage facility and substation is not expected to exceed 50 workers at any one time. Onsite parking would be provided for all construction workers.

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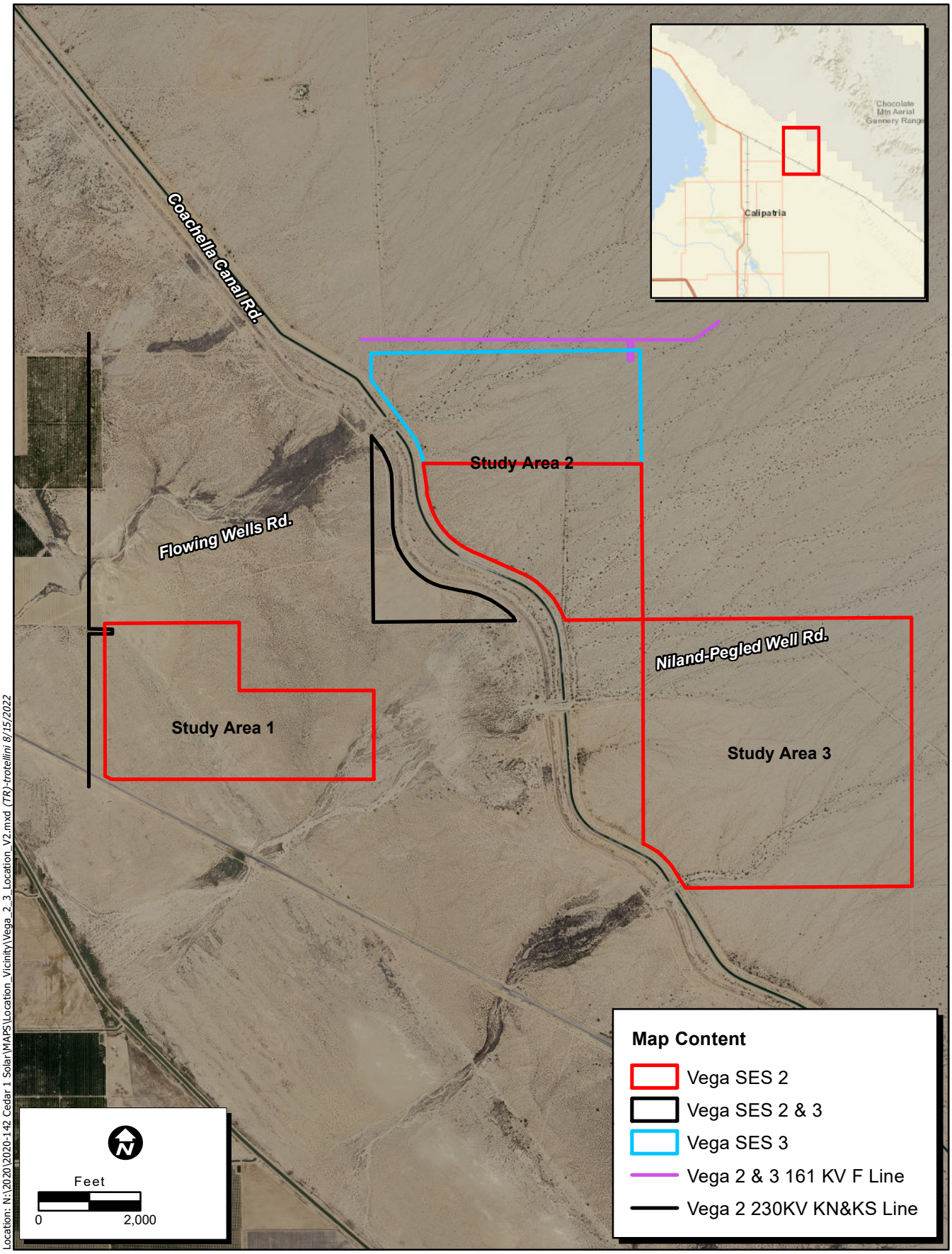

Map Date: 8/15/2022

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 1. Project Location

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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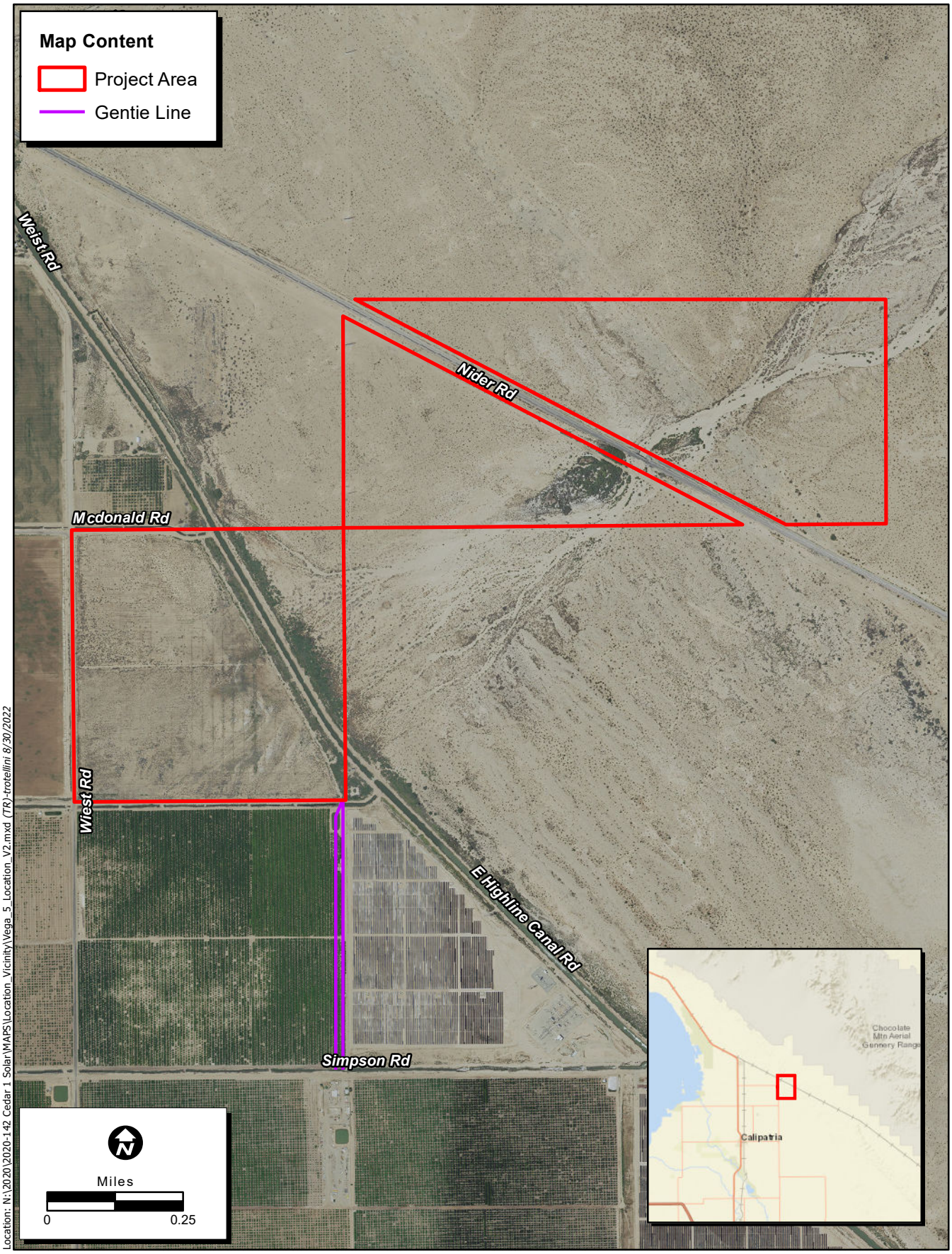

Location: N:\2020\2020-142 Cedar 1 Solar\MAPS\Location_Vicinity\Vega_5_Location_V2.mxd (TR)-trotellini 8/30/2022

Map Date: 8/30/2022

*Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community*Photo Source: NAIP

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 1. Project Location

2020-144 Vega SES 5

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2.0 ENVIRONMENTAL NOISE AND GROUNDBORNE VIBRATION ANALYSIS

2.1 Fundamentals of Noise and Environmental Sound

2.1.1 Addition of Decibels

The decibel (dB) scale is logarithmic, not linear, and therefore sound levels cannot be added or subtracted through ordinary arithmetic. Two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted (dBA), an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound and twice as loud as a 60-dBA sound. When two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be three dB higher than one source under the same conditions (Federal Transit Administration [FTA] 2018). For example, a 65-dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by three dB). Under the decibel scale, three sources of equal loudness together would produce an increase of five dB.

Typical noise levels associated with common noise sources are depicted in Figure 2. *Common Noise Levels*.

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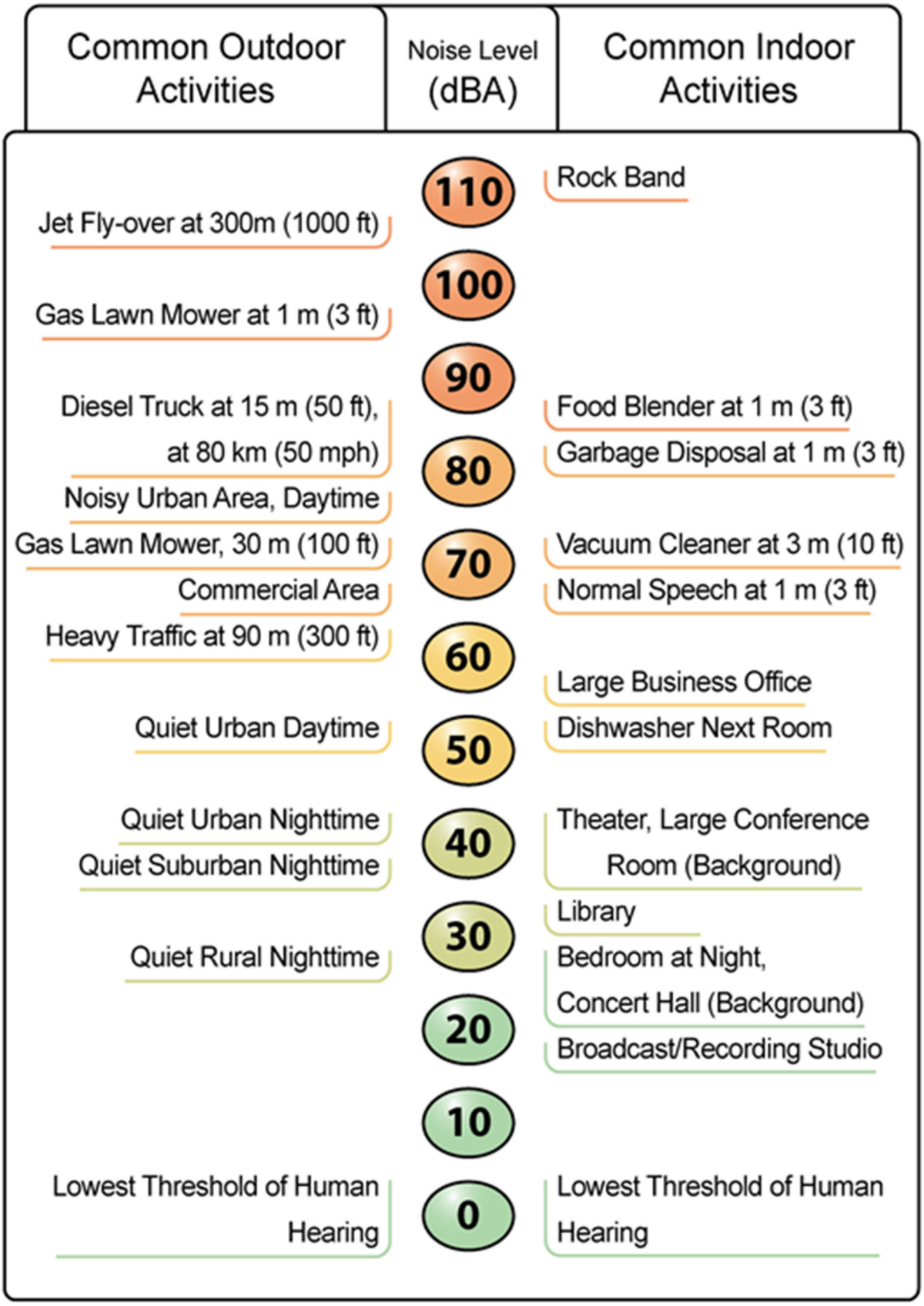

Source: California Department of Transportation (Caltrans) 2020a

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2.1.2 Sound Propagation and Attenuation

Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately six dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately three dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (Federal Highway Administration [FHWA] 2011). No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. For line sources, an overall attenuation rate of three dB per doubling of distance is assumed (FHWA 2011).

Noise levels may also be reduced by intervening structures; generally, a single row of detached buildings between the receptor and the noise source reduces the noise level by about five dBA (FHWA 2006), while a solid wall or berm generally reduces noise levels by 10 to 20 dBA (FHWA 2011). However, noise barriers or enclosures specifically designed to reduce site-specific construction noise can provide a sound reduction 35 dBA or greater (Western Electro-Acoustic Laboratory, Inc. [WEAL] 2000). To achieve the most potent noise-reducing effect, a noise enclosure/barrier must physically fit in the available space, must completely break the “line of sight” between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces. Noise barriers must be sizable enough to cover the entire noise source and extend lengthwise and vertically as far as feasibly possible to be most effective. The limiting factor for a noise barrier is not the component of noise transmitted through the material, but rather the amount of noise flanking around and over the barrier. In general, barriers contribute to decreasing noise levels only when the structure breaks the "line of sight" between the source and the receiver.

The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows (Caltrans 2002). The exterior-to-interior reduction of newer residential units is generally 30 dBA or more (Harris Miller, Miller & Hanson Inc. [HMMH] 2006). Generally, in exterior noise environments ranging from 60 dBA Community Noise Equivalent Level (CNEL) to 65 dBA CNEL, interior noise levels can typically be maintained below 45 dBA, a typically residential interior noise standard, with the incorporation of an adequate forced air mechanical ventilation system in each residential building, and standard thermal-pane residential windows/doors with a minimum rating of Sound Transmission Class (STC) 28. (STC is an integer rating of how well a building partition attenuates airborne sound. In the U.S., it is widely used to rate interior partitions, ceilings, floors, doors, windows, and exterior wall configurations.) In exterior noise environments of 65 dBA CNEL or greater, a combination of forced-air mechanical ventilation and sound-rated construction methods is often required to meet the interior noise level limit. Attaining the necessary noise reduction from exterior to interior spaces is readily achievable in noise environments less than 75 dBA CNEL with proper wall construction techniques following California Building Code methods, the selections of proper windows and doors, and the incorporation of forced-air mechanical ventilation systems.

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2.1.3 Noise Descriptors

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL (Community Noise Equivalent Level) are measures of community noise. Each is applicable to this analysis and defined in Table 2-1.

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Table 2-1. Common Acoustical Descriptors

Descriptor	Definition
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micropascals (or 20 micronewtons per square meter), where 1 pascal is the pressure resulting from a force of 1 newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micropascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hertz (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average acoustic energy content of noise for a stated period of time. Thus, the Leq of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn} or DNL	A 24-hour average Leq with a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour Leq would result in a measurement of 66.4 dBA Ldn.
Community Noise Equivalent Level, CNEL	A 24-hour average Leq with a 5 dBA "weighting" during the hours of 7:00 p.m. to 10:00 p.m. and a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour Leq would result in a measurement of 66.7 dBA CNEL.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.

The A weighted decibel sound level scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a

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method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about ±1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends on the distance between the receptor and the noise source. Close to the noise source, the models are accurate to within about ±1 to 2 dBA.

2.1.4 Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in A-weighted noise levels (dBA), the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived by humans.
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference.
- A change in level of at least 5 dBA is required before any noticeable change in community response would be expected. An increase of 5 dBA is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

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2.1.5 Effects of Noise on People

Hearing Loss

While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise.

The Occupational Safety and Health Administration (OSHA) has a noise exposure standard that is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over eight hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn} as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. For ground vehicles, a noise level of about 55 dBA L_{dn} is the threshold at which a substantial percentage of people begin to report annoyance.

2.2 Fundamentals of Environmental Groundborne Vibration

2.2.1 Vibration Sources and Characteristics

Sources of earthborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or manmade causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions).

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the peak particle velocity (PPV); another is the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

PPV is generally accepted as the most appropriate descriptor for evaluating the potential for building damage. For human response, however, an average vibration amplitude is more appropriate because it takes time for the human body to respond to the excitation (the human body responds to an average vibration amplitude, not a peak amplitude). Because the average particle velocity over time is zero, the RMS amplitude is typically used to assess human response. The RMS value is the average of the amplitude squared over time, typically a 1- sec. period (FTA 2018).

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Table 2-2 displays the reactions of people and the effects on buildings produced by continuous vibration levels. The annoyance levels shown in the table should be interpreted with care since vibration may be found to be annoying at much lower levels than those listed, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high-noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Ground vibration can be a concern in instances where buildings shake, and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. For instance, heavy-duty trucks generally generate groundborne vibration velocity levels of 0.006 PPV at 50 feet under typical circumstances, which as identified in Table 2-2 is considered very unlikely to cause damage to buildings of any type. Common sources for groundborne vibration are planes, trains, and construction activities such as earth-moving which requires the use of heavy-duty earth moving equipment.

Table 2-2. Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibration Levels

Peak Particle Velocity (inches/second)	Approximate Vibration Velocity Level (VdB)	Human Reaction	Effect on Buildings
0.006–0.019	64–74	Range of threshold of perception	Vibrations unlikely to cause damage of any type
0.08	87	Vibrations readily perceptible	Recommended upper level to which ruins and ancient monuments should be subjected
0.1	92	Level at which continuous vibrations may begin to annoy people, particularly those involved in vibration sensitive activities	Virtually no risk of architectural damage to normal buildings
0.2	94	Vibrations may begin to annoy people in buildings	Threshold at which there is a risk of architectural damage to normal dwellings
0.4–0.6	98–104	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Architectural damage and possibly minor structural damage

Source: Caltrans 2020b

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3.0 EXISTING ENVIRONMENTAL NOISE SETTING

3.1 Noise-Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as hospitals, historic sites, cemeteries, and certain recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The nearest existing noise-sensitive land use to the Project Site is a single-family residence located 523 feet from the southwestern corner of the Vega 5 Project component boundary.

3.2 Existing Ambient Noise Environment

The Project site is bound mostly by vacant undisturbed land, with the exception of agricultural lands and county roadways adjacent to the Vega 5 property. Noffsinger Road and Union Pacific Railway traverse the Vega 5 parcels, and the Coachella Canal crosses and runs adjacent to the Vega 2 properties. In order to quantify existing ambient noise levels in the Project area, ECORP Consulting, Inc. conducted four short-term noise measurements on January 12th, 2021. The noise measurement sites were representative of typical existing noise exposure within and adjacent to the Project Site during the daytime (see Attachment A for a visual depiction of the Noise Measurement Locations). The 15-minute measurements were taken between 11:35 a.m. and 12:54 p.m. Short-term (L_{eq}) measurements are considered representative of the noise levels throughout the day. As shown in Table 3-1, the existing noise levels (Baseline) in the Project-vicinity ranges from 45.5 to 48.1 dBA L_{eq}.

Table 3-1. Existing (Baseline) Noise Measurements

Location Number	Location	L_{eq} dBA	L_{min} dBA	L_{max} dBA	Time
1	W Schrimpf Road and Wiest Road	**45.5**	43.1	52.0	11:35 a.m. - 11:50 p.m.
2	Wiest Road and McDonald Road	**47.5**	37.2	61.9	11:57 a.m. - 11:12 p.m.
3	McDonald Road, ~700ft W of Wiest Road	**45.8**	31.6	70.7	12:16 p.m. - 12:31 p.m.
4	Wiest Rd ~1,000ft South of Wiest Road/Noffsinger Road Intersection	**48.1**	32.2	69.1	12:39 p.m. – 12:54 p.m.

Source: Measurements were taken by ECORP with a Larson Davis LxT SE precision sound level meter, which satisfies the American National Standards Institute for general environmental noise measurement instrumentation. See Attachment A for noise measurement outputs.

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The most common noise in the Project vicinity is produced by automotive vehicles (e.g., cars, trucks, buses, motorcycles) traversing county roads adjacent to the Project Site. Traffic moving along streets produces a sound level that remains relatively constant and is part of the minimum ambient noise level in the Project vicinity. Vehicular noise varies with the volume, speed and type of traffic. Slower traffic produces less noise than fast-moving traffic. Trucks typically generate more noise than cars. Infrequent or intermittent noise is also associated with vehicles, including sirens, vehicle alarms, slamming of doors, trains, garbage and construction vehicle activity and honking of horns. These noises add to urban noise and are regulated by a variety of agencies.

4.0 REGULATORY FRAMEWORK

4.1 Federal

4.1.1 Occupational Safety and Health Act of 1970

OSHA regulates onsite noise levels and protects workers from occupational noise exposure. To protect hearing, worker noise exposure is limited to 90 decibels with A-weighting (dBA) over an eight-hour work shift (29 Code of Regulations 1910.95). Employers are required to develop a hearing conservation program when employees are exposed to noise levels exceeding 85 dBA. These programs include provision of hearing protection devices and testing employees for hearing loss on a periodic basis.

4.2 State

4.2.1 State of California General Plan Guidelines

The State of California regulates vehicular and freeway noise affecting classrooms, sets standards for sound transmission and occupational noise control, and identifies noise insulation standards and airport noise/land-use compatibility criteria. The State of California General Plan Guidelines (State of California 2003), published by the Governor's Office of Planning and Research (OPR), also provides guidance for the acceptability of projects within specific CNEL/L_{dn} contours. The guidelines also present adjustment factors that may be used in order to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

4.2.2 State Office of Planning and Research Noise Element Guidelines

The State OPR *Noise Element Guidelines* include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The Noise Element Guidelines contain a Land Use Compatibility table that describes the compatibility of various land uses with a range of environmental noise levels in terms of the CNEL.

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4.3 Local

4.3.1 Imperial County General Plan Noise Element

The County of Imperial General Plan Noise Element establishes maximum allowable average-hourly noise limits for various land use designations (refer to Table 4-1). These noise standards are to be applied at the property line of the noise-generating land use. In instances where the adjoining land use designations differ from that of the noise-generating land use, the more restrictive noise standard shall apply. Where the ambient noise level is equal to or exceeds the property line noise standard, the increase of the existing or proposed noise shall not exceed 3 dBA L_{eq}, which is just-perceivable increase in noise. $L_{eq\ is}$ defined as the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure.

Table 4-1 County of Imperial Property Line Noise Standards

Land Use Zone	Time Period	Average-Hourly Noise Level (dBA L_{eq})
Residential	7 a.m. - 10 p.m. 10 p.m. - 7 a.m.	50 45
Multi-residential	7 a.m. - 10 p.m. 10 p.m. - 7 a.m.	55 50
Commercial	7 a.m. -10 p.m. 10 p.m. - 7 a.m.	60 55
Light Industrial/Industrial Park	Any time	70
General Industrial	Any time	75

Source: Imperial County 2015.

Notes: When the noise-generating property and the receiving property have different uses, the more restrictive standard shall apply. When the ambient noise level is equal to or exceeds the Property Line noise standard, the increase of the existing or proposed noise shall not exceed 3 dBA L_{eq}.

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Construction Noise Standards

Construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB L_{eq}, when averaged over an eight (8) hour period, and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB L_{eq} when averaged over a one (1) hour period.

Construction equipment operations are required to be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 5:00 p.m. Saturday. No commercial construction operations are permitted on Sunday or holidays. In cases of a person constructing or modifying a residence for himself/herself, and if the work is not being performed as a business, construction equipment operations may be performed on Sundays and holidays between the hours of 9:00 a.m. and 5:00 p.m. Such non-commercial construction activities may be further restricted where disturbing, excessive, or offensive noise causes discomfort or annoyance to reasonable persons of normal sensitivity residing in an area.

Significant Increase of Ambient Noise Levels

The increase of noise levels generally results in an adverse impact to the noise environment. The Noise/Land Use Compatibility Guidelines are not intended to allow the increase of ambient noise levels up to the maximum without consideration of feasible noise reduction measures. The following guidelines are established by the County of Imperial for the evaluation of significant noise impact.

- If the future noise level after a project is completed will be within the "normally acceptable" noise levels shown in the Noise/Land Use Compatibility Guidelines, but will result in an increase of 5 dB CNEL or greater, the project will have a potentially significant noise impact and mitigation measures must be considered.
- If the future noise level after a project is completed will be greater than the "normally acceptable" noise levels shown in the Noise/Land Use Compatibility Guidelines, a noise increase of 3 dB CNEL or greater shall be considered a potentially significant noise impact and mitigation measures must be considered.

Noise/Land Use Compatibility

The Imperial County General Plan Noise Element Noise/Land Use Compatibility Standards defines the acceptability of a land use in a specified noise environment. Table 4-2 provides the County of Imperial Noise/Land Use Compatibility Guidelines. When an acoustical analysis is performed, conformance of a proposed project with the Noise/Land Use Compatibility Guidelines is used to evaluate potential noise impacts and to provide criteria for environmental impact findings and conditions for project approval.

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Table 4-2. County of Imperial Noise/Land Use Compatibility Guidelines		
Land Use Category	**Community Noise Exposure L_{dn} or CNEL, dB**	**Acceptability**
Residential	< 60	Normally Acceptable
	60 - 70	Conditionally Acceptable
	70 - 75	Normally Unacceptable
	> 75	Clearly Unacceptable
Transient Lodging-Motels, Hotels	< 60	Normally Acceptable
	60 - 75	Conditionally Acceptable
	75 - 80	Normally Unacceptable
	> 80	Clearly Unacceptable
Schools, Libraries, Churches, Hospitals, Nursing Homes	< 60	Normally Acceptable
	60 - 70	Conditionally Acceptable
	70 - 80	Normally Unacceptable
	> 80	Clearly Unacceptable
Auditoriums, Concert Halls, Amphitheaters	< 70	Conditionally Acceptable
	> 70	Clearly Unacceptable
Sports Arenas, Outdoor Spectator Sports	< 70	Conditionally Acceptable
	70 - 75	Normally Unacceptable
	> 75	Clearly Unacceptable
Playgrounds, Neighborhood Parks	< 70	Normally Acceptable
	70 - 75	Normally Unacceptable
	> 75	Clearly Unacceptable
Golf Courses, Riding Stables, Water Recreation, Cemeteries	< 70	Normally Acceptable
	70 - 80	Normally Unacceptable
	> 80	Clearly Unacceptable
Office Buildings, Business Commercial and Professional	< 65	Normally Acceptable
	65 - 75	Conditionally Acceptable
	75 - 80	Normally Unacceptable
	> 80	Clearly Unacceptable
Industrial, Manufacturing Utilities, Agriculture	< 70	Normally Acceptable
	70 - 75	Conditionally Acceptable
	75 - 80	Normally Unacceptable
	> 80	Clearly Unacceptable

Source: Imperial County 2015.

Notes: Interpretation (For Land Use Planning Purposes):

Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design

Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development clearly should not be undertaken.

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5.0 IMPACT ASSESSMENT

5.1 Thresholds of Significance

The impact analysis provided below is based on the following California Environmental Quality Act Guidelines Appendix G thresholds of significance. The project would result in a significant noise-related impact if it would produce:

1) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

2) Generation of excessive groundborne vibration or groundborne noise levels.

3) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

For purposes of this analysis, Project construction noise is compared to the County's construction noise standard of 75 dBA, when averaged over an eight (8) hour period and measured at the nearest sensitive receptor. Noise generated onsite is compared against the County's property line standards identified in Table 4-1.

5.2 Methodology

This analysis of the existing and future noise environments is based on empirical observations. Predicted construction noise levels were calculated utilizing the FHWA's Roadway Construction Model (see Attachment B). Groundborne vibration levels associated with construction-related activities for the Project have been evaluated utilizing typical groundborne vibration levels associated with construction equipment. Potential groundborne vibration impacts related to structural damage and human annoyance were evaluated, taking into account the distance from construction activities to nearby structures and typically applied criteria for structural damage and human annoyance.

In order to estimate the worst-case operational noise levels that may occur at the nearest noise-sensitive receptor, onsite operational noise levels have been calculated with the SoundPLAN 3D noise model (which predicts noise propagation from a noise source based on the location, noise level, and frequency spectra of the noise sources as well as the geometry and reflective properties of the local terrain, buildings, and barriers), coupled with reference noise measurements that were taken by ECORP Consulting, Inc. (ECORP) at an existing solar energy generation facility (see Attachment C).

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5.3 Impact Analysis

5.3.1 Project Construction Noise

Would the Project Result in Short-Term Construction-Generated Noise in Excess of Standards?

Onsite Construction Noise

Construction noise associated with the proposed Project would be temporary and would vary depending on the nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing, grading, excavation, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). During construction, exterior noise levels could negatively affect sensitive land uses in the vicinity of the construction site. The nearest existing noise-sensitive land use to the Project Site is a single-family residence located 523 feet from the southwestern corner of the Vega 5 Project component boundary. However, Vega 2 and 3 are located on a different set of parcels than Vega 5. Therefore, the closest residence to Vega 2 and 3 is approximately 3,154 feet west of the Vega 2 boundary.

As previously described, the County's General Plan Noise Element states construction equipment operation shall be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 5:00 p.m. on Saturdays. No commercial construction operations are permitted on Sundays or holidays. Construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB L_{eq}, when averaged over an eight (8) hour period, and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB L_{eq} when averaged over a one (1) hour period. The anticipated short-term construction noise levels generated for the necessary construction equipment for Vega 2 and 3 are presented in Table 5-1. The anticipated short-term construction noise levels generated for the necessary construction equipment for Vega 5 are presented in Table 5-2.

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Table 5-1. Vega 2 and 3 Construction Average (dBA) Noise Levels at Nearest Receptors			
Combined Equipment	**Estimated Exterior Construction Noise Level at Existing Residences (dBA L_{eq})**	**Construction Noise Standards (dBA L_{eq})**	**Exceeds Standards?**
Demolition and Grubbing	50.4	*75*	**No**
Grading	52.2	*75*	**No**
Construction and Paving	54.6	*75*	**No**

Source: Construction noise levels were calculated by ECORP Consulting using the FHWA Roadway Noise Construction Model (FHWA 2006). Refer to Attachment B for Model Data Outputs.

Notes: The nearest residence is located approximately 3,154 feet from the Project's Vega 2 and 3 western boundaries.

L_{eq} = The equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

As shown in Table 5-1, the individual or cumulative pieces of construction equipment during the construction of Vega 2 and 3 would not exceed the 75 dBA County construction noise standard at the nearby noise-sensitive receptors.

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Table 5-2. Vega 5 Construction Average (dBA) Noise Levels at Nearest Receptors			
Combined Equipment	**Estimated Exterior Construction Noise Level at Existing Residences (dBA L_{eq})**	**Construction Noise Standards (dBA L_{eq})**	**Exceeds Standards?**
Demolition and Grubbing	66.0	*75*	**No**
Grading	67.8	*75*	**No**
Construction and Paving	70.2	*75*	**No**

Source: Construction noise levels were calculated by ECORP Consulting using the FHWA Roadway Noise Construction Model (FHWA 2006). Refer to Attachment B for Model Data Outputs.

Notes: The nearest residence is located approximately 523 feet from the Project's Vega 5 southwestern boundary.

L_{eq} = The equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

As shown in Table 5-2, no individual or cumulative pieces of construction equipment during the construction of Vega 5 would exceed the 75 dBA County construction noise standard at the nearby noise-sensitive receptors.

Offsite Construction Worker Traffic Noise

Project construction would result in additional traffic on adjacent roadways over the time period that construction occurs. As previously stated, the number of on–site construction workers for the solar project facilities are not expected to exceed 150 workers at any one time. The number of on-site construction workers for the battery storage facility and the substation is not expected to exceed 100 workers at any one time. Onsite parking would be provided for all construction workers. According to KOA Corporation (2021), a maximum of 510 daily automobile trips would be generated during Project construction, accounting for construction worker commutes and equipment deliveries. The majority of these trips are expected to be accommodated on State Route (SR) 78, SR 111, and SR 115. Construction workers would access the Vega 5 Project Site from SR 111 onto east on McDonald Road. The Vega 2 and 3 Project Site require an additional 1.65 miles of travel on Wiest Road and Flowing Wells Road.

According to the California Department of Transportation (Caltrans) *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (2013), doubling of traffic on a roadway is required to result in an increase of 3 dB (outside of the laboratory, a 3-dBA change is considered a just-perceivable difference). According to the Caltrans Traffic Census Program (2018), the roadway segment of SR 111 closest to the Project Site currently accommodates 3,500 average daily traffic trips (ADT). The County General Plan Circulation and Scenic Highways Element (2008) designates the roadway segments of McDonald Road and Weist Road as Minor (Local) Collector, which on average can accommodate 1,900 to 16,200 ADT. Flowing Wells Road

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does not have a designation within the General Plan, but there are no sensitive receptors along Flowing Wells Road that would experience any sound changes along this roadway. Additionally, construction is temporary and once Project construction is completed, all construction-related traffic noise would cease.

Thus, the estimated 510 daily trips during Project construction would typically not result in a doubling of traffic on these facilities, and its contribution to existing traffic noise would not be perceptible.

5.3.2 Project Operational Noise

Would the Project Result in a Substantial Permanent Increase in Ambient Noise Levels in Excess of County or City Standards During Operations?

As previously described, noise-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise-sensitive and may warrant unique measures for protection from intruding noise. The nearest existing noise-sensitive land use to the Project Site is a single-family residence located 523 feet from the southwestern corner of the Vega 5 Project component boundary.

Operational Offsite Traffic Noise

Project operations would result in minimal additional traffic on adjacent roadways. The only visitors to the site would be that of repair or maintenance workers, whose presence at the site would be only be necessary infrequently and inconsistently. According to the California Department of Transportation (Caltrans) *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (2013), doubling of traffic on a roadway is required to result in an increase of 3 dB (outside of the laboratory, a 3-dBA change is considered a just-perceivable difference). The proposed Project would not result in a doubling of traffic, and therefore its contribution to existing traffic noise would not be perceptible.

Project Land Use Compatibility

The County land use compatibility standards presented in the General Plan Noise Element provides the County with a tool to gauge the compatibility of new land uses relative to existing noise levels. This table, presented as Table 4-2, identifies acceptable noise levels for various land uses. In the case that the noise levels identified at the proposed Project Site fall within the "acceptable" levels presented in the General Plan, the Project is considered compatible with the existing noise environment.

As previously stated, the Project Site is proposing to develop an up to nominal 240, 60 and 50 MW alternating current PV solar energy generation and storage facilities. The proposed Project site is zoned A-3-RE (Heavy Agriculture with a Renewable Energy Overlay), A-2-RE (General Agriculture with a Renewable Energy Overlay) and S-2-RE (Open Space Preservation Zone with a Renewable Energy Overlay). As shown in Table 4-2, a normally acceptable noise standard for agricultural land uses is 69 dBA CNEL or under. In order to quantify existing ambient noise levels in the Project area, ECORP conducted four short-term noise measurements on January 12th, 2021. The noise measurement sites were representative of typical existing noise exposure in the Project vicinity and are considered representative of the noise levels throughout the day. As shown in Table 3-1, the ambient noise level recorded in the vicinity of the Project

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site ranges from 45.5 dBA to 66.1 dBA. However, it is noted that these short-term measurements were each conducted over 1,000 feet from the Vega 5 parcel center and adjacent to Wiest Rd and McDonald Rd, both substantial noise sources. Thus, the ambient noise levels experienced on the actual Project Site would most likely be less. As these noise levels fall below the County General Plan Noise Element (2015) standards for agricultural land uses as found in Table 4-2 above, the Project Site is considered an appropriate noise environment to locate the proposed land use.

Project Operations-Onsite Noise Sources

As previously stated, noise sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise-sensitive and may warrant unique measures for protection from intruding noise. The nearest existing noise-sensitive land use to the Project Site is a single-family residence located 523 feet from the southwestern corner of the Vega 5 Project component boundary.

The main stationary operational noise associated with the Project would be from the proposed transformers, inverters, substation, and transmission lines. Onsite Project operations have been calculated using the SoundPLAN 3D noise model. As previously stated, a noise level of 47.1 dBA was employed as the reference noise level in the SoundPLAN 3D noise model to determine noise-level propagation associated with the Project operations. The results of this model can be found in Appendix C. Table 5-2 shows the predicted Project noise levels at the nearest noise-sensitive land use in the Project vicinity, as predicted by SoundPLAN.

Table 5-3. Modeled Operational Noise Levels at Nearest Sensitive Receptor

Location	Modeled Operational Noise Attributed to Project (L_{eq} dBA)	County Daytime Standard (L_{eq}, dB)	County Nighttime Standard (L_{eq} dB)	Exceed Standard?
Property line of the nearest residence	**36.7**	50.0	45.0	**No**

Source: Stationary source noise levels were modeled by ECORP using SoundPLAN 3D noise model. Refer to Appendix C for noise modeling assumptions and results.

Note: Reference noise measurement used to calculate Project onsite noise propagation identified at 47.1 dBA, per 30-minute measurements taken at a Vega SES Complex solar generation facility in Imperial County.

As shown in Table 5-3, Project operational noise would not exceed County daytime or nighttime standards.

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5.3.3 Project Construction Groundborne Vibration

Would the Project Expose Structures to Substantial Groundborne Vibration During Construction?

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the Project would be primarily associated with short-term construction-related activities. Construction on the Project Site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. It is noted that pile drivers would not be necessary during Project construction. Vibration decreases rapidly with distance and it is acknowledged that construction activities would occur throughout the Project Site and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with typical construction equipment at 25 feet distance are summarized in Table 5-4.

Table 5-4. Representative Vibration Source Levels for Construction Equipment

Equipment Type	Peak Particle Velocity at 25 Feet (inches per second)
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks	0.076
Hoe Ram	0.089
Jackhammer	0.035
Small Bulldozer/Tractor	0.003
Vibratory Roller	0.210

Source: FTA 2018; Caltrans 2020b

The County of Imperial does not regulate vibrations associated with construction. However, a discussion of construction vibration is included for full disclosure purposes. For comparison purposes, the Caltrans (2020b) recommended standard of 0.3 inch per second PPV with respect to the prevention of structural damage for older residential buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings. Consistent with FTA recommendations for calculating construction vibration, construction vibration was measured from the center of the Project Site (FTA 2018). The nearest structure of concern to the construction site, with regard to groundborne vibrations, is the Coachella

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Canal located within the proposed Project Site boundary and approximately 30 feet across the Coachella Canal Access Road.

Based on the representative vibration levels presented for various construction equipment types in Table 5-3 and the construction vibration assessment methodology published by the FTA (2018), it is possible to estimate the potential project construction vibration levels. The FTA provides the following equation:

$$[PPVequip = PPVref \times (25/D)^{1.5}]$$

Table 5-5 presents the expected Project related vibration levels at a distance of 30 feet.

Table 5-5. Construction Vibration Levels at 30 Feet

Receiver PPV Levels (in/sec)[1]					Peak Vibration	Threshold	Exceed Threshold
Large Bulldozer, Caisson Drilling & Hoe Ram	Loaded Trucks	Jackhammer	Small Bulldozer	Vibratory Roller			
0.068	0.058	0.027	0.002	0.160	**0.160**	*0.3*	**No**

Notes: [1]Based on the Vibration Source Levels of Construction Equipment included on Table 5-4 (FTA 2018). Distance to the nearest structure of concern is approximately 30 feet measured from Project Site boundary.

As shown in Table 5-5, vibration as a result of construction activities would not exceed 0.3 PPV at the nearest structure. Thus, project construction would not exceed the recommended threshold.

5.3.4 Project Operational Groundborne Vibration

Would the Project Expose Structures to Substantial Groundborne Vibration During Operations?

Project operations would not include the use of any large-scale stationary equipment that would result in excessive vibration levels. Therefore, the project would not result groundborne vibration impacts during operations.

5.3.5 Excess Airport Noise

Would the Project Expose People Residing or Working in the Project area to Excessive Airport Noise?

The Project Site center is located approximately 8.39 miles northeast of the Calipatria Municipal Airport . The Imperial County Airport Land Use Commission has established a set of land use compatibility criteria for lands surrounding the airports in Imperial County in the Imperial County Airport Land Use Compatibility Plan (1996). Figure 3-C of the Imperial County Airport Land Use Compatibility Maps shows

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that the proposed Project Site lays outside of the noise contours of the Calipatria Municipal Airport. Thus, the Project would not expose residents to excessive airport noise.

5.3.6 Cumulative Noise

Would the Project Contribute to Cumulatively Considerable Noise During Construction?

Construction activities associated with the proposed Project and other construction projects in the area may overlap, resulting in construction noise in the area. However, construction noise impacts primarily affect the areas adjacent to the construction site. Construction noise for the proposed Project was determined to be less than significant following compliance with County noise standards. Cumulative development in the vicinity of the Project Site could result in elevated construction noise levels at sensitive receptors in the Project area. However, each project would be required to comply with the applicable noise limitations on construction. Therefore, the Project would not contribute to cumulative impacts during construction.

Would the Project Contribute to Cumulatively Considerable Noise from Offsite Traffic?

As described previously, Project operations would result in extremely minimal additional traffic on adjacent roadways. The only visitors to the site would be that of repair or maintenance work that would be done very infrequently. Thus, any cumulative noise impacts from Project-related traffic would be minimal.

Would the Project Contribute to Cumulatively Considerable Noise from Stationary Sources?

Cumulative noise impacts would primarily be associated with the transformers, inverters, substation, and transmission lines from the solar facility. Long-term noise sources associated with development at the Project, combined with other cumulative projects, could cause local noise-level increases. Noise levels associated with the proposed Project and related cumulative projects together could result in higher noise levels than considered separately. However, noise increase as a result of the Project would not be perceivable and thus would not exceed County standards.

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6.0 REFERENCES

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OPR. 2003. State of California General Plan Guidelines.

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LIST OF ATTACHMENTS

Attachment A - Baseline (Existing) Noise Measurements – Project Vicinity

Attachment B - Federal Highway Administration Highway Roadway Construction Noise Outputs – Project Construction Noise

Attachment C - SoundPLAN 3-D Noise Model Outputs – Project Onsite Noise

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ATTACHMENT A

Baseline (Existing) Noise Measurements – Project Site and Vicinity

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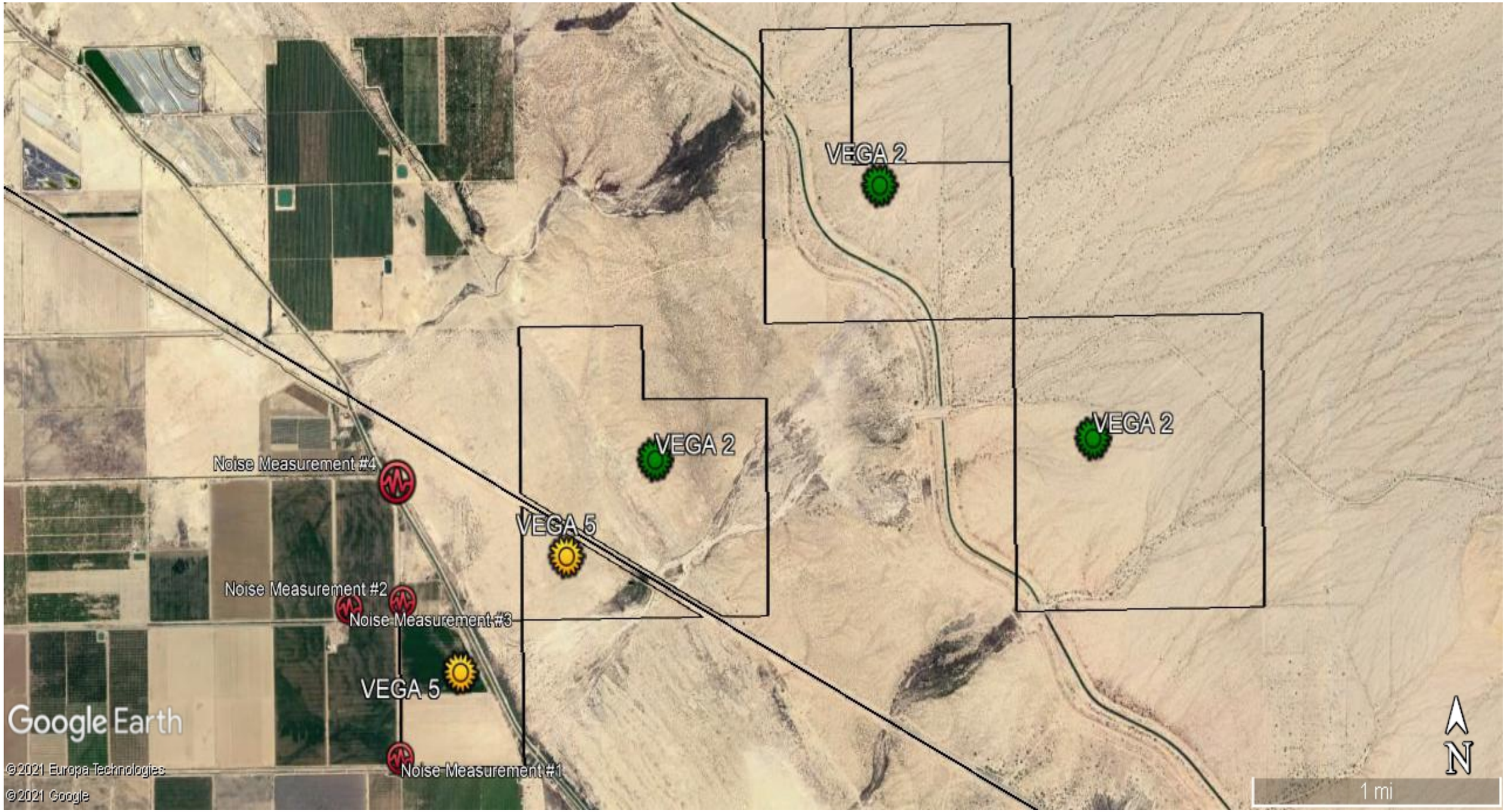

Map Date: *12/14/2020*
Photo (or Base) Source: *Google Earth Pro*

VEGA Complex Baseline Noise Measurement Locations

Vega SES Complex

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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Site Number: V2&3 - 1			
Recorded By: Jessie Beckman			
Job Number: 2020 – 144			
Date: 1/12/21			
Time: 11:35 am – 11:50 am			
Location: W Schrimpf Rd and Weist Rd			
Source of Peak Noise: Distant traffic, vehicles on access rd south of Schrimpf rd			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
45.5	43.1	52.0	94.9

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0005120**	**9/14/2020**	
	Microphone	**Larson Davis**	**377B02**	**174464**	**9/14/2020**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**042852**	**9/14/2020**	
	Calibrator	**Larson Davis**	**CAL200**	**14105**	**9/10/2020**	

Weather Data			
Est.	**Duration: 15 minutes**		**Sky: 10% CC**
	Note: dBA Offset = 0.01 Calibration Δ = - 0.11		**Sensor Height (ft): 3.5**
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	0-1	66	30.31Hg

Photo of Measurement Location

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Measurement Report

Report Summary

Meter's File Name	LxT_Data.352	Computer's File Name	SLM_0005120_LxT_Data_352.00.ldbin
Meter	LxT SE		
Firmware	2.404		
User	Lindsay Liegler	Location	
Description			
Note			
Start Time	2021-01-12 11:34:24	Duration	0:15:00.0
End Time	2021-01-12 11:49:24	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	45.5 dB		
LAE	75.1 dB	SEA	--- dB
EA	3.6 µPa²h		
LZ_{peak}	94.9 dB	2021-01-12 11:38:03	
LAS_{max}	52.0 dB	2021-01-12 11:46:13	
LAS_{min}	43.1 dB	2021-01-12 11:42:44	
LA_{eq}	45.5 dB		
LC_{eq}	59.0 dB	LC_{eq} - LA_{eq}	13.5 dB
LAI_{eq}	46.8 dB	LAI_{eq} - LA_{eq}	1.2 dB

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	45.5 dB	45.5 dB	0.0 dB

	LDEN	LDay	LEve	LNight
	45.5 dB	45.5 dB	--- dB	--- dB

Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	45.5 dB		59.0 dB		--- dB	
$Ls_{(max)}$	52.0 dB	2021-01-12 11:46:13	--- dB		--- dB	
$LS_{(min)}$	43.1 dB	2021-01-12 11:42:44	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		94.9 dB	2021-01-12 11:38:03

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	46.8 dB
LAS 10.0	46.4 dB
LAS 33.3	45.7 dB
LAS 50.0	45.4 dB
LAS 66.6	45.0 dB
LAS 90.0	44.4 dB

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Site Number: V2&3 - 2			
Recorded By: Jessie Beckman			
Job Number: 2020 – 144			
Date: 1/12/21			
Time: 11:57 am – 11:12 am			
Location: Weist Rd and McDonald Rd			
Source of Peak Noise: Channel parallel to McDonald Rd, vehicles on McDonald Rd			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
47.5	37.2	61.9	94.8

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0005120**	**9/14/2020**	
	Microphone	**Larson Davis**	**377B02**	**174464**	**9/14/2020**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**042852**	**9/14/2020**	
	Calibrator	**Larson Davis**	**CAL200**	**14105**	**9/10/2020**	

Weather Data			
Est.	**Duration: 15 minutes**		**Sky: 10% CC**
	Note: dBA Offset = 0.01 Calibration Δ = - 0.11		**Sensor Height (ft): 3.5**
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	0-1	66	30.29Hg

Photo of Measurement Location

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Measurement Report

Report Summary

Meter's File Name	LxT_Data.353	Computer's File Name	SLM_0005120_LxT_Data_353.00.ldbin
Meter	LxT SE		
Firmware	2.404		
User	Lindsay Liegler	Location	
Description			
Note			

Start Time	2021-01-12 11:57:57	Duration	0:15:00.0		
End Time	2021-01-12 12:12:57	Run Time	0:15:00.0	Pause Time	0:00:00.0

Results

Overall Metrics

LA_{eq}	47.5 dB		
LAE	77.0 dB	SEA	--- dB
EA	5.6 µPa²h		
LZ_{peak}	94.8 dB	2021-01-12 12:04:32	
LAS_{max}	61.9 dB	2021-01-12 12:08:04	
LAS_{min}	37.2 dB	2021-01-12 12:04:32	
LA_{eq}	47.5 dB		
LC_{eq}	63.8 dB	LC_{eq} - LA_{eq}	16.4 dB
LAI_{eq}	49.3 dB	LAI_{eq} - LA_{eq}	1.8 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
47.5 dB	47.5 dB	0.0 dB

LDEN	LDay	LEve	LNight
47.5 dB	47.5 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	47.5 dB		63.8 dB		--- dB	
$Ls_{(max)}$	61.9 dB	2021-01-12 12:08:04	--- dB		--- dB	
$LS_{(min)}$	37.2 dB	2021-01-12 12:04:32	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		94.8 dB	2021-01-12 12:04:32

Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	1	0:00:02.0

Statistics

LAS 5.0	53.3 dB
LAS 10.0	49.4 dB
LAS 33.3	43.8 dB
LAS 50.0	42.4 dB
LAS 66.6	40.5 dB
LAS 90.0	38.4 dB

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Site Number: V2&3 - 3			
Recorded By: Jessie Beckman			
Job Number: 2020 – 144			
Date: 1/12/21			
Time: 12:16 pm – 12:31 pm			
Location: McDonald Rd, ~700ft W of Wiest Rd			
Source of Peak Noise: Traffic on McDonald Rd			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
45.8	31.6	70.7	92.4

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0005120**	**9/14/2020**	
	Microphone	**Larson Davis**	**377B02**	**174464**	**9/14/2020**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**042852**	**9/14/2020**	
	Calibrator	**Larson Davis**	**CAL200**	**14105**	**9/10/2020**	

Weather Data			
Est.	**Duration: 15 minutes**		**Sky: 10% CC**
	Note: dBA Offset = 0.01 Calibration Δ = - 0.11		**Sensor Height (ft): 3.5**
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	0-1	66	30.29Hg

Photo of Measurement Location

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Measurement Report

Report Summary

Meter's File Name	LxT_Data.354	Computer's File Name	SLM_0005120_LxT_Data_354.00.ldbin
Meter	LxT SE		
Firmware	2.404		
User	Lindsay Liegler	Location	
Description			
Note			
Start Time	2021-01-12 12:16:44	Duration	0:15:00.0
End Time	2021-01-12 12:31:44	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	45.8 dB		
LAE	75.3 dB	SEA	--- dB
EA	3.8 µPa²h		
LZ_{peak}	92.4 dB	2021-01-12 12:22:33	
LAS_{max}	70.7 dB	2021-01-12 12:23:40	
LAS_{min}	31.6 dB	2021-01-12 12:31:33	
LA_{eq}	45.8 dB		
LC_{eq}	60.2 dB	LC_{eq} - LA_{eq}	14.5 dB
LAI_{eq}	48.3 dB	LAI_{eq} - LA_{eq}	2.6 dB

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	45.8 dB	45.8 dB	0.0 dB

	LDEN	LDay	LEve	LNight
	45.8 dB	45.8 dB	--- dB	--- dB

Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	45.8 dB		60.2 dB		--- dB	
$Ls_{(max)}$	70.7 dB	2021-01-12 12:23:40	--- dB		--- dB	
$LS_{(min)}$	31.6 dB	2021-01-12 12:31:33	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		92.4 dB	2021-01-12 12:22:33

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	42.1 dB
LAS 10.0	40.7 dB
LAS 33.3	37.2 dB
LAS 50.0	36.0 dB
LAS 66.6	34.7 dB
LAS 90.0	33.4 dB

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Site Number: V2&3 - 4			
Recorded By: Jessie Beckman			
Job Number: 2020 – 199			
Date: 1/12/21			
Time: 12:39 pm – 12:54 pm			
Location: Wiest Rd ~1000ft south of Wiest/Noffsinger Intersection			
Source of Peak Noise: Traffic on Wiest Rd			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
48.1	32.2	69.1	93.7

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Larson Davis**	**LxT SE**	**0005120**	**9/14/2020**	
	Microphone	**Larson Davis**	**377B02**	**174464**	**9/14/2020**	
	Preamp	**Larson Davis**	**PRMLxT1L**	**042852**	**9/14/2020**	
	Calibrator	**Larson Davis**	**CAL200**	**14105**	**9/10/2020**	

Weather Data			
Est.	**Duration: 15 minutes**		**Sky: 10% CC**
	Note: dBA Offset = 0.01 Calibration Δ = - 0.11		**Sensor Height (ft): 3.5**
	Wind Ave Speed (mph)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	0-1	66	30.28Hg

Photo of Measurement Location

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Measurement Report

Report Summary

Meter's File Name	LxT_Data.355	Computer's File Name	SLM_0005120_LxT_Data_355.00.ldbin
Meter	LxT SE		
Firmware	2.404		
User	Lindsay Liegler	Location	
Description			
Note			
Start Time	2021-01-12 12:39:35	Duration	0:15:00.0
End Time	2021-01-12 12:54:35	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	48.1 dB		
LAE	77.6 dB	SEA	--- dB
EA	6.5 µPa²h		
LZ_{peak}	93.7 dB	2021-01-12 12:43:12	
LAS_{max}	69.1 dB	2021-01-12 12:43:12	
LAS_{min}	32.2 dB	2021-01-12 12:45:36	
LA_{eq}	48.1 dB		
LC_{eq}	62.1 dB	LC_{eq} - LA_{eq}	14.0 dB
LAI_{eq}	52.3 dB	LAI_{eq} - LA_{eq}	4.2 dB

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	48.1 dB	48.1 dB	0.0 dB

	LDEN	LDay	LEve	LNight
	48.1 dB	48.1 dB	--- dB	--- dB

Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	48.1 dB		62.1 dB		--- dB	
$Ls_{(max)}$	69.1 dB	2021-01-12 12:43:12	--- dB		--- dB	
$LS_{(min)}$	32.2 dB	2021-01-12 12:45:36	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		93.7 dB	2021-01-12 12:43:12

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	1	0:00:02.0

Statistics

LAS 5.0	49.8 dB
LAS 10.0	44.3 dB
LAS 33.3	38.5 dB
LAS 50.0	35.8 dB
LAS 66.6	34.4 dB
LAS 90.0	33.5 dB

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Federal Highway Administration Highway Roadway Construction Noise Outputs – Project Construction Noise

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Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/1/2022
Case Description: Vega 2/3 Demolition and Grubbing

Description	**Land Use**
Demolition and Grubbing	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**
Concrete Saw	No	20		89.6	3154
Excavator	No	40		80.7	3154
Excavator	No	40		80.7	3154
Excavator	No	40		80.7	3154
Dozer	No	40		81.7	3154
Dozer	No	40		81.7	3154

Calculated (dBA)

Equipment		***Lmax**	**Leq**
Concrete Saw		53.6	46.6
Excavator		44.7	40.7
Excavator		44.7	40.7
Excavator		44.7	40.7
Dozer		45.7	41.7
Dozer		45.7	41.7
	Total	**53.6**	**50.4**

*Calculated Lmax is the Loudest value.

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Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/1/2022
Case Description: Vega 2/3 Grading

Description	**Land Use**
Grading	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**
Grader	No	40	85		3154
Excavator	No	40		80.7	3154
Excavator	No	40		80.7	3154
Dozer	No	40		81.7	3154
Scraper	No	40		83.6	3154
Scraper	No	40		83.6	3154
Tractor	No	40	84		3154
Tractor	No	40	84		3154

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Grader	49	45
Excavator	44.7	40.7
Excavator	44.7	40.7
Dozer	45.7	41.7
Scraper	47.6	43.6
Scraper	47.6	43.6
Tractor	48	44
Tractor	48	44
Total	**49**	**52.2**

*Calculated Lmax is the Loudest value.

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Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/1/2022
Case Description: Vega 2/3 Construction and Paving

Description	**Land Use**
Construction and Paving	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**
Paver	No	50		77.2	3154
Paver	No	50		77.2	3154
Pavement Scarafier	No	20		89.5	3154
Pavement Scarafier	No	20		89.5	3154
Roller	No	20		80	3154
Roller	No	20		80	3154
Crane	No	16		80.6	3154
Gradall	No	40		83.4	3154
Gradall	No	40		83.4	3154
Gradall	No	40		83.4	3154
Generator	No	50		80.6	3154
Tractor	No	40	84		3154
Tractor	No	40	84		3154
Tractor	No	40	84		3154
Slurry Trenching Machine	No	50		80.4	3154
Welder / Torch	No	40		74	3154

	Calculated (dBA)	
Equipment	***Lmax**	**Leq**
Paver	41.2	38.2
Paver	41.2	38.2
Pavement Scarafier	53.5	46.5
Pavement Scarafier	53.5	46.5
Roller	44	37
Roller	44	37
Crane	44.6	36.6
Gradall	47.4	43.4
Gradall	47.4	43.4
Gradall	47.4	43.4
Generator	44.6	41.6
Tractor	48	44
Tractor	48	44

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Tractor		48	44
Slurry Trenching Machine		44.4	41.4
Welder / Torch		38	34
	Total	**53.5**	**54.6**

*Calculated Lmax is the Loudest value.

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Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/1/2022
Case Description: Vega 2 & 3 Demolition and Grubbing

Description	**Land Use**
Demolition and Grubbing	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**
Concrete Saw	No	20		89.6	523
Excavator	No	40		80.7	523
Excavator	No	40		80.7	523
Excavator	No	40		80.7	523
Dozer	No	40		81.7	523
Dozer	No	40		81.7	523

Calculated (dBA)

Equipment		***Lmax**	**Leq**
Concrete Saw		69.2	62.2
Excavator		60.3	56.3
Excavator		60.3	56.3
Excavator		60.3	56.3
Dozer		61.3	57.3
Dozer		61.3	57.3
	Total	**69.2**	**66**

*Calculated Lmax is the Loudest value.

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Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/1/2022
Case Description: Vega 2 & 3 Grading

Description	**Land Use**
Grading	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**
Grader	No	40	85		523
Excavator	No	40		80.7	523
Excavator	No	40		80.7	523
Scraper	No	40		83.6	523
Scraper	No	40		83.6	523
Dozer	No	40		81.7	523
Tractor	No	40	84		523
Tractor	No	40	84		523

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Grader	64.6	60.6
Excavator	60.3	56.3
Excavator	60.3	56.3
Scraper	63.2	59.2
Scraper	63.2	59.2
Dozer	61.3	57.3
Tractor	63.6	59.6
Tractor	63.6	59.6
Total	**64.6**	**67.8**

*Calculated Lmax is the Loudest value.

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Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/1/2022
Case Description: Vega 2/3 Construction and Paving

Description	**Land Use**
Construction and Paving	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**
Paver	No	50		77.2	523
Paver	No	50		77.2	523
Pavement Scarafier	No	20		89.5	523
Pavement Scarafier	No	20		89.5	523
Roller	No	20		80	523
Roller	No	20		80	523
Crane	No	16		80.6	523
Gradall	No	40		83.4	523
Gradall	No	40		83.4	523
Gradall	No	40		83.4	523
Generator	No	50		80.6	523
Tractor	No	40	84		523
Tractor	No	40	84		523
Tractor	No	40	84		523
Slurry Trenching Machine	No	50		80.4	523
Welder / Torch	No	40		74	523

	Calculated (dBA)	
Equipment	***Lmax**	**Leq**
Paver	56.8	53.8
Paver	56.8	53.8
Pavement Scarafier	69.1	62.1
Pavement Scarafier	69.1	62.1
Roller	59.6	52.6
Roller	59.6	52.6
Crane	60.2	52.2
Gradall	63	59
Gradall	63	59
Gradall	63	59
Generator	60.2	57.2
Tractor	63.6	59.6

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Tractor		63.6	59.6
Tractor		63.6	59.6
Slurry Trenching Machine		60	57
Welder / Torch		53.6	49.6
	Total	**69.1**	**70.2**

*Calculated Lmax is the Loudest value.

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SoundPLAN 3-D Noise Model Outputs – Project Onsite Noise

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SoundPLAN
Output Source Information

Number	Reciever Name	Floor	Level at Receiver
1	Vega SES Complex-5C Receptor #1	Ground Floor	37 dBA
2	Vega SES Complex-5C Receptor #2	Ground Floor	36.7 dBA
3	Vega SES Complex-5C Receptor #3	Ground Floor	37.4 dBA

Number	Noise Source Information	Citation	Level at Source
1	Noise Activity at Solar Facility	ECORP Consulting	47.1 dBA

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Vega SES 2/3 Solar Energy Storage Project

TRAFFIC IMPACT STUDY
IMPERIAL COUNTY, CALIFORNIA

Prepared By:

February 2021/November 2022

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1.0 Introduction

This traffic impact analysis (TIA) has been prepared to identify the potential traffic impacts associated with developing the Vega SES 2 and Vega SES 3 Solar Energy Storage (Projects) in Imperial County. The study was completed following the guidelines described in the County of Imperial Department of Public Works *Traffic Study and Report Policy* dated March 12, 2007, revised June 29, 2007 and approved by the Board of Supervisors of the County of Imperial on August 7, 2007 ("Traffic Study and Report Policy").

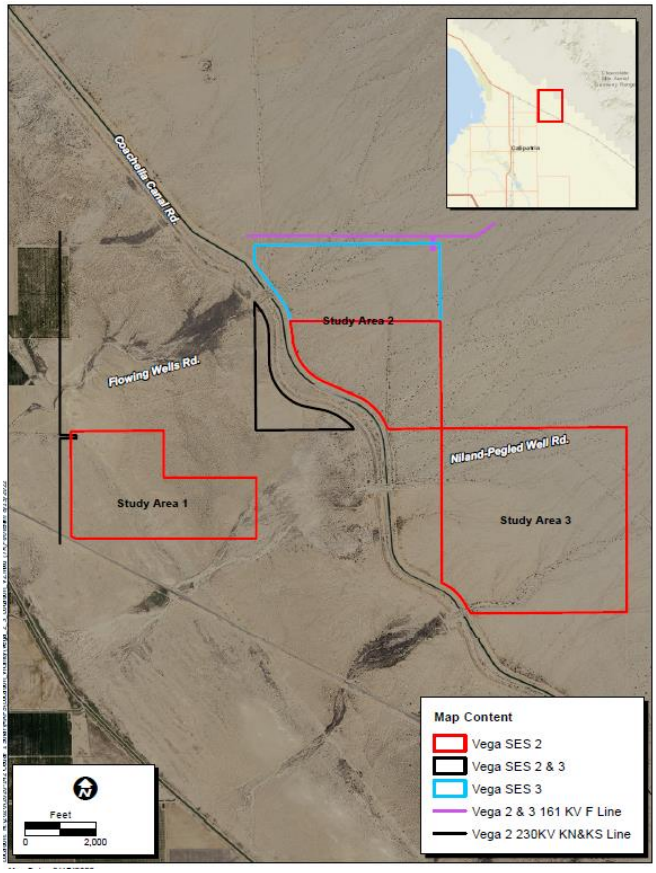
KOA has coordinated with the County's Engineering Department on the scope of the traffic analysis, including the study area and future year analysis assumptions. As necessary, if required, projects will be identified to offset or reduce significant impacts. Based on discussions with City staff, current and future traffic conditions at select intersections in close proximity to the proposed project have been evaluated for the purposes of this TIA.

This report describes the existing roadway network in the vicinity of the project site. It includes a review of the existing and proposed traffic activities for weekday peak AM and PM periods and daily traffic conditions.

Project Location

The project location is shown in Figure 1.1.

Figure 1.1 Study Area



Source: ECORP

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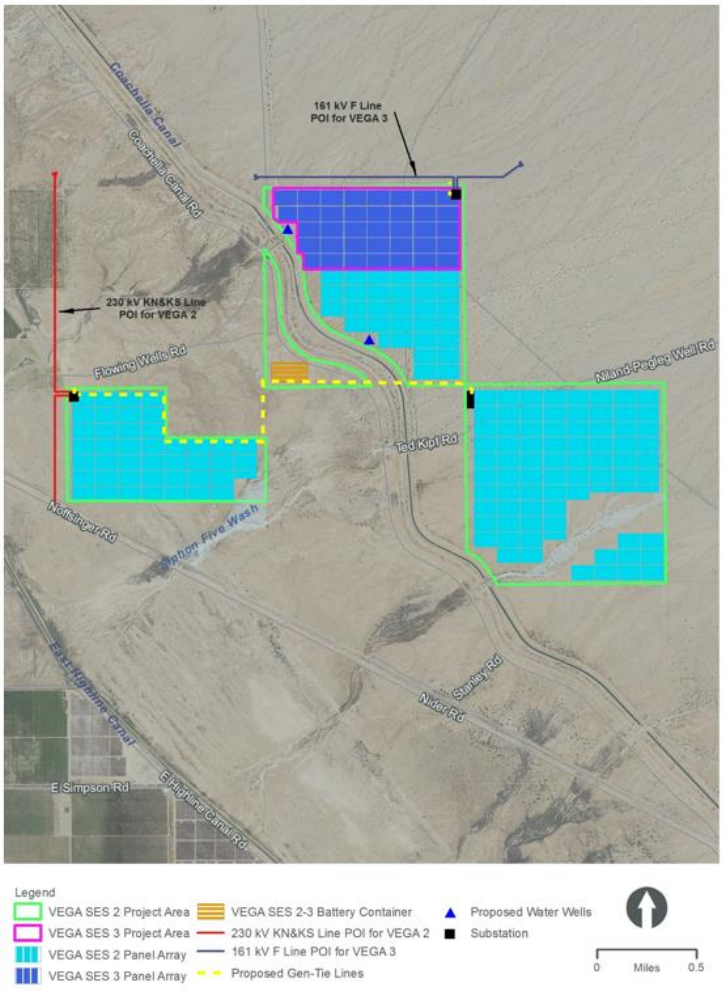
Project Description

Vega SES 2, LLC and Vega SES 3, LLC. are proposing to develop the **Vega SES 2 site.** This is a two-hundred and forty (240)–megawatt alternating current (MWAC) solar photovoltaic (PV) energy generation project with an integrated 480 MW Battery Energy Storage System (BESS), on approximately 1,323 acres of land in Imperial County, California. The project site plan is shown in Figure 1.2.

The **Vega SES 3** project will be located within the Vega 2 site. The Vega SES 3 project will be a sixty (60)–megawatt alternating current (MWAC) solar photovoltaic (PV) energy generation project with an integrated 120 MW Battery Energy Storage System (BESS), on approximately 230 acres of land in Imperial County, California. The construction of both projects would occur simultaneously and so are being studied together. The projects are estimated to take 12-18 months and would begin in 2023. The project opening is anticipated to be in late 2023 or early 2024.

Figure 1.2 Site Plan



Source: First Administrative Draft EIR | VEGA SES 2, 3, & 5 Solar Energy Project

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Construction Activities

The construction of the site to include site preparation and construction is estimated to take 12-18 months and would begin in 2023. The number of on–site construction workers for the solar project facilities is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the battery storage facility and the substation is not expected to exceed 100 workers at any one time.

Construction of the Projects will include the following activities:

- Site preparation
- Grading and earthwork
- Concrete foundations
- Structural steel work
- Electrical/instrumentation work
- Collector line installation
- Architecture and landscaping

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2.0 Capacity Analysis Methodologies

This section presents a brief overview of traffic analysis methodologies and concepts used in this study. Street system operating conditions are typically described in terms of "level of service (LOS)" to compare without project and with project alternatives. LOS is a report-card scale used to indicate the quality of traffic flow on roadway segments and at intersections. The levels of service range from Level A (free flow, little congestion) to Level F (forced flow, higher congestion).

Study Area Criteria

The study area is determined based on the County of Imperial Department of Public Works *Traffic Study and Report Policy* dated March 12, 2007, revised June 29, 2007 and approved by the Board of Supervisors of the County of Imperial on August 7, 2007 ("Traffic Study and Report Policy"). "Any project that has the potential to degrade an existing road section, an existing signalized intersection, or an existing unsignalized intersection to below the existing level of service or to cause it to be lower than a level of service (LOS) "C" during any peak hour, using the HCM Methods of analysis on any individual, existing traffic movement." Traffic Study and Report Policy, 4-5.

The study area for this project includes those locations that will likely be affected by this project where a minimum of 50 peak hour vehicles impact the location. The specific study area consists of the following intersections:

1. McDonald Road and Weist Road
2. McDonald Road and SR-111
3. SR-111 and SR-115
4. SR-111 and north ramps with SR-78
5. SR-111 and south ramps with SR-78

The study area also includes the following study segments:

1. McDonald Road from SR-111 to Weist Road
2. SR-111 from McDonald Road to Niland Ave
3. SR-111 from McDonald Road to SR-115
4. SR-111 from SR-115 to SR-78 north ramps
5. SR-111 from SR-78 north ramps to SR-78 south ramps

Scenario Criteria

The proposed project's traffic impacts were analyzed in three scenarios as listed below. The traffic analysis included intersections and roadway segments within Imperial County and Caltrans District 11 in the following scenarios to determine the potential impacts:

- Existing Year (2020) Conditions
- Construction Year (2023) Baseline Conditions
- Construction Year (2023) + Project Construction Conditions

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Peak Hour Intersection Level of Service Standards

Traffic conditions on most roadway facilities are analyzed using the principles of the specific analysis methods contained in the latest version (2010) of the *Highway Capacity Manual* (*HCM*), a publication of the Transportation Research Board, a research agency affiliated with the Federal Government. Chapter 18 of the *HCM 2010* is devoted to analysis of signalized intersections. The methodology in the *HCM 2010* for signalized intersections is based upon measurements or forecasts of control delay for traffic utilizing all approaches to the intersection.

Unsignalized intersections, including two-way and all-way stop controlled intersections were analyzed using the 2010 Highway Capacity Manual unsignalized intersection analysis methodology. The LOS for a two-way stop controlled (TWSC) intersection is determined by the computed or measured control delay and is defined for each minor movement. The analysis of peak hour intersection conditions was conducted using the Synchro 10 software program developed by Trafficware. Results are displayed in terms of control delay (seconds per vehicle) and an equivalent LOS as shown in Table 2.1.

Table 2.1 HCM Level of Service Definitions for Intersections

LOS	Signalized Intersection Delay (Seconds per Vehicle)	Unsignalized Intersection Average Stop Delay (Seconds)
A	<10	<10
B	>10 and <20	>10 and <15
C	>20 and <35	>15 and <25
D	>35 and <55	>25 and <35
E	>55 and <80	>35 and <50
F	>80	>50

Source: Highway Capacity Manual, 2010.

Roadway Segment Level of Service Standards

Roadway segment LOS standards and thresholds provide the basis for analysis of roadway segment performance. The analysis of roadway segment LOS is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and existing or forecast Average Daily Traffic (ADT) volumes.

The County of Imperial level of service analysis was performed by utilizing the *Circulation and Scenic Highways Element, January 2008*. The thresholds for each facility type are presented in Table 2.2.

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Table 2.2 County of Imperial ADT Level of Service Volumes by Roadway Type

Road		Level of Service (LOS)				
Class	X-Section	A	B	C	D	E
Expressway	154/210	30,000	42,000	60,000	70,000	80,000
Prime Arterial	106/136	22,200	37,000	44,600	50,000	57,000
Minor Arterial	82/102	14,800	24,700	29,600	33,400	37,000
Major Collector	64/84	13,700	22,800	27,400	30,800	34,200
Minor (Local) Collector	40/70	1,900	4,100	7,100	10,900	16,200

* Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.
Source: *Imperial County Circulation and Scenic Highways Element 2008 and Imperial County Long Range Transportation Plan 2013 Update*

Freeway Segments

Freeway level of service analysis is based upon procedures developed by Caltrans. The procedure for calculating freeway level of service involves calculating a peak hour volume to capacity (V/C) ratio. Peak hour volumes are calculated from Average Daily Traffic (ADT) volumes by applying design hour ("K"), directional ("D") and truck ("T") factors. The base capacities for Interstate 8 freeway lanes determined from the Highway Capacity Manual as assumed to be 2,350 passenger-car per hour per main lane (pc/h/ln).

The resulting V/C ratio is then compared to acceptable ranges of V/C values corresponding to the various levels of service for each facility classification, as shown in Table 2.3. The corresponding level of service represents an approximation of freeway operating conditions in the peak direction of travel during the peak hour. Constant with Caltrans requirements, LOS D or better is used in this study as the threshold for acceptable freeway operations.

Table 2.3 CALTRANS Level of Service Facility Classification

CALTRANS FREEWAY SEGMENT LEVEL OF SERVICE DEFINITIONS

LOS	Maximum V/C	Congestion/Delay	Traffic Description
A	≤ 0.30	None	Free flow.
B	> 0.30 - 0.50	None	Free to stable flow, light to moderate volumes.
C	> 0.50 - 0.71	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
D	> 0.71 - 0.89	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
E	> 0.89 - 1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
F	> 1.00	Considerable	Forced or breakdown flow. Delay measured in average travel speed (MPH). Signalized segments experience delays >60.0 seconds/vehicle.

Source: Caltrans Guide for the Preparation of Traffic Impact Studies, 2002.

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Analysis of Significance

Imperial County

The significance criteria for traffic impacts are based on the Imperial County Planning & Development Services Department LOS standard as outlined in the "Circulation Element". "The County's goal for an acceptable traffic service standard on an Average Daily Traffic (ADT) basis and during AM and PM peak periods for all County-Maintained Roads shall be LOS C for all street segment links and intersections."

- Strive to maintain LOS "C" or better on arterial and collector streets, at all intersections, and on principal arterials during the hour of highest volume during the AM hours and also during the PM hours. Imperial County has established LOS "C" as the general threshold for acceptable overall traffic operations for both signalized and un-signalized intersections.

- Accept LOS "D" after finding that there is no practical and feasible way to mitigate to LOS "C;" and the development causing the lower level of service provides a clear, overall public benefit.

- For segments that operate at LOS D or lower, an incremental increase in V/C of greater than 0.02 is considered to be a significant impact. For intersections that operate at LOS D or lower, an incremental increase in vehicle delay of 2.0 seconds or greater is considered to be a significant impact.

Caltrans

- For segments that operate at LOS D or lower, an incremental increase in V/C of greater than 0.02 is considered to be a significant impact. For intersections that operate at LOS D or lower, an incremental increase in vehicle delay of 2.0 seconds or greater is considered to be a significant impact.

- For freeway segments that operate at LOS D or lower, an incremental increase in V/C of greater than 0.01 is considered to be a significant impact.

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3.0 Existing Conditions

This section documents the Existing Year Conditions in the study area. The Existing Year is taken to be 2020 for analysis purposes based on existing traffic counts taken in December, 2020 The discussion presented here is limited to segments and intersections in the project's vicinity.

Existing Roadways

Each of the key roadways, as well as associated study intersections within the study area, are discussed below.

Roadway Facilities

1. *State Route 111 (SR-111))* is a two-lane highway with no median and a posted speed limit of 65 mph.

2. *McDonald Road* is a two lane paved local roadway that runs in an east-west direction. This road provides access from the site to/from SR-111.

3. *Weist Road* is a north-south that connects Mc Donald Road. North of McDonald Road, Weist Road is unpaved. Weist Road also crosses over the Highland Canal, and has an at-grade crossing of the Union Pacific Railroad tracks

4. *Noffsinger Road* is a two lane unpaved local roadway that runs in a diagonal direction from northwest to southeast. A bridge is provided over the Highland Canal.

5. *Flowing Well Road* is a two lane unpaved local roadway that runs in an east-west direction that connects to Weist Road which leads to the project site.

6. *Coachella Canal Road* is classified as a Local County. It has two lanes and is unpaved.

7. *Ted Kipf Road is* classified as a Local County. It has two lanes and is unpaved.

Figure 3.1 displays the existing intersection geometrics for study area intersections.

Traffic Volumes

Existing turning movement counts at the study intersections were conducted on Tuesday, December 8, 2020. The existing condition reflects those land uses that were built and occupied at the time of the traffic counts and represent a typical weekday commute period. Intersection turning movement counts are provided in Appendix A. Existing average daily traffic (ADT) segment counts were obtained from the Caltrans for the year 2019. The ADT, weekday a.m. and p.m. peak hour traffic volumes are shown on Figure 3.2.

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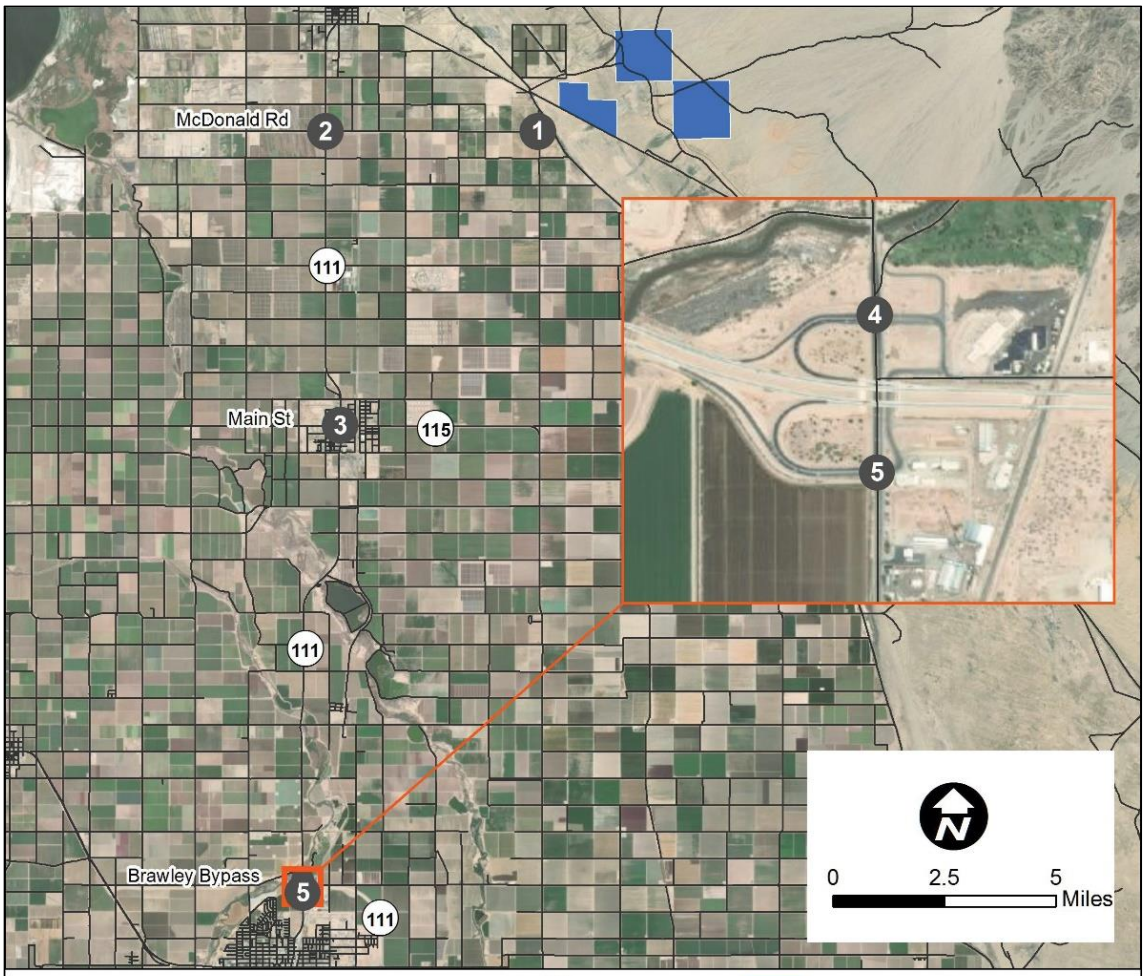
Figure 3.1 Intersection Geometrics



Intersection Geometry

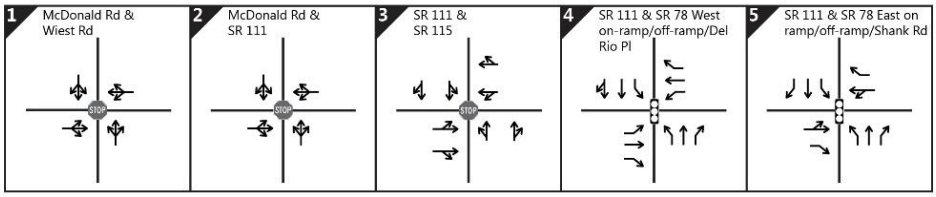


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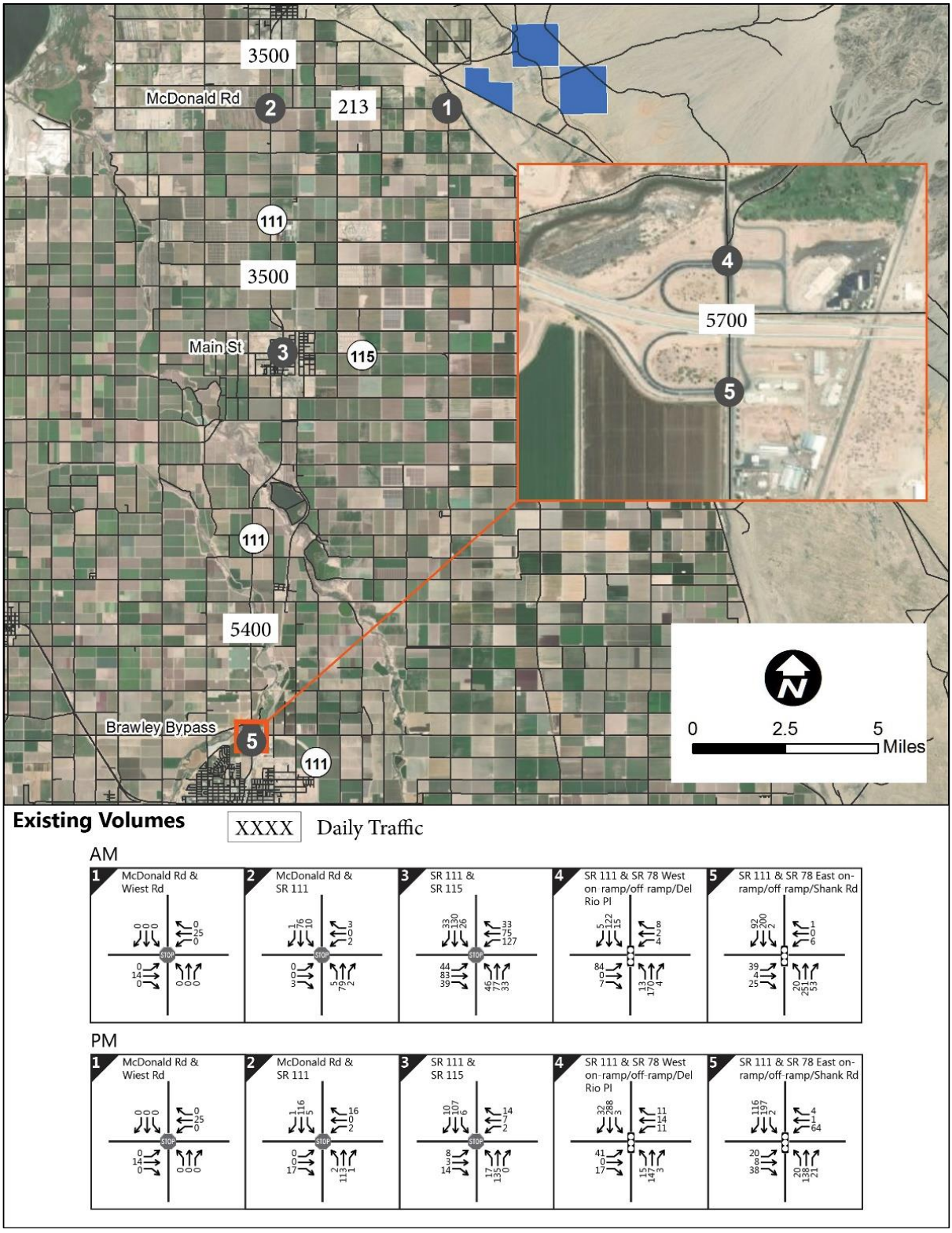
Figure 3.2 Existing Volumes



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Existing Year Conditions

This section documents the existing traffic conditions of study area segments and intersections.

Segments

Roadway segment analysis was conducted for the study area's specified segments. Using average daily traffic (ADT) counts, KOA was able to determine the existing level of service for the designated roadway segments. Table 3.1 below displays these levels of service.

Table 3.1 Existing Year Conditions Roadway Segment Analysis

Roadway Segment	From/ To	Lanes/ Class	LOS E Capacity	Existing		
				ADT	V/C	LOS
McDonald Rd	Project to SR 111	Minor Collector	16,200	213	0.01	A
SR-111	McDonald Road to Niland Ave	Major Collector 2 Lane	17,100	3,500	0.20	A
SR-111	McDonald Rd to SR-115	Major Collector 2 Lane	17,100	3,500	0.20	A
SR-111	SR-115 to SR-78 North Ramps	Major Collector 2 Lane	17,100	5,400	0.32	B
SR-111	SR-78 North Ramps to SR-78 South Ramps	Major Collector 4 Lane	34,200	5,700	0.17	A

Intersections

An intersection LOS analysis was prepared for the existing (without-project) condition and is summarized in Table 3.2 which indicates that there are two study area intersections. Detailed LOS worksheets are included in Appendix B.

Table 3.2 Existing Year Conditions Peak Hour Intersection Analysis

#	Intersection	Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	McDonald Road and Weist Road	SB Stop	0.0	A	0.0	A
2	McDonald Road and SR-111	EB/WB Stop	9.2	A	9.1	A
3	SR-111 and SR-115	AWSC	10.2	B	8	A
4	SR-111 and north ramps with SR-78	Sig	11.1	b	10.7	B
5	SR-111 and south ramps with SR-78	Sig	12.3	B	14.3	B

Delay is in seconds/vehicle. LOS = Level of Service

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4.0 Trip Generation/Distribution/Assignment

Project Trip Generation

The project trip generation consists of a construction phase and operations phase. Once constructed, the site will not require personnel to be present on-site and will not result in daily trip generation. For this reason, only the trip generation for the construction phase was analyzed.

The construction of the site is estimated to take 12-18 months and would begin in 2022. The number of on–site construction workers for the solar project facilities is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the battery storage facility and the substation is not expected to exceed 100 workers at any one time. The trip generation was estimated if the construction phases were to overlap, so both are included. Delivery trucks are expected to follow the same routes as the construction workers. An estimated two trucks would arrive at the project site each day during the first few weeks of construction of the solar generating facility. Truck trips have been converted into passenger equivalent volumes (PCE) using a PCE factor of 2.5.

Work hours will be between the hours of 8:00 a.m. and 5:00 p.m. Monday through Saturday. The trips generated during the construction phase of construction are shown in Table 4.1.

Table 4.1 Construction Trip Generation–Construction Phase

	Intensity	Unit	Daily Rate (1)	Daily Trips		AM Peak Hour			PM Peak Hour		
						Total	In	Out	Total	In	Out
Solar Construction Workers	150.0	Employee	2	300	Rate	1.00	100%	0%	1.00	0%	100%
					Trips	150	150	0	150	0	150
Battery Storage Workers	100.0	Employee	2	200	Rate	1.00	100%	0%	1.00	0%	100%
					Trips	100	100	0	100	0	100
Equipment Deliveries and Construction Truck Trips (PCE)	4.0	trucks	2.5	10	Rate	0.13	75%	25%	0.13	25 %	75%
					Trips	1	1	0	1	0	1
Total				510	Trips	251	251	0	251	0	251

Once construction is completed, the facilities would be remotely operated, controlled and monitored and with no requirement for daily on-site employees.

Trip Distribution and Assignment

Trip distribution and assignment is the process of identifying the probable destinations, directions and traffic routes that project related traffic will likely affect. Trip distribution and assignment information can be estimated from observed traffic patterns, experience or through use of a computerized travel forecast model. Once the proposed developments trips have been estimated, they are assigned to the study area street network. The trip distribution was estimated based on using logical travel paths between the project and local origins.

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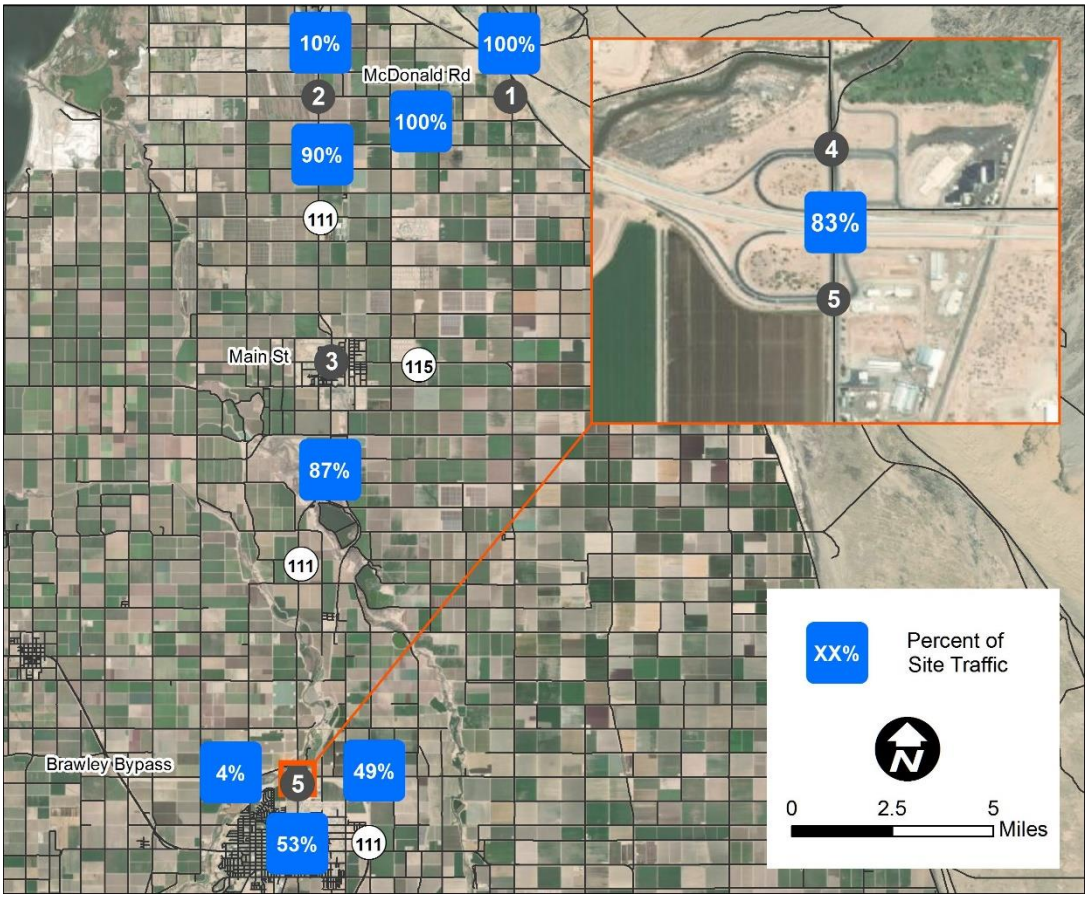
Construction traffic to the VEGA SES 2 and 3 project sites is expected to travel along SR-111 east along McDonald Road to Noffsinger Road over the canal crossing, Wiest Road, over the Union Pacific railroad tracks crossing, then to Flowing Wells Road to access APNs 025-260-011 and 025-010-006, and beyond to Coachella Canal Road using Niland Pegleg Well Road to cross a second canal and access APN 025-270-023. The trip distribution for the project-related trips is shown in Figure 4.1.

Figure 4.1 Trip Distribution



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5.0 Construction Year Conditions

This section documents the analysis for the Project Completion Year conditions. This scenario considers the traffic conditions at the time that the proposed development is constructed by increasing the existing traffic counts by an ambient growth rate to reflect cumulative projects. Projected project only volumes are then added to create the 2023 Baseline with Project Scenario. It is anticipated that the project will be completed in Year 2023. An annual ambient growth of 1.8% was utilized to account for traffic growth between 2020 and 2023.

The growth rate is based on the California Economic Forecast *California County-Level Economic Forecast 2017-2050*, dated September 2017 documents an average annual growth factor of 1.8% from 2020 to 2025 for Imperial County. Year 2021 traffic data was obtained by factoring the 2019 traffic counts by the application of the 1.8% annual growth (5.4 percent for 2020-23). Figure 5.1 illustrates the Project Construction Year background volumes. Figure 5.2 shows the *Construction Year with Project* traffic volumes in the study area.

This section documents the construction year traffic conditions of study area segments and intersections with and without the project.

Segments

Roadway segment analysis was conducted for the study area's specified segments. Using average daily traffic (ADT) counts, KOA determined the opening year level of service for the designated roadway segments. Table 5.1 below displays these levels of service.

Summarized in Table 5.2 are Construction Year and Construction Year plus Project roadway segment average daily traffic volumes and their associated LOS on route segments without and with the project under the near term condition. All roadway segments would operate at LOS B or better with and without the project. Therefore, the project would not result in any significant impacts to any segments within the project study area under the construction year condition.

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Table 5.1: Construction Year Roadway Segment Analysis

Roadway Segment	From/ To	Lanes/ Class	LOS E Capacity	Project Volumes	Construction Year			Construction Year + Project			Comparison	
					Volume	V/C	LOS	Volume	V/C	LOS	Δ V/C	Sig?
Mc Donald Rd	Project to SR-111	Local Collector	16,200	510	225	0.01	A	735	0.05	A	0.03	No
SR-111	Mc Donald to Weist Rd	Minor Arterial 2	18,500	51	3,692	0.20	A	3,743	0.20	A	0.00	No
SR-111	Mc Donald to SR-115	Minor Arterial 2	18,500	459	5,697	0.31	A	6,156	0.33	A	0.02	No
SR-111	SR-115 to SR-78 north ramps	Minor Arterial 2	18,500	444	6,013	0.33	A	6,457	0.35	A	0.02	No
SR-111	SR-78 north ramps to So. Ramps	Minor Arterial 2	18,500	262	5,700	0.31	A	5,962	0.32	A	0.01	No

Intersections

Table 5.2 summarizes the LOS at each intersection during the AM and PM peak hours under the construction year condition in 2022, without and with the project volumes. The estimated change in project delay associated with the project is also reported. All intersections would operate at a LOS C or better during both AM and PM peak hours with and without the project. Therefore, the project would not result in any significant impacts to any intersections within the project study area under the construction year condition. Detailed LOS worksheets are for the Construction Year are included in Appendix C and for the Construction Year plus Project in Appendix D.

Table 5.2: Construction Year Peak Hour Intersection Analysis

No.	Intersection	Control	Construction Year		Construction Year + Project		Change Delay	Significant
			Delay	LOS	Delay	LOS		
AM Peak Hour between 7:00 to 9:00 a.m.								
1	McDonald Road and Weist Road	SB Stop	n/a	A	7.3	A	n/a	N
2	McDonald Road and SR-111	SB Stop	9.2	A	10.3	B	1.1	N
3	SR-111 and SR-115	AWSC	10.5	B	12.2	A	1.7	N
4	SR-111 and north ramps with SR-78	EB/WB Stop	11.2	B	12.2	B	1.0	N
5	SR-111 and south ramps with SR-78	EB Stop	10.5	B	12.9	B	2.4	N
PM Peak Hour between 4:00 to 6:00 p.m.								
1	McDonald Road and Weist Road	SB Stop	n/a	A	8.2	A	n/a	N
2	McDonald Road and SR-111	EB/WB Stop	9.2	A	10.4	B	1.2	N
3	SR-111 and SR-115	AWSC	8.1	A	8.9	A	0.8	N
4	SR-111 and north ramps with SR-78	Sig	9.6	A	11.7	A	2.1	N
5	SR-111 and south ramps with SR-78	Sig	10.0	B	16	B	6.0	N

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Figure 5.1 Construction Year Volumes

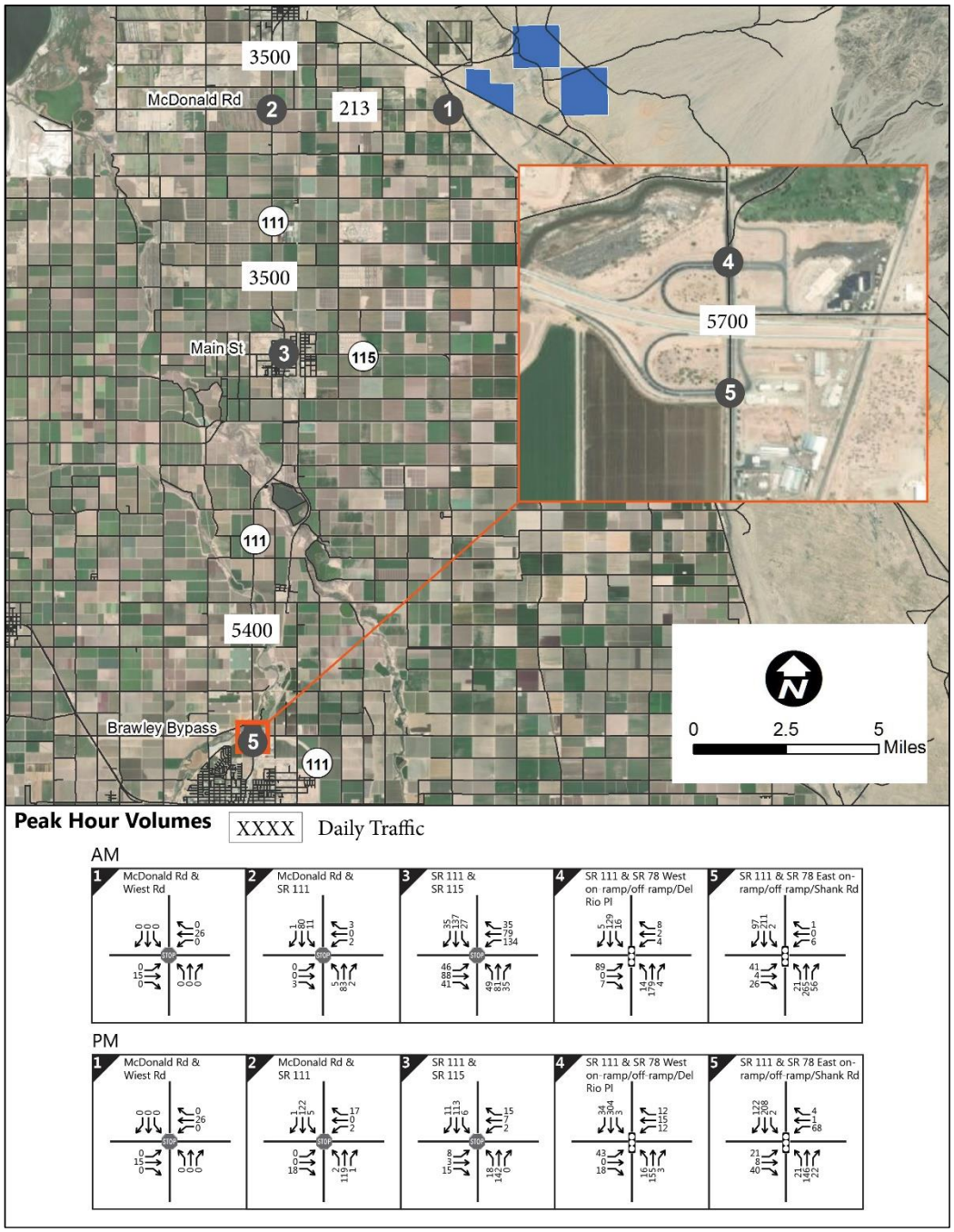

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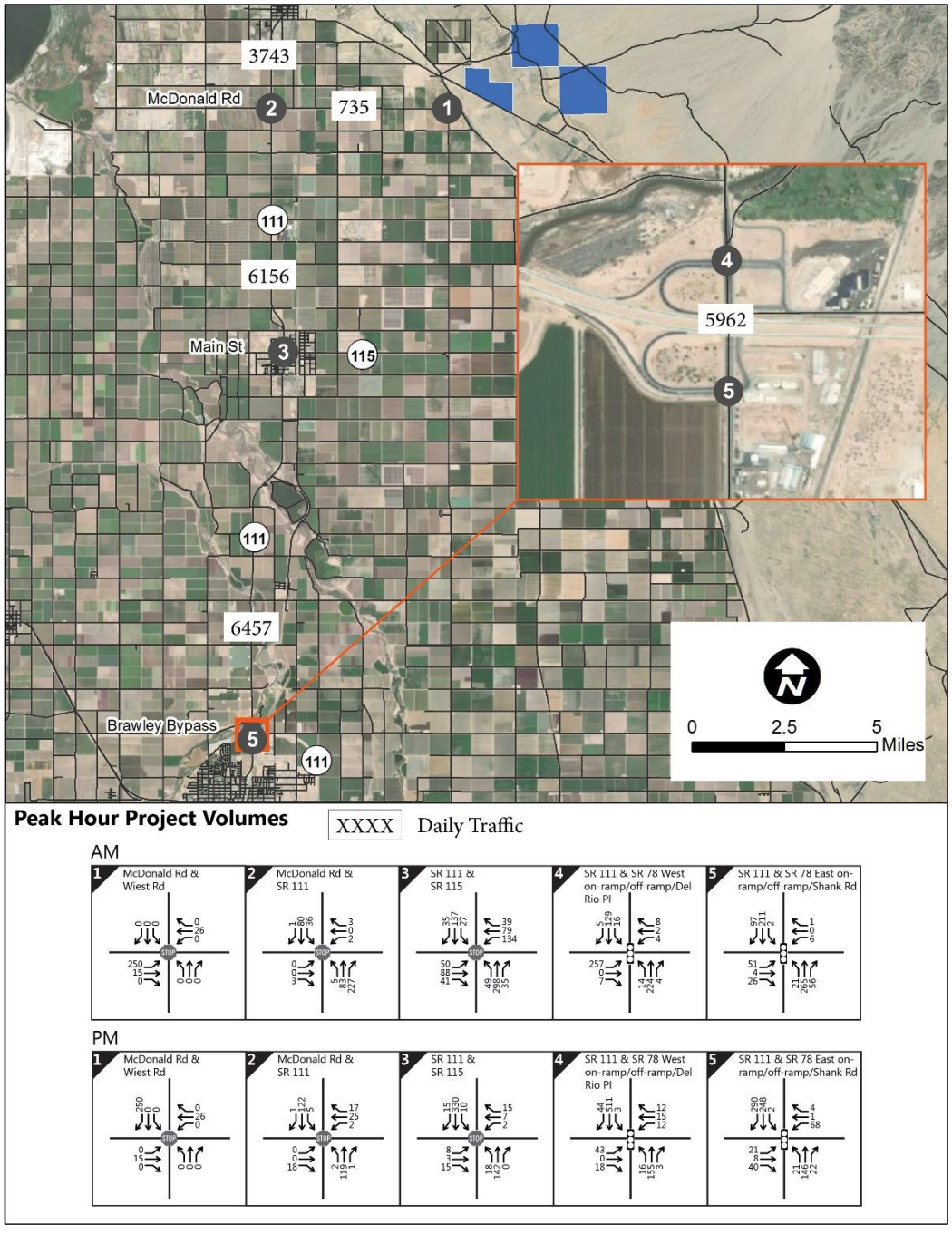
Figure 5.2 Construction Year Plus Project Year Volumes



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6.0 Circulation

The following section discusses the proposed project's access and circulation characteristics.

Project Access and Circulation

The project site is located east of the U.P. Railroad tracks and east of the Highland Canal. Primary access to and from the site will be from SR-111 along McDonald Road to Weist Road. Construction related traffic would cross the Highland Canal at Noffsinger Road. Weist Road continues to Flowing Well Road. The crossing of the UP Railroad tracks is at an unsignalized crossing on Weist Road. The site will be accessed from Flowing Well Road. Weist Road, Noffsinger Road and Flowing Well Road are unpaved roadways. Flowing Well Road, although occasionally maintained by the County of Imperial, is on BLM land and a right-of-way (ROW) approval from the BLM is required. There is no alternative route that either exists or can be used to gain access to the VEGA SES 2 and 3 project sites that do not cross some Federal lands, hence Flowing Wells Road, is the only viable route.

The VEGA SES 2 and 3 projects would not require changes to Flowing Wells Road either in terms of alignment, cross section, width or length. The project applicant is requesting a 24-foot-wide ROW given that the road currently has no designated width. The VEGA SES 2 and 3 projects, if required as part of the permitting or ROW approval, would grade and maintain Flowing Wells Road during construction as required by the BLM, County and/or Air District, including future years maintenance for safe access to the sites. A maintenance agreement with the County/BLM will be included in the conditions of approval.

It is estimated that there will be two in-bound and two out-bound truck trips per day to the project site. Truck trips shall access the site from SR 111 using Pound Road, and Noffsinger Road. Access to the east side of the East Highline Canal shall utilize the Flowing Wells Road bridge, continue on Flowing Wells Road and Coachella Canal Road. The Project shall contribute towards a structural assessment of the capacity of the Flowing Wells Road bridge along the proposed Vega Project access route to support heavy truck trips in excess of 74,000 lbs. The assessment shall demonstrate the feasibility, bridge structure improvements if necessary, and Project fair share for improvements needed to support expected heavy truck loads during Project construction and operations. Should such assessment indicate needed improvements are infeasible, the Project shall identify and evaluate an alternative feasible alternative access route and enter into a Road Maintenance Agreement to the satisfaction of the County."

Parking

The existing parking demand for up to 250 vehicles and for construction equipment will be provided on site.

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7.0 Impacts and Mitigation

This traffic impact analysis (TIA) has been prepared to identify the potential traffic impacts associated with the Vega SES 2 Vega SES 3 located within the Vega SES 2 site.

The construction of both projects is estimated to take 12-18 months and would begin in 2023. During the construction phase, at peak construction, the project is anticipated to generate a net total of 510 trip ends per day with 251 AM peak hour trips and 251 PM peak hour trips. When constructed, the project will not generate any additional trips. The project opening is anticipated to be the end of 2023 or early 2024.

The project is not expected to create significant impacts at study intersections or study segments, therefore no mitigation measures are required. All study intersections and segments were found to operate at LOS C or better for all of the traffic scenarios analyzed.

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APPENDIX A: TRAFFIC COUNT DATA

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

County of Imperial
N/S: SR-111
E/W: McDonald Road
Weather: Clear

File Name : 06_CIM_SR-111_McDonald AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				McDonald Road Westbound				SR-111 Northbound				McDonald Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	16	0	17	1	0	1	2	0	21	0	21	0	0	0	0	40
07:15 AM	2	18	0	20	0	0	0	0	2	23	0	25	0	0	0	0	45
07:30 AM	2	14	0	16	1	0	2	3	1	23	1	25	0	0	0	0	44
07:45 AM	3	23	1	27	0	0	1	1	2	16	1	19	0	0	1	1	48
Total	8	71	1	80	2	0	4	6	5	83	2	90	0	0	1	1	177
08:00 AM	3	21	0	24	1	0	0	1	0	17	0	17	0	0	2	2	44
08:15 AM	1	18	0	19	1	0	1	2	1	10	1	12	0	0	0	0	33
08:30 AM	3	19	0	22	1	0	0	1	0	14	0	14	0	1	0	1	38
08:45 AM	1	28	1	30	0	0	2	2	1	7	0	8	0	0	0	0	40
Total	8	86	1	95	3	0	3	6	2	48	1	51	0	1	2	3	155
Grand Total	16	157	2	175	5	0	7	12	7	131	3	141	0	1	3	4	332
Apprch %	9.1	89.7	1.1		41.7	0	58.3		5	92.9	2.1		0	25	75		
Total %	4.8	47.3	0.6	52.7	1.5	0	2.1	3.6	2.1	39.5	0.9	42.5	0	0.3	0.9	1.2	

	SR-111 Southbound				McDonald Road Westbound				SR-111 Northbound				McDonald Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	2	18	0	20	0	0	0	0	**2**	**23**	0	**25**	0	0	0	0	45
07:30 AM	2	14	0	16	**1**	0	**2**	**3**	1	23	**1**	25	0	0	0	0	44
07:45 AM	**3**	**23**	**1**	**27**	0	0	1	1	2	16	1	19	0	0	1	1	**48**
08:00 AM	3	21	0	24	1	0	0	1	0	17	0	17	0	0	**2**	**2**	44
Total Volume	10	76	1	87	2	0	3	5	5	79	2	86	0	0	3	3	181
% App. Total	11.5	87.4	1.1		40	0	60		5.8	91.9	2.3		0	0	100		
PHF	.833	.826	.250	.806	.500	.000	.375	.417	.625	.859	.500	.860	.000	.000	.375	.375	.943

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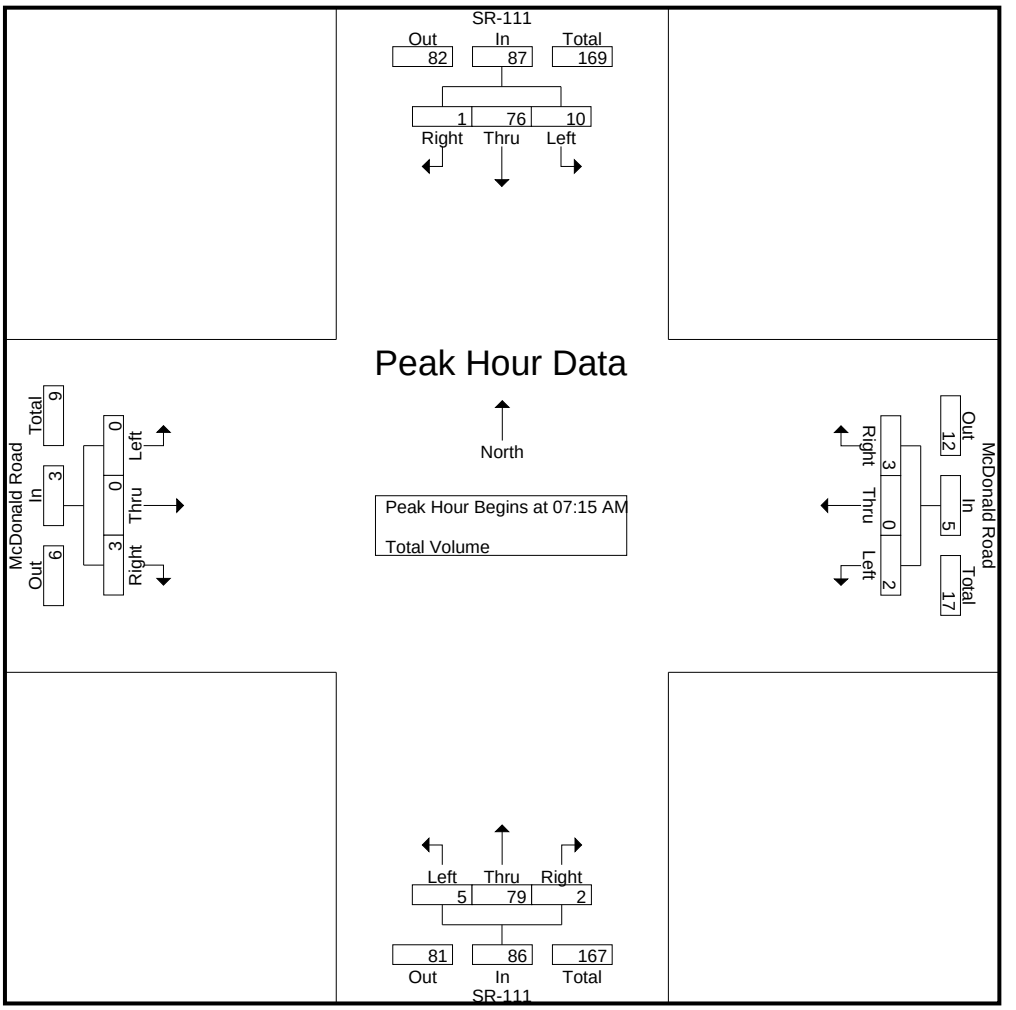
County of Imperial
N/S: SR-111
E/W: McDonald Road
Weather: Clear

File Name : 06_CIM_SR-111_McDonald AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				07:00 AM				07:45 AM			
+0 mins.	**3**	21	0	24	**1**	0	**2**	**3**	0	21	0	21	0	0	1	1
+15 mins.	1	18	0	19	0	0	1	1	**2**	**23**	0	**25**	0	0	**2**	**2**
+30 mins.	3	19	0	22	1	0	0	1	1	23	**1**	25	0	0	0	0
+45 mins.	1	**28**	**1**	**30**	1	0	1	2	2	16	1	19	0	**1**	0	1
Total Volume	8	86	1	95	3	0	4	7	5	83	2	90	0	1	3	4
% App. Total	8.4	90.5	1.1		42.9	0	57.1		5.6	92.2	2.2		0	25	75	
PHF	.667	.768	.250	.792	.750	.000	.500	.583	.625	.902	.500	.900	.000	.250	.375	.500

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County of Imperial
N/S: SR-111
E/W: McDonald Road
Weather: Clear

File Name : 06_CIM_SR-111_McDonald PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				McDonald Road Westbound				SR-111 Northbound				McDonald Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	49	0	50	1	0	6	7	0	25	0	25	0	0	12	12	94
04:15 PM	1	21	0	22	0	0	2	2	1	27	1	29	0	0	2	2	55
04:30 PM	2	21	1	24	0	0	6	6	1	32	0	33	0	0	2	2	65
04:45 PM	1	25	0	26	1	0	2	3	0	29	0	29	0	0	1	1	59
Total	5	116	1	122	2	0	16	18	2	113	1	116	0	0	17	17	273
05:00 PM	1	17	0	18	1	0	1	2	2	22	0	24	0	0	0	0	44
05:15 PM	0	18	0	18	0	0	1	1	1	26	0	27	0	0	1	1	47
05:30 PM	0	5	0	5	1	0	1	2	1	21	0	22	0	0	1	1	30
05:45 PM	0	8	0	8	0	0	0	0	0	14	0	14	0	0	3	3	25
Total	1	48	0	49	2	0	3	5	4	83	0	87	0	0	5	5	146
Grand Total	6	164	1	171	4	0	19	23	6	196	1	203	0	0	22	22	419
Apprch %	3.5	95.9	0.6		17.4	0	82.6		3	96.6	0.5		0	0	100		
Total %	1.4	39.1	0.2	40.8	1	0	4.5	5.5	1.4	46.8	0.2	48.4	0	0	5.3	5.3	

	SR-111 Southbound				McDonald Road Westbound				SR-111 Northbound				McDonald Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	**49**	0	**50**	**1**	0	**6**	**7**	0	25	0	25	0	0	**12**	**12**	**94**
04:15 PM	1	21	0	22	0	0	2	2	**1**	27	**1**	29	0	0	2	2	55
04:30 PM	**2**	21	**1**	24	0	0	6	6	1	**32**	0	**33**	0	0	2	2	65
04:45 PM	1	25	0	26	1	0	2	3	0	29	0	29	0	0	1	1	59
Total Volume	5	116	1	122	2	0	16	18	2	113	1	116	0	0	17	17	273
% App. Total	4.1	95.1	0.8		11.1	0	88.9		1.7	97.4	0.9		0	0	100		
PHF	.625	.592	.250	.610	.500	.000	.667	.643	.500	.883	.250	.879	.000	.000	.354	.354	.726

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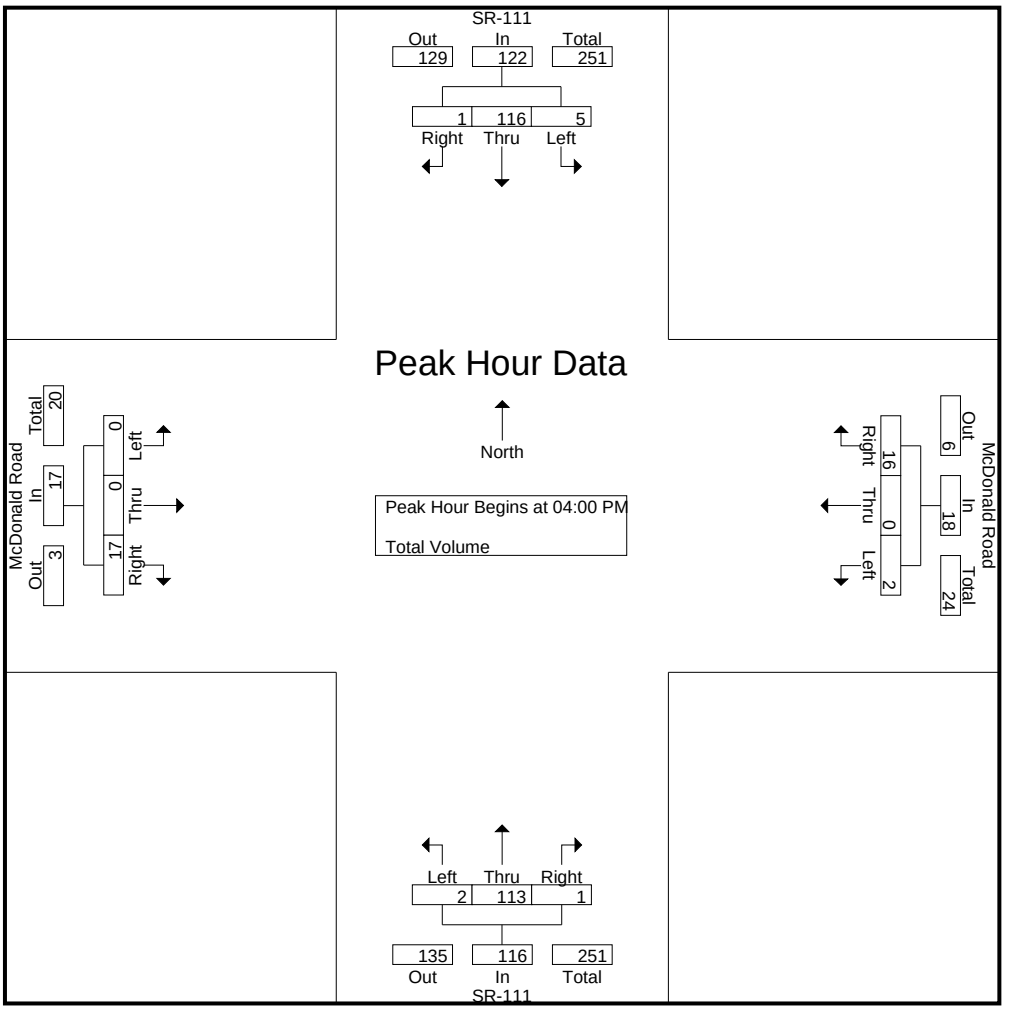
County of Imperial
N/S: SR-111
E/W: McDonald Road
Weather: Clear

File Name : 06_CIM_SR-111_McDonald PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	1	**49**	0	**50**	**1**	0	**6**	**7**	0	25	0	25	0	0	**12**	**12**
+15 mins.	1	21	0	22	0	0	2	2	**1**	27	**1**	29	0	0	2	2
+30 mins.	**2**	21	**1**	24	0	0	6	6	1	**32**	0	**33**	0	0	2	2
+45 mins.	1	25	0	26	1	0	2	3	0	29	0	29	0	0	1	1
Total Volume	5	116	1	122	2	0	16	18	2	113	1	116	0	0	17	17
% App. Total	4.1	95.1	0.8		11.1	0	88.9		1.7	97.4	0.9		0	0	100	
PHF	.625	.592	.250	.610	.500	.000	.667	.643	.500	.883	.250	.879	.000	.000	.354	.354

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Calipatria
N/S: SR-111
E/W: SR-115 (Main Street)
Weather: Clear

File Name : 07_CPA_SR-111_SR-115 AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				SR-115 Westbound				SR-111 Northbound				SR-115 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	15	2	17	7	6	4	17	9	29	23	61	8	9	2	19	114
07:15 AM	5	10	4	19	7	13	4	24	8	19	23	50	10	13	3	26	119
07:30 AM	3	14	1	18	6	11	2	19	8	24	33	65	3	15	6	24	126
07:45 AM	5	12	5	22	8	8	4	20	6	18	41	65	7	15	3	25	132
Total	13	51	12	76	28	38	14	80	31	90	120	241	28	52	14	94	491
08:00 AM	3	21	2	26	9	7	3	19	12	27	14	53	4	12	7	23	121
08:15 AM	5	13	6	24	9	8	4	21	9	18	11	38	7	4	6	17	100
08:30 AM	5	22	4	31	7	8	1	16	6	15	13	34	10	12	7	29	110
08:45 AM	5	16	4	25	10	5	5	20	7	12	5	24	3	6	2	11	80
Total	18	72	16	106	35	28	13	76	34	72	43	149	24	34	22	80	411
Grand Total	31	123	28	182	63	66	27	156	65	162	163	390	52	86	36	174	902
Apprch %	17	67.6	15.4		40.4	42.3	17.3		16.7	41.5	41.8		29.9	49.4	20.7		
Total %	3.4	13.6	3.1	20.2	7	7.3	3	17.3	7.2	18	18.1	43.2	5.8	9.5	4	19.3	

	SR-111 Southbound				SR-115 Westbound				SR-111 Northbound				SR-115 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**5**	10	4	19	7	**13**	**4**	**24**	8	19	23	50	**10**	13	3	**26**	119
07:30 AM	3	14	1	18	6	11	2	19	8	24	33	**65**	3	**15**	6	24	126
07:45 AM	5	12	**5**	22	8	8	4	20	6	18	**41**	65	7	15	3	25	**132**
08:00 AM	3	**21**	2	**26**	**9**	7	3	19	**12**	**27**	14	53	4	12	**7**	23	121
Total Volume	16	57	12	85	30	39	13	82	34	88	111	233	24	55	19	98	498
% App. Total	18.8	67.1	14.1		36.6	47.6	15.9		14.6	37.8	47.6		24.5	56.1	19.4		
PHF	.800	.679	.600	.817	.833	.750	.813	.854	.708	.815	.677	.896	.600	.917	.679	.942	.943

PC ORIGINAL PKG

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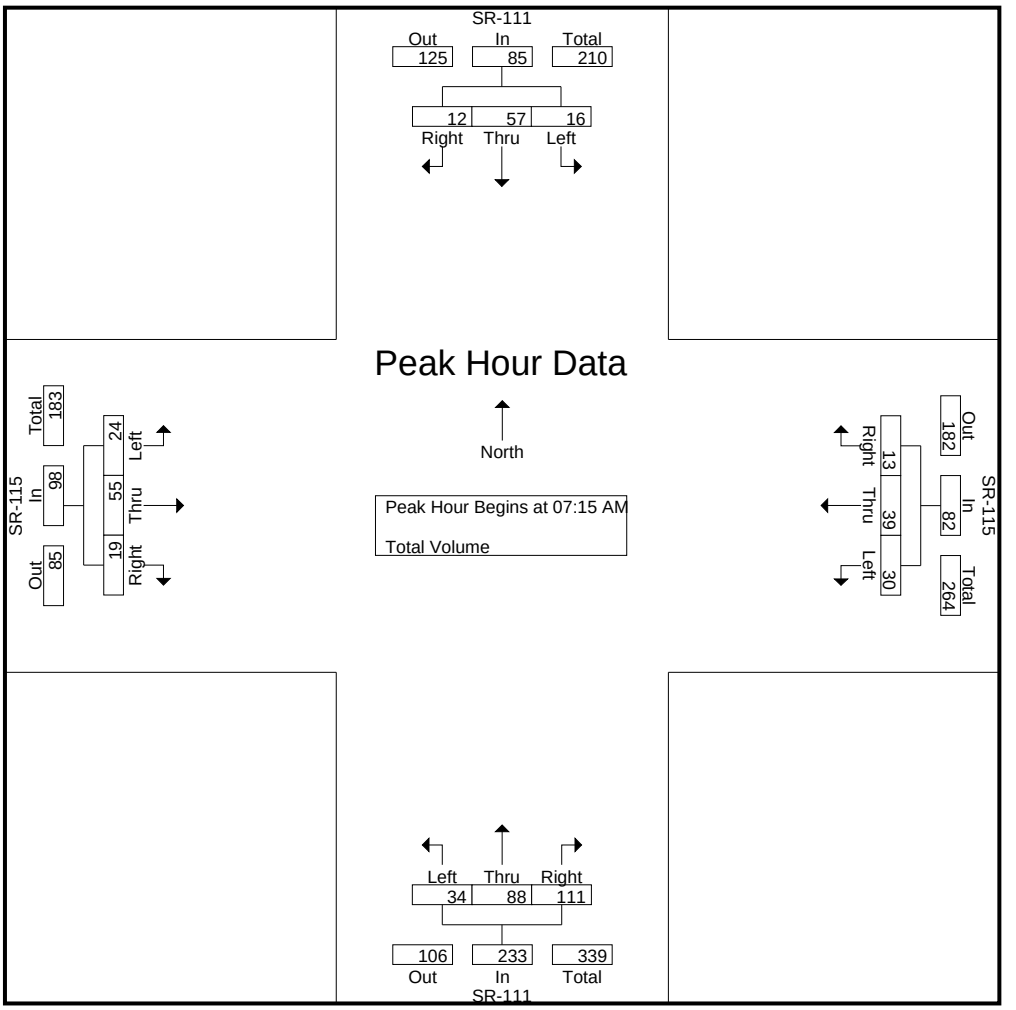
City of Calipatria
N/S: SR-111
E/W: SR-115 (Main Street)
Weather: Clear

File Name : 07_CPA_SR-111_SR-115 AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:15 AM				07:00 AM				07:15 AM			
+0 mins.	3	21	2	26	7	**13**	**4**	**24**	**9**	**29**	23	61	**10**	13	3	**26**
+15 mins.	**5**	13	**6**	24	6	11	2	19	8	19	23	50	3	**15**	6	24
+30 mins.	5	**22**	4	**31**	8	8	4	20	8	24	33	**65**	7	15	3	25
+45 mins.	5	16	4	25	**9**	7	3	19	6	18	**41**	65	4	12	**7**	23
Total Volume	18	72	16	106	30	39	13	82	31	90	120	241	24	55	19	98
% App. Total	17	67.9	15.1		36.6	47.6	15.9		12.9	37.3	49.8		24.5	56.1	19.4	
PHF	.900	.818	.667	.855	.833	.750	.813	.854	.861	.776	.732	.927	.600	.917	.679	.942

PC ORIGINAL PKG

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PO Box 1178
Corona, CA 92878
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City of Calipatria
N/S: SR-111
E/W: SR-115 (Main Street)
Weather: Clear

File Name : 07_CPA_SR-111_SR-115 PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				SR-115 Westbound				SR-111 Northbound				SR-115 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	10	49	5	64	46	24	9	79	13	18	5	36	16	16	10	42	221
04:15 PM	6	38	8	52	28	22	10	60	11	16	7	34	10	33	12	55	201
04:30 PM	6	24	11	41	26	18	4	48	11	15	14	40	9	18	13	40	169
04:45 PM	4	19	9	32	27	11	10	48	11	28	7	46	9	16	4	29	155
Total	26	130	33	189	127	75	33	235	46	77	33	156	44	83	39	166	746
05:00 PM	7	21	9	37	16	17	10	43	12	15	8	35	17	16	13	46	161
05:15 PM	3	12	3	18	16	13	5	34	12	14	11	37	3	17	4	24	113
05:30 PM	6	13	4	23	7	9	6	22	11	27	14	52	6	14	4	24	121
05:45 PM	5	17	7	29	13	10	6	29	15	13	8	36	7	12	8	27	121
Total	21	63	23	107	52	49	27	128	50	69	41	160	33	59	29	121	516
Grand Total	47	193	56	296	179	124	60	363	96	146	74	316	77	142	68	287	1262
Apprch %	15.9	65.2	18.9		49.3	34.2	16.5		30.4	46.2	23.4		26.8	49.5	23.7		
Total %	3.7	15.3	4.4	23.5	14.2	9.8	4.8	28.8	7.6	11.6	5.9	25	6.1	11.3	5.4	22.7	

	SR-111 Southbound				SR-115 Westbound				SR-111 Northbound				SR-115 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**10**	**49**	5	**64**	**46**	**24**	9	**79**	**13**	18	5	36	**16**	16	10	42	**221**
04:15 PM	6	38	8	52	28	22	**10**	60	11	16	7	34	10	**33**	12	**55**	201
04:30 PM	6	24	**11**	41	26	18	4	48	11	15	**14**	40	9	18	**13**	40	169
04:45 PM	4	19	9	32	27	11	10	48	11	**28**	7	**46**	9	16	4	29	155
Total Volume	26	130	33	189	127	75	33	235	46	77	33	156	44	83	39	166	746
% App. Total	13.8	68.8	17.5		54	31.9	14		29.5	49.4	21.2		26.5	50	23.5		
PHF	.650	.663	.750	.738	.690	.781	.825	.744	.885	.688	.589	.848	.688	.629	.750	.755	.844

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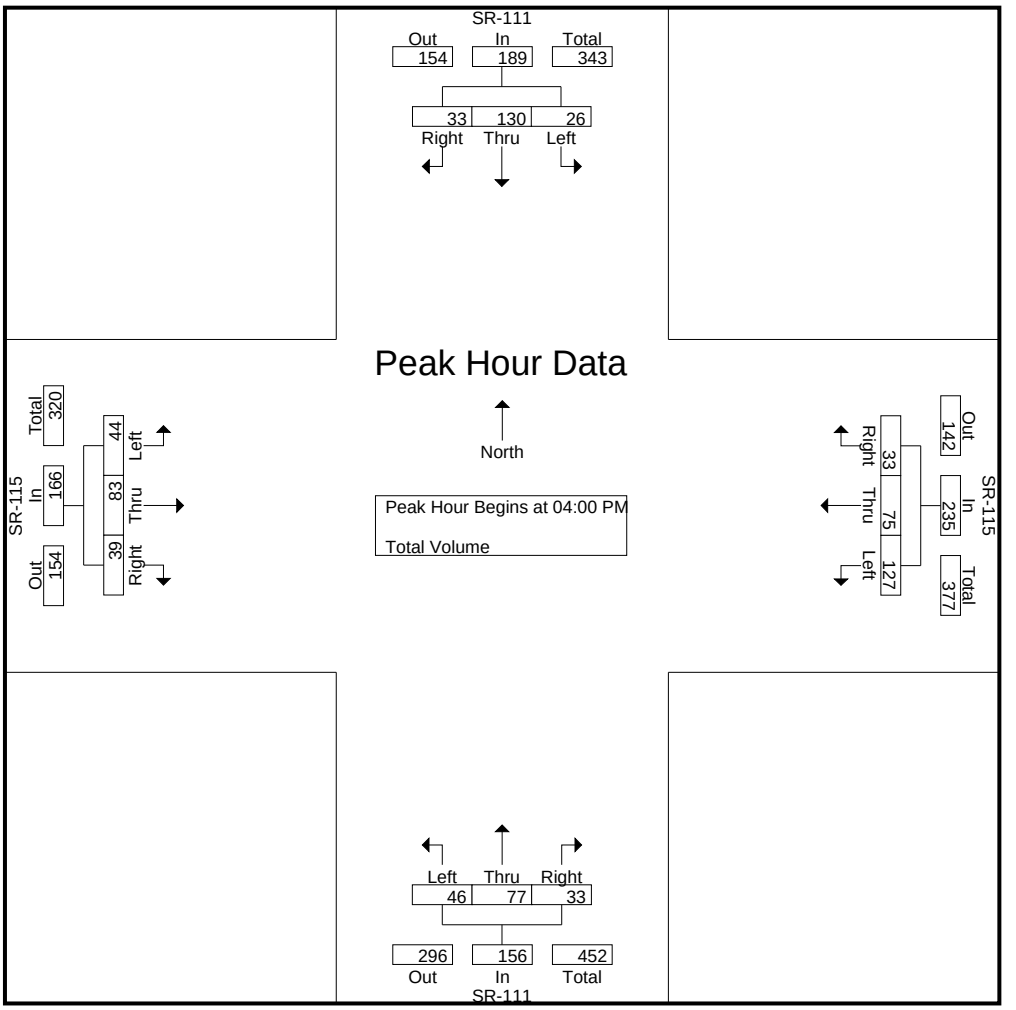
City of Calipatria
N/S: SR-111
E/W: SR-115 (Main Street)
Weather: Clear

File Name : 07_CPA_SR-111_SR-115 PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:45 PM				04:15 PM			
+0 mins.	**10**	**49**	5	**64**	**46**	**24**	9	**79**	11	**28**	7	46	10	**33**	12	**55**
+15 mins.	6	38	8	52	28	22	**10**	60	**12**	15	8	35	9	18	**13**	40
+30 mins.	6	24	**11**	41	26	18	4	48	12	14	11	37	9	16	4	29
+45 mins.	4	19	9	32	27	11	10	48	11	27	**14**	**52**	**17**	16	13	46
Total Volume	26	130	33	189	127	75	33	235	46	84	40	170	45	83	42	170
% App. Total	13.8	68.8	17.5		54	31.9	14		27.1	49.4	23.5		26.5	48.8	24.7	
PHF	.650	.663	.750	.738	.690	.781	.825	.744	.958	.750	.714	.817	.662	.629	.808	.773

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City of Brawley
N/S: SR-111
E/W: SR-78 Westbound Ramps/Del Rio Place
Weather: Clear

File Name : 08_BWY_SR-111_SR-78W AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				Del Rio Place Westbound				SR-111 Northbound				SR-78 Westbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	31	4	35	1	0	1	2	4	37	0	41	24	0	2	26	104
07:15 AM	1	31	3	35	1	1	3	5	4	50	2	56	24	0	1	25	121
07:30 AM	1	30	4	35	1	0	2	3	3	43	1	47	18	0	2	20	105
07:45 AM	3	30	4	37	1	1	2	4	2	40	1	43	18	0	2	20	104
Total	5	122	15	142	4	2	8	14	13	170	4	187	84	0	7	91	434
08:00 AM	2	24	6	32	1	4	2	7	5	21	1	27	19	0	3	22	88
08:15 AM	2	45	2	49	0	3	1	4	1	26	1	28	9	0	7	16	97
08:30 AM	0	41	4	45	0	2	0	2	3	21	2	26	10	0	4	14	87
08:45 AM	0	36	2	38	0	4	1	5	4	18	1	23	10	2	2	14	80
Total	4	146	14	164	1	13	4	18	13	86	5	104	48	2	16	66	352
Grand Total	9	268	29	306	5	15	12	32	26	256	9	291	132	2	23	157	786
Apprch %	2.9	87.6	9.5		15.6	46.9	37.5		8.9	88	3.1		84.1	1.3	14.6		
Total %	1.1	34.1	3.7	38.9	0.6	1.9	1.5	4.1	3.3	32.6	1.1	37	16.8	0.3	2.9	20	

	SR-111 Southbound				Del Rio Place Westbound				SR-111 Northbound				SR-78 Westbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	**31**	**4**	35	**1**	0	1	2	**4**	37	0	41	**24**	0	**2**	**26**	104
07:15 AM	1	31	3	35	1	**1**	**3**	**5**	4	**50**	**2**	**56**	24	0	1	25	**121**
07:30 AM	1	30	4	35	1	0	2	3	3	43	1	47	18	0	2	20	105
07:45 AM	**3**	30	4	**37**	1	1	2	4	2	40	1	43	18	0	2	20	104
Total Volume	5	122	15	142	4	2	8	14	13	170	4	187	84	0	7	91	434
% App. Total	3.5	85.9	10.6		28.6	14.3	57.1		7	90.9	2.1		92.3	0	7.7		
PHF	.417	.984	.938	.959	1.00	.500	.667	.700	.813	.850	.500	.835	.875	.000	.875	.875	.897

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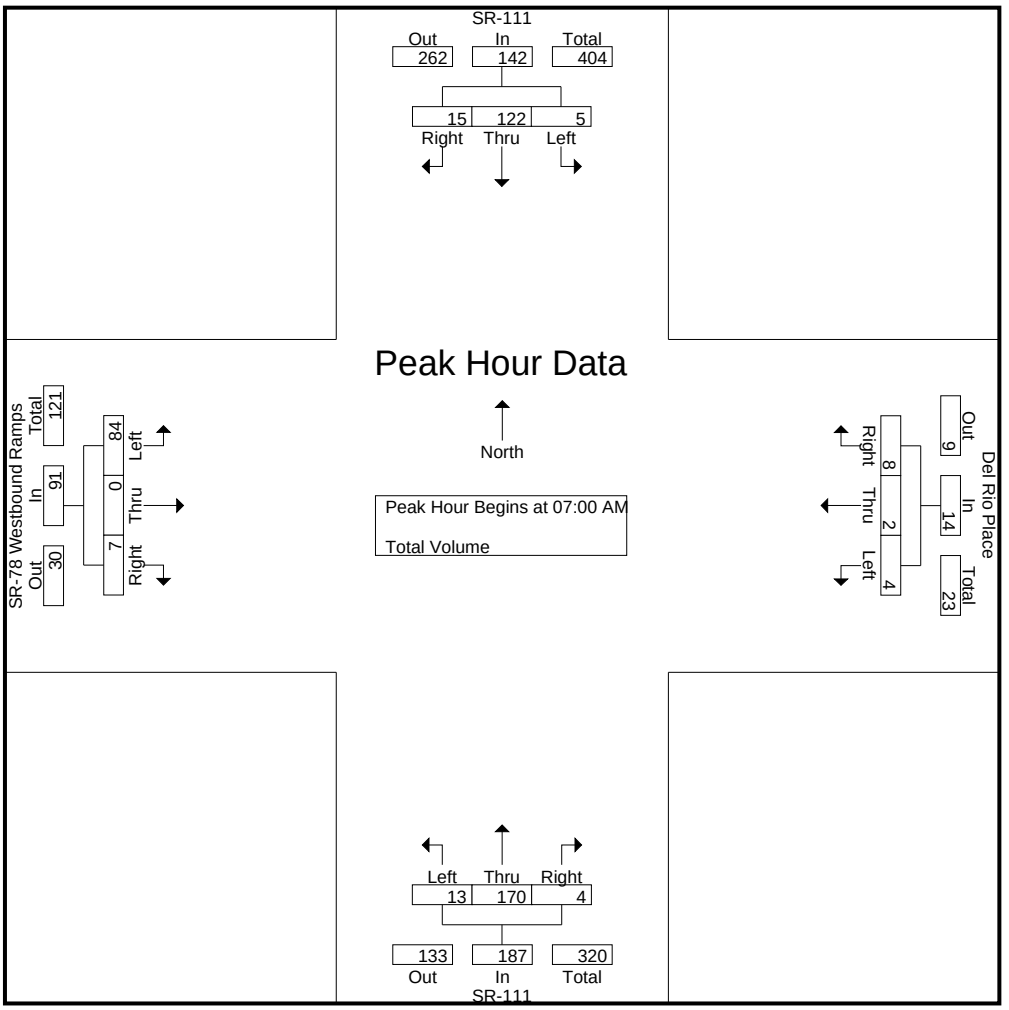
City of Brawley
N/S: SR-111
E/W: SR-78 Westbound Ramps/Del Rio Place
Weather: Clear

File Name : 08_BWY_SR-111_SR-78W AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:15 AM				07:00 AM				07:00 AM			
+0 mins.	**2**	24	**6**	32	**1**	1	**3**	5	**4**	37	0	41	**24**	0	**2**	**26**
+15 mins.	2	**45**	2	**49**	1	0	2	3	4	**50**	**2**	**56**	24	0	1	25
+30 mins.	0	41	4	45	1	1	2	4	3	43	1	47	18	0	2	20
+45 mins.	0	36	2	38	1	**4**	2	**7**	2	40	1	43	18	0	2	20
Total Volume	4	146	14	164	4	6	9	19	13	170	4	187	84	0	7	91
% App. Total	2.4	89	8.5		21.1	31.6	47.4		7	90.9	2.1		92.3	0	7.7	
PHF	.500	.811	.583	.837	1.000	.375	.750	.679	.813	.850	.500	.835	.875	.000	.875	.875

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City of Brawley
N/S: SR-111
E/W: SR-78 Westbound Ramps/Del Rio Place
Weather: Clear

File Name : 08_BWY_SR-111_SR-78W PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				Del Rio Place Westbound				SR-111 Northbound				SR-78 Westbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	72	7	79	7	8	2	17	4	32	1	37	4	0	3	7	140
04:15 PM	1	82	12	95	2	5	5	12	6	40	0	46	7	0	8	15	168
04:30 PM	1	73	8	82	2	1	4	7	3	43	2	48	18	0	4	22	159
04:45 PM	1	61	5	67	0	0	0	0	2	32	0	34	12	0	2	14	115
Total	3	288	32	323	11	14	11	36	15	147	3	165	41	0	17	58	582
05:00 PM	0	50	5	55	1	3	2	6	5	38	0	43	14	1	5	20	124
05:15 PM	4	48	4	56	0	2	2	4	2	34	0	36	15	0	5	20	116
05:30 PM	1	28	2	31	1	4	0	5	1	34	0	35	16	0	4	20	91
05:45 PM	0	33	7	40	1	1	1	3	2	29	0	31	3	0	0	3	77
Total	5	159	18	182	3	10	5	18	10	135	0	145	48	1	14	63	408
Grand Total	8	447	50	505	14	24	16	54	25	282	3	310	89	1	31	121	990
Apprch %	1.6	88.5	9.9		25.9	44.4	29.6		8.1	91	1		73.6	0.8	25.6		
Total %	0.8	45.2	5.1	51	1.4	2.4	1.6	5.5	2.5	28.5	0.3	31.3	9	0.1	3.1	12.2	

	SR-111 Southbound				Del Rio Place Westbound				SR-111 Northbound				SR-78 Westbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	72	7	79	**7**	**8**	2	**17**	4	32	1	37	4	0	3	7	140
04:15 PM	**1**	**82**	**12**	**95**	2	5	**5**	12	**6**	40	0	46	7	0	**8**	15	**168**
04:30 PM	1	73	8	82	2	1	4	7	3	**43**	**2**	**48**	**18**	0	4	**22**	159
04:45 PM	1	61	5	67	0	0	0	0	2	32	0	34	12	0	2	14	115
Total Volume	3	288	32	323	11	14	11	36	15	147	3	165	41	0	17	58	582
% App. Total	0.9	89.2	9.9		30.6	38.9	30.6		9.1	89.1	1.8		70.7	0	29.3		
PHF	.750	.878	.667	.850	.393	.438	.550	.529	.625	.855	.375	.859	.569	.000	.531	.659	.866

PC ORIGINAL PKG

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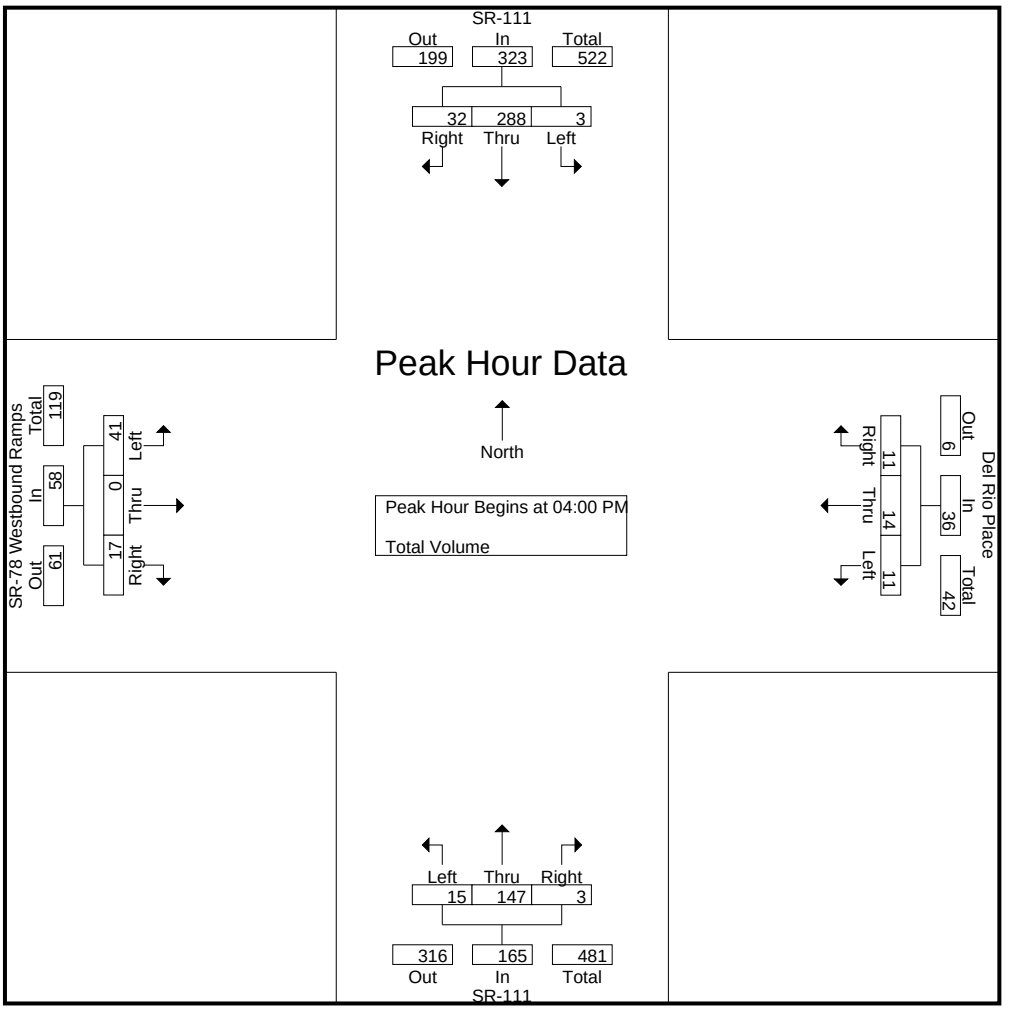
City of Brawley
N/S: SR-111
E/W: SR-78 Westbound Ramps/Del Rio Place
Weather: Clear

File Name : 08_BWY_SR-111_SR-78W PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:15 PM				04:30 PM			
+0 mins.	0	72	7	79	**7**	**8**	2	**17**	**6**	40	0	46	**18**	0	4	**22**
+15 mins.	**1**	**82**	**12**	**95**	2	5	**5**	12	3	**43**	**2**	**48**	12	0	2	14
+30 mins.	1	73	8	82	2	1	4	7	2	32	0	34	14	**1**	**5**	20
+45 mins.	1	61	5	67	0	0	0	0	5	38	0	43	15	0	5	20
Total Volume	3	288	32	323	11	14	11	36	16	153	2	171	59	1	16	76
% App. Total	0.9	89.2	9.9		30.6	38.9	30.6		9.4	89.5	1.2		77.6	1.3	21.1	
PHF	.750	.878	.667	.850	.393	.438	.550	.529	.667	.890	.250	.891	.819	.250	.800	.864

PC ORIGINAL PKG

Counts Unlimited, Inc.
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Corona, CA 92878
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City of Brawley
N/S: SR-111
E/W: SR-78 Eastbound Ramps/Shank Road
Weather: Clear

File Name : 09_BWY_SR-111_SR-78E AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				Shank Road Westbound				SR-111 Northbound				SR-78 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	22	12	35	2	0	0	2	0	37	8	45	5	0	2	7	89
07:15 AM	0	19	10	29	3	0	0	3	7	45	6	58	3	1	0	4	94
07:30 AM	2	17	18	37	2	0	0	2	3	47	5	55	8	0	4	12	106
07:45 AM	1	24	8	33	6	0	1	7	2	34	11	47	9	1	5	15	102
Total	4	82	48	134	13	0	1	14	12	163	30	205	25	2	11	38	391
08:00 AM	0	23	5	28	3	0	0	3	3	26	3	32	2	1	4	7	70
08:15 AM	0	41	12	53	3	0	0	3	0	20	9	29	6	0	4	10	95
08:30 AM	1	31	12	44	4	0	0	4	3	21	9	33	5	1	2	8	89
08:45 AM	1	23	15	39	2	0	1	3	2	21	2	25	1	0	4	5	72
Total	2	118	44	164	12	0	1	13	8	88	23	119	14	2	14	30	326
Grand Total	6	200	92	298	25	0	2	27	20	251	53	324	39	4	25	68	717
Apprch %	2	67.1	30.9		92.6	0	7.4		6.2	77.5	16.4		57.4	5.9	36.8		
Total %	0.8	27.9	12.8	41.6	3.5	0	0.3	3.8	2.8	35	7.4	45.2	5.4	0.6	3.5	9.5	

	SR-111 Southbound				Shank Road Westbound				SR-111 Northbound				SR-78 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	22	12	35	2	0	0	2	0	37	8	45	5	0	2	7	89
07:15 AM	0	19	10	29	3	0	0	3	**7**	45	6	**58**	3	**1**	0	4	94
07:30 AM	**2**	17	**18**	**37**	2	0	0	2	3	**47**	5	55	8	0	4	12	**106**
07:45 AM	1	**24**	8	33	**6**	0	**1**	**7**	2	34	**11**	47	**9**	1	**5**	**15**	102
Total Volume	4	82	48	134	13	0	1	14	12	163	30	205	25	2	11	38	391
% App. Total	3	61.2	35.8		92.9	0	7.1		5.9	79.5	14.6		65.8	5.3	28.9		
PHF	.500	.854	.667	.905	.542	.000	.250	.500	.429	.867	.682	.884	.694	.500	.550	.633	.922

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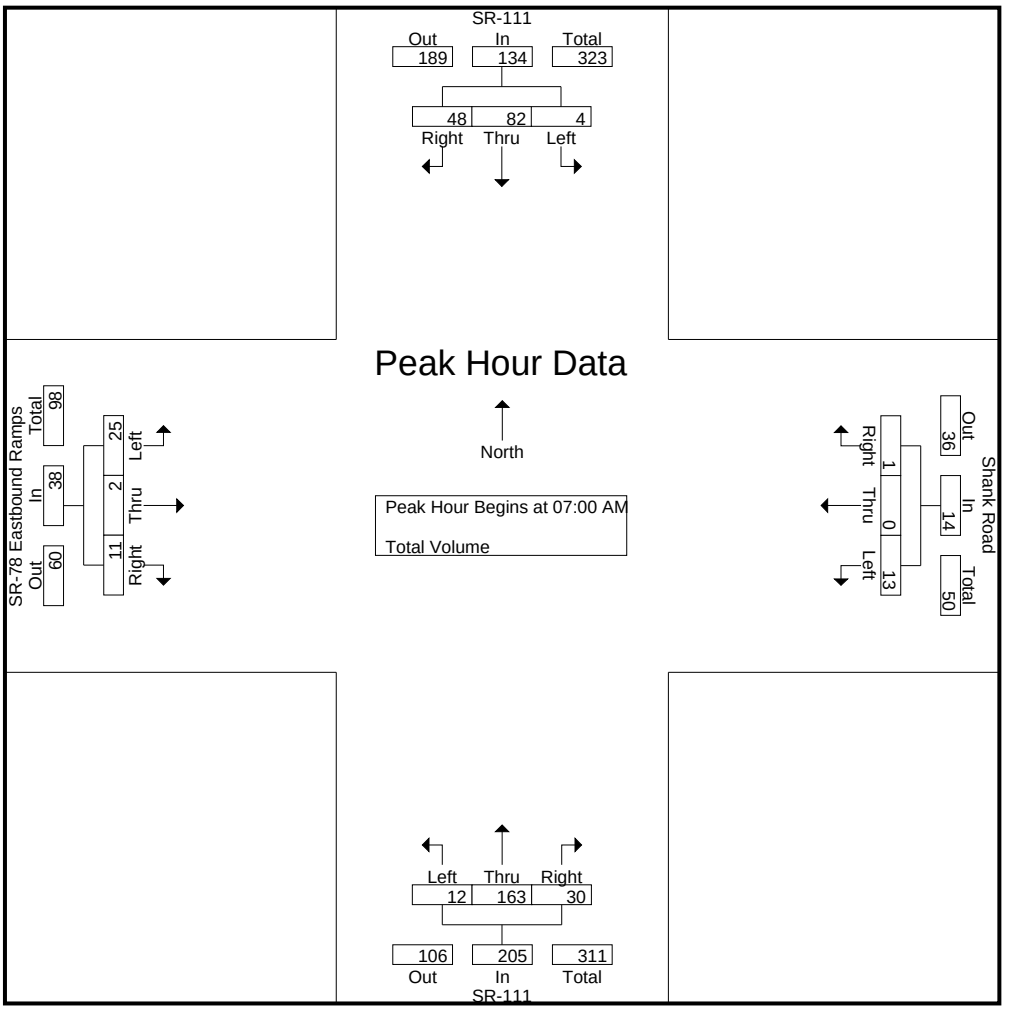
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Eastbound Ramps/Shank Road
Weather: Clear

File Name : 09_BWY_SR-111_SR-78E AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				07:00 AM				07:30 AM			
+0 mins.	0	23	5	28	**6**	0	**1**	**7**	0	37	8	45	8	0	4	12
+15 mins.	0	**41**	12	**53**	3	0	0	3	**7**	45	6	**58**	**9**	**1**	**5**	**15**
+30 mins.	**1**	31	12	44	3	0	0	3	3	**47**	5	55	2	1	4	7
+45 mins.	1	23	**15**	39	4	0	0	4	2	34	**11**	47	6	0	4	10
Total Volume	2	118	44	164	16	0	1	17	12	163	30	205	25	2	17	44
% App. Total	1.2	72	26.8		94.1	0	5.9		5.9	79.5	14.6		56.8	4.5	38.6	
PHF	.500	.720	.733	.774	.667	.000	.250	.607	.429	.867	.682	.884	.694	.500	.850	.733

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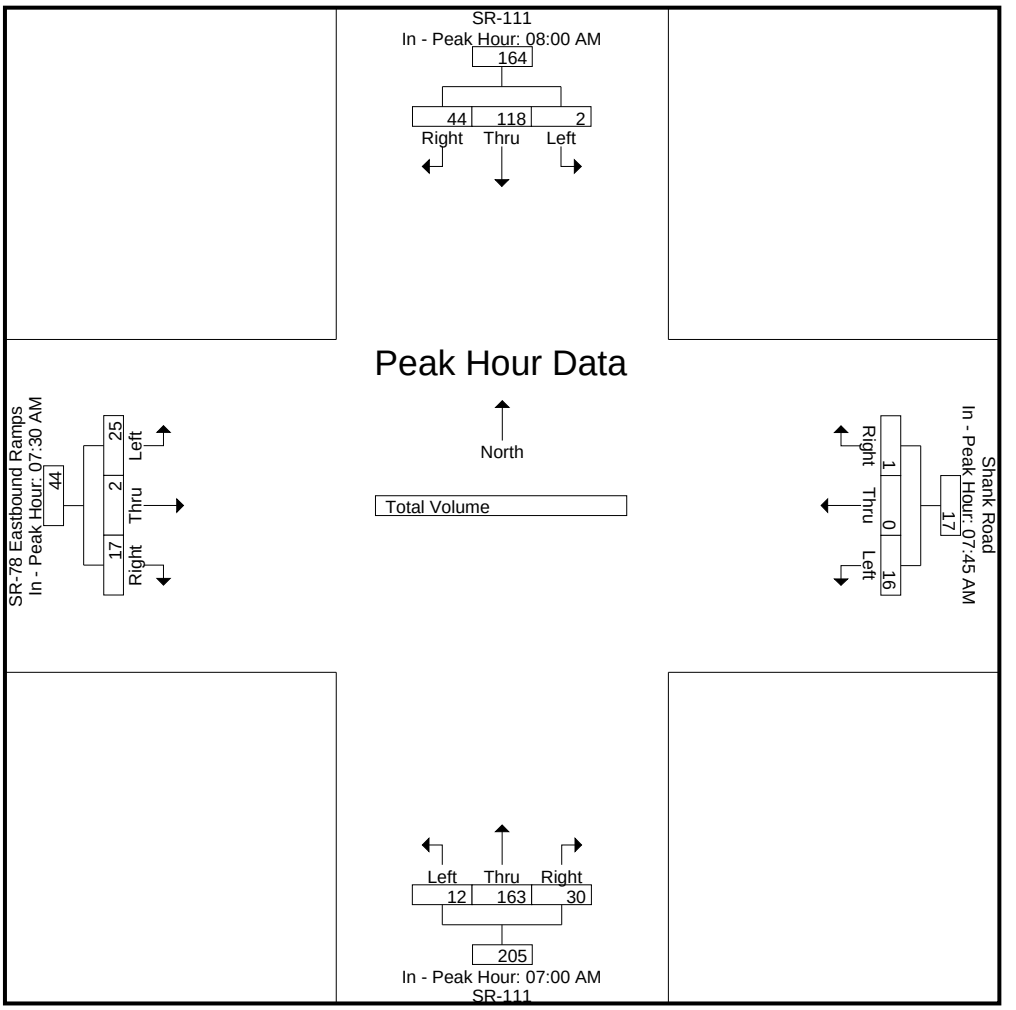
File Name : 09_BWY_SR-111_SR-78E AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 3



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City of Brawley
N/S: SR-111
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Weather: Clear

File Name : 09_BWY_SR-111_SR-78E PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				Shank Road Westbound				SR-111 Northbound				SR-78 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	52	32	84	17	0	0	17	5	28	3	36	9	2	10	21	158
04:15 PM	1	56	37	94	15	0	0	15	4	38	6	48	5	1	8	14	171
04:30 PM	1	52	24	77	13	0	4	17	7	38	7	52	5	4	11	20	166
04:45 PM	0	37	23	60	19	1	0	20	4	34	5	43	1	1	9	11	134
Total	2	197	116	315	64	1	4	69	20	138	21	179	20	8	38	66	629
05:00 PM	1	39	18	58	17	0	1	18	11	35	3	49	6	1	8	15	140
05:15 PM	0	39	17	56	5	3	0	8	1	34	3	38	2	1	6	9	111
05:30 PM	1	23	8	32	10	0	0	10	2	30	2	34	6	1	3	10	86
05:45 PM	0	28	7	35	7	2	0	9	0	27	3	30	8	1	1	10	84
Total	2	129	50	181	39	5	1	45	14	126	11	151	22	4	18	44	421
Grand Total	4	326	166	496	103	6	5	114	34	264	32	330	42	12	56	110	1050
Apprch %	0.8	65.7	33.5		90.4	5.3	4.4		10.3	80	9.7		38.2	10.9	50.9		
Total %	0.4	31	15.8	47.2	9.8	0.6	0.5	10.9	3.2	25.1	3	31.4	4	1.1	5.3	10.5	

	SR-111 Southbound				Shank Road Westbound				SR-111 Northbound				SR-78 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	52	32	84	17	0	0	17	5	28	3	36	**9**	2	10	**21**	158
04:15 PM	**1**	**56**	**37**	**94**	15	0	0	15	4	**38**	6	48	5	1	8	14	**171**
04:30 PM	1	52	24	77	13	0	**4**	17	**7**	38	**7**	**52**	5	**4**	**11**	20	166
04:45 PM	0	37	23	60	**19**	**1**	0	**20**	4	34	5	43	1	1	9	11	134
Total Volume	2	197	116	315	64	1	4	69	20	138	21	179	20	8	38	66	629
% App. Total	0.6	62.5	36.8		92.8	1.4	5.8		11.2	77.1	11.7		30.3	12.1	57.6		
PHF	.500	.879	.784	.838	.842	.250	.250	.863	.714	.908	.750	.861	.556	.500	.864	.786	.920

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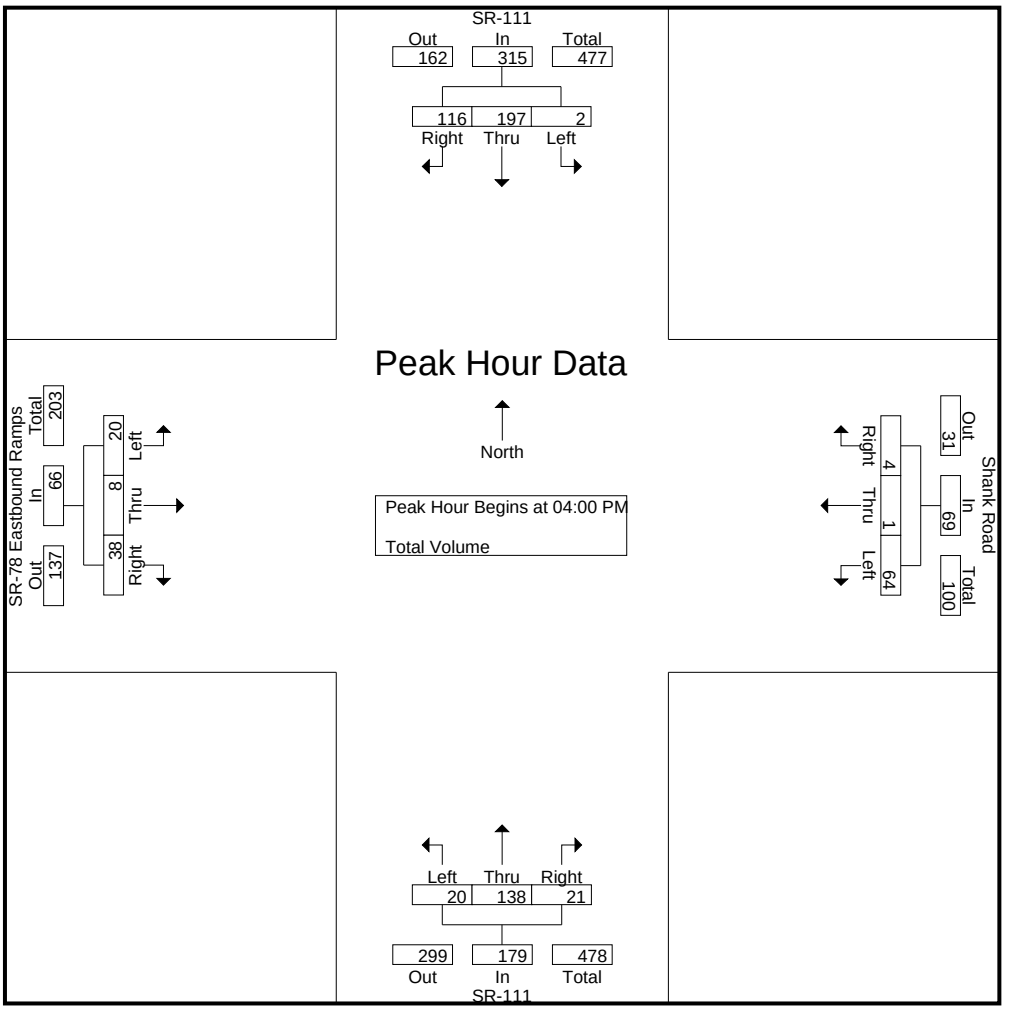
Weather: Clear

File Name : 09_BWY_SR-111_SR-78E PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM				04:15 PM				04:00 PM			
+0 mins.	0	52	32	84	15	0	0	15	4	**38**	6	48	**9**	2	10	**21**
+15 mins.	**1**	**56**	**37**	**94**	13	0	**4**	17	7	38	**7**	**52**	5	1	8	14
+30 mins.	1	52	24	77	**19**	**1**	0	**20**	4	34	5	43	5	**4**	**11**	20
+45 mins.	0	37	23	60	17	0	1	18	**11**	35	3	49	1	1	9	11
Total Volume	2	197	116	315	64	1	5	70	26	145	21	192	20	8	38	66
% App. Total	0.6	62.5	36.8		91.4	1.4	7.1		13.5	75.5	10.9		30.3	12.1	57.6	
PHF	.500	.879	.784	.838	.842	.250	.313	.875	.591	.954	.750	.923	.556	.500	.864	.786

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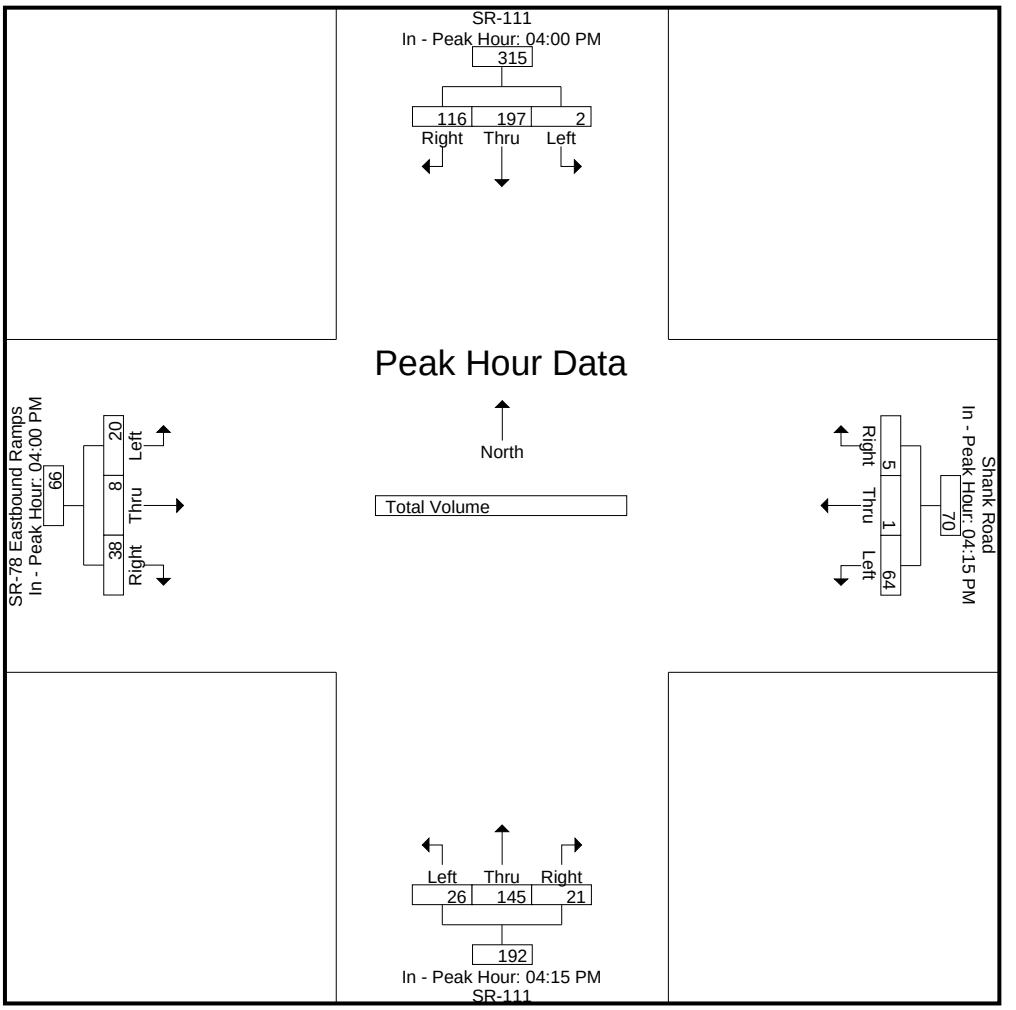

PC ORIGINAL PKG

APPENDIX B : EXISTING YEAR CONDITIONS ANALYSIS WORKSHEETS

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	14	0	0	25	0	0	0	0	0	0	0
Future Vol, veh/h	0	14	0	0	25	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	15	0	0	27	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	27	0	0	15	0	0	42	42	15	42	42	27
Stage 1	-	-	-	-	-	-	15	15	-	27	27	-
Stage 2	-	-	-	-	-	-	27	27	-	15	15	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1587	-	-	1603	-	-	961	850	1065	961	850	1048
Stage 1	-	-	-	-	-	-	1005	883	-	990	873	-
Stage 2	-	-	-	-	-	-	990	873	-	1005	883	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1587	-	-	1603	-	-	961	850	1065	961	850	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	961	850	-	961	850	-
Stage 1	-	-	-	-	-	-	1005	883	-	990	873	-
Stage 2	-	-	-	-	-	-	990	873	-	1005	883	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1587	-	-	1603	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	14	0	0	25	0	0	0	0	0	0	0
Future Vol, veh/h	0	14	0	0	25	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	15	0	0	27	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	27	0	0	15	0	0	42	42	15	42	42	27
Stage 1	-	-	-	-	-	-	15	15	-	27	27	-
Stage 2	-	-	-	-	-	-	27	27	-	15	15	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1587	-	-	1603	-	-	961	850	1065	961	850	1048
Stage 1	-	-	-	-	-	-	1005	883	-	990	873	-
Stage 2	-	-	-	-	-	-	990	873	-	1005	883	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1587	-	-	1603	-	-	961	850	1065	961	850	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	961	850	-	961	850	-
Stage 1	-	-	-	-	-	-	1005	883	-	990	873	-
Stage 2	-	-	-	-	-	-	990	873	-	1005	883	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1587	-	-	1603	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	3	2	0	3	5	79	2	10	76	1
Future Vol, veh/h	0	0	3	2	0	3	5	79	2	10	76	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	2	0	3	5	86	2	11	83	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	205	204	84	204	203	87	84	0	0	88	0	0
Stage 1	106	106	-	97	97	-	-	-	-	-	-	-
Stage 2	99	98	-	107	106	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	753	692	975	754	693	971	1513	-	-	1508	-	-
Stage 1	900	807	-	910	815	-	-	-	-	-	-	-
Stage 2	907	814	-	898	807	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	744	684	975	745	685	971	1513	-	-	1508	-	-
Mov Cap-2 Maneuver	744	684	-	745	685	-	-	-	-	-	-	-
Stage 1	897	801	-	907	813	-	-	-	-	-	-	-
Stage 2	901	812	-	888	801	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9.2	0.4	0.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1513	-	-	975	866	1508	-	-
HCM Lane V/C Ratio	0.004	-	-	0.003	0.006	0.007	-	-
HCM Control Delay (s)	7.4	0	-	8.7	9.2	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

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Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	17	2	0	16	2	113	1	5	116	1
Future Vol, veh/h	0	0	17	2	0	16	2	113	1	5	116	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	18	2	0	17	2	123	1	5	126	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	273	265	127	274	265	124	127	0	0	124	0	0
Stage 1	137	137	-	128	128	-	-	-	-	-	-	-
Stage 2	136	128	-	146	137	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	679	640	923	678	640	927	1459	-	-	1463	-	-
Stage 1	866	783	-	876	790	-	-	-	-	-	-	-
Stage 2	867	790	-	857	783	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	664	637	923	662	637	927	1459	-	-	1463	-	-
Mov Cap-2 Maneuver	664	637	-	662	637	-	-	-	-	-	-	-
Stage 1	865	780	-	875	789	-	-	-	-	-	-	-
Stage 2	850	789	-	836	780	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	9.1	0.1	0.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1459	-	-	923	888	1463	-	-
HCM Lane V/C Ratio	0.001	-	-	0.02	0.022	0.004	-	-
HCM Control Delay (s)	7.5	0	-	9	9.1	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

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Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	83	39	127	75	33	46	77	33	26	130	33
Future Vol, veh/h	44	83	39	127	75	33	46	77	33	26	130	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	90	42	138	82	36	50	84	36	28	141	36
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	9.8	11	9.9	10
HCM LOS	A	B	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	54%	0%	51%	0%	77%	0%	29%	0%
Vol Thru, %	46%	54%	49%	52%	23%	53%	71%	66%
Vol Right, %	0%	46%	0%	48%	0%	47%	0%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	85	72	86	81	165	71	91	98
LT Vol	46	0	44	0	127	0	26	0
Through Vol	39	39	42	42	38	38	65	65
RT Vol	0	33	0	39	0	33	0	33
Lane Flow Rate	92	78	93	88	179	77	99	107
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.163	0.125	0.162	0.138	0.312	0.118	0.17	0.172
Departure Headway (Hd)	6.375	5.772	6.262	5.658	6.273	5.552	6.192	5.808
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	563	621	573	634	574	646	580	618
Service Time	4.112	3.509	3.996	3.392	4.005	3.283	3.929	3.545
HCM Lane V/C Ratio	0.163	0.126	0.162	0.139	0.312	0.119	0.171	0.173
HCM Control Delay	10.4	9.3	10.2	9.3	11.8	9	10.2	9.8
HCM Lane LOS	B	A	B	A	B	A	B	A
HCM 95th-tile Q	0.6	0.4	0.6	0.5	1.3	0.4	0.6	0.6

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Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	3	14	2	7	14	17	135	0	6	107	10
Future Vol, veh/h	8	3	14	2	7	14	17	135	0	6	107	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	3	15	2	8	15	18	147	0	7	116	11
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	7.8	7.7	8.2	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	27%	0%	84%	0%	36%	0%	10%	0%
Vol Thru, %	73%	100%	16%	10%	64%	20%	90%	84%
Vol Right, %	0%	0%	0%	90%	0%	80%	0%	16%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	90	10	16	6	18	60	64
LT Vol	17	0	8	0	2	0	6	0
Through Vol	45	90	2	2	4	4	54	54
RT Vol	0	0	0	14	0	14	0	10
Lane Flow Rate	67	98	10	17	6	19	65	69
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.09	0.127	0.016	0.022	0.009	0.025	0.085	0.088
Departure Headway (Hd)	4.827	4.69	5.691	4.632	5.454	4.708	4.758	4.597
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	734	755	633	777	660	765	742	768
Service Time	2.613	2.475	3.392	2.333	3.154	2.409	2.553	2.392
HCM Lane V/C Ratio	0.091	0.13	0.016	0.022	0.009	0.025	0.088	0.09
HCM Control Delay	8.1	8.2	8.5	7.4	8.2	7.5	8	7.8
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.4	0	0.1	0	0.1	0.3	0.3

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	0	7	4	2	8	13	170	4	15	122	5
Future Volume (veh/h)	84	0	7	4	2	8	13	170	4	15	122	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	91	0	8	4	2	9	14	185	4	16	133	5
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	718	745	633	721	745	633	629	745	633	530	1392	52
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	9.0	0.0	8.2	8.1	8.1	8.2	12.9	14.3	11.8	10.9	8.7	8.7
Ln Grp LOS	A		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		99			15			203			154	
Approach Delay, s/veh		9.0			8.2			14.1			8.9	
Approach LOS		A			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.1		3.8		5.1		4.1
Max Q Clear (g_c+I1), s		6.0		3.9		6.4		2.2
Green Ext Time (g_e), s		0.8		0.2		0.5		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1246		1398		1189		1402

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3479		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		130		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	14	0	91	0	16	0	4
Grp Sat Flow (s), veh/h/ln	0	1246	0	1398	0	1189	0	1402
Q Serve Time (g_s), s	0.0	0.4	0.0	1.9	0.0	0.4	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	1.5	0.0	1.9	0.0	4.4	0.0	0.1
Perm LT Sat Flow (s_l), veh/h/ln	0	1246	0	1398	0	1189	0	1402
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	16.9	0.0	18.0	0.0	14.0	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.4	0.0	1.9	0.0	0.4	0.0	0.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	629	0	718	0	530	0	721
V/C Ratio (X)	0.00	0.02	0.00	0.13	0.00	0.03	0.00	0.01
Avail Cap (c_a), veh/h	0	629	0	718	0	530	0	721
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	8.7	0.0	10.8	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.4	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.9	0.0	9.0	0.0	10.9	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.7	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.8	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	185	0	0	0	67	0	2
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	4.0	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.0	0.0	0.0	0.0	1.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.25	0.00	0.00	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.5	0.0	0.0	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.3	0.0	0.0	0.0	8.7	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	0.0	0.0	0.5	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.2	0.0	0.0	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	4	0	8	0	71	0	9
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1840	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.07	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	736	0	633
V/C Ratio (X)	0.00	0.01	0.00	0.01	0.00	0.10	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	736	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.1	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.2	0.0	8.7	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.5	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.1
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	0	17	11	14	11	15	147	3	3	288	32
Future Volume (veh/h)	41	0	17	11	14	11	15	147	3	3	288	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	45	0	18	12	15	12	16	160	3	3	313	35
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	704	745	633	716	745	633	504	745	633	554	1285	143
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	8.7	0.0	8.3	8.2	8.2	8.2	14.7	13.9	11.8	10.3	9.8	9.8
Ln Grp LOS	A		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		63			39			179			351	
Approach Delay, s/veh		8.6			8.2			13.9			9.8	
Approach LOS		A			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.2		3.9		5.3		4.4
Max Q Clear (g_c+I1), s		5.6		3.1		5.5		2.2
Green Ext Time (g_e), s		0.7		0.1		1.6		0.1
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1029		1378		1218		1389

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3213		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		357		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	16	0	45	0	3	0	12
Grp Sat Flow (s), veh/h/ln	0	1029	0	1378	0	1218	0	1389
Q Serve Time (g_s), s	0.0	0.6	0.0	0.9	0.0	0.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	1.1	0.0	3.5	0.0	0.2
Perm LT Sat Flow (s_l), veh/h/ln	0	1029	0	1378	0	1218	0	1389
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	15.1	0.0	17.8	0.0	14.5	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.6	0.0	0.9	0.0	0.1	0.0	0.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	504	0	704	0	554	0	716
V/C Ratio (X)	0.00	0.03	0.00	0.06	0.00	0.01	0.00	0.02
Avail Cap (c_a), veh/h	0	504	0	704	0	554	0	716
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.6	0.0	8.5	0.0	10.3	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.7	0.0	8.7	0.0	10.3	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.3	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	160	0	0	0	171	0	15
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	3.5	0.0	0.0	0.0	2.9	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	3.5	0.0	0.0	0.0	2.9	0.0	0.2
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	0.24	0.00	0.02
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.2	0.0	0.0	0.0	9.0	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.9	0.0	0.0	0.0	9.8	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	0.0	0.0	1.4	0.0	0.1

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.9	0.0	0.0	0.0	1.5	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	3	0	18	0	177	0	12
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1800	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.3	0.0	2.9	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.3	0.0	2.9	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.20	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	720	0	633
V/C Ratio (X)	0.00	0.00	0.00	0.03	0.00	0.25	0.00	0.02
Avail Cap (c_a), veh/h	0	633	0	633	0	720	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.2	0.0	9.0	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.8	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.3	0.0	9.8	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	1.4	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	1.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	10.7
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	4	25	6	0	1	20	251	53	2	200	92
Future Volume (veh/h)	39	4	25	6	0	1	20	251	53	2	200	92
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	42	4	27	7	0	1	22	273	58	2	217	100
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	402	32	633	409	0	633	472	745	633	470	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	14.0	0.0	8.4	15.2	0.0	8.1	11.6	10.9	8.7	15.9	14.8	13.3
Ln Grp LOS	B		A	B		A	B	B	A	B	B	B
Approach Vol, veh/h		73			8			353			319	
Approach Delay, s/veh		11.9			14.4			10.6			14.3	
Approach LOS		B			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.0		4.8		4.9		5.2
Max Q Clear (g_c+l1), s		7.4		12.4		6.7		12.0
Green Ext Time (g_e), s		1.4		0.1		1.2		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1058		623		1045		621

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		79		1863		0

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	22	0	46	0	2	0	7
Grp Sat Flow (s), veh/h/ln	0	1058	0	702	0	1045	0	621
Q Serve Time (g_s), s	0.0	0.7	0.0	0.9	0.0	0.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	5.4	0.0	10.4	0.0	4.7	0.0	10.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1058	0	1439	0	1045	0	1400
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.3	0.0	8.5	0.0	13.4	0.0	8.1
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	0.9	0.0	0.1	0.0	0.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.91	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	472	0	434	0	470	0	409
V/C Ratio (X)	0.00	0.05	0.00	0.11	0.00	0.00	0.00	0.02
Avail Cap (c_a), veh/h	0	472	0	434	0	470	0	409
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.4	0.0	13.5	0.0	15.9	0.0	15.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.6	0.0	14.0	0.0	15.9	0.0	15.2
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	273	0	0	0	217	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	4.6	0.0	0.0	0.0	4.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.6	0.0	0.0	0.0	4.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.37	0.00	0.00	0.00	0.29	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.5	0.0	0.0	0.0	13.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.0	0.0	1.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.9	0.0	0.0	0.0	14.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	0.0	0.0	2.4	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.6	0.0	0.0	0.0	2.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	58	0	27	0	100	0	1
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	1.0	0.0	0.5	0.0	2.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.0	0.0	0.5	0.0	2.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.09	0.00	0.04	0.00	0.16	0.00	0.00
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.4	0.0	8.2	0.0	12.8	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.1	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.7	0.0	8.4	0.0	13.3	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	0.2	0.0	1.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.2	0.0	1.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	8	38	64	1	4	20	138	21	2	197	116
Future Volume (veh/h)	20	8	38	64	1	4	20	138	21	2	197	116
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	9	41	70	1	4	22	150	23	2	214	126
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	137	34	633	161	1	633	467	745	633	579	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	13.8	0.0	8.5	30.6	0.0	8.1	11.6	9.4	8.3	13.8	14.7	13.8
Ln Grp LOS	B		A	C		A	B	A	A	B	B	B
Approach Vol, veh/h		72			75			195			342	
Approach Delay, s/veh		10.8			29.4			9.5			14.4	
Approach LOS		B			C			A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.0		4.6		4.8		5.3
Max Q Clear (g_c+l1), s		7.4		20.0		6.7		20.0
Green Ext Time (g_e), s		0.7		0.0		1.2		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1036		1		1207		5

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		85		1863		3

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	22	0	31	0	2	0	71
Grp Sat Flow (s), veh/h/ln	0	1036	0	87	0	1207	0	8
Q Serve Time (g_s), s	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	5.4	0.0	18.0	0.0	2.4	0.0	18.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1036	0	1434	0	1207	0	1376
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.3	0.0	0.0	0.0	15.6	0.0	0.1
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.71	0.00	1.00	0.00	0.99
Lane Grp Cap (c), veh/h	0	467	0	171	0	579	0	162
V/C Ratio (X)	0.00	0.05	0.00	0.18	0.00	0.00	0.00	0.44
Avail Cap (c_a), veh/h	0	467	0	171	0	579	0	162
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.4	0.0	11.5	0.0	13.8	0.0	22.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	2.3	0.0	0.0	0.0	8.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.6	0.0	13.8	0.0	13.8	0.0	30.6
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.3	0.0	0.0	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.42
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	150	0	0	0	214	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	2.4	0.0	0.0	0.0	4.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.4	0.0	0.0	0.0	4.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.20	0.00	0.00	0.00	0.29	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.8	0.0	0.0	0.0	13.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	0.0	1.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.4	0.0	0.0	0.0	14.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	0.0	0.0	2.4	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	0.0	0.0	2.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	41	0	126	0	4
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	0.4	0.0	0.7	0.0	3.2	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	0.4	0.0	0.7	0.0	3.2	0.0	0.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.04	0.00	0.06	0.00	0.20	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.2	0.0	8.3	0.0	13.1	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.3	0.0	8.5	0.0	13.8	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.3	0.0	1.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.3	0.0	1.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	14.3
HCM 2010 LOS	B

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APPENDIX C : CONSTRUCTION YEAR ANALYSIS WORKSHEETS

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	0
Future Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	16	0	0	28	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	16	0	0	44	44	16	44	44	28
Stage 1	-	-	-	-	-	-	16	16	-	28	28	-
Stage 2	-	-	-	-	-	-	28	28	-	16	16	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1602	-	-	958	848	1063	958	848	1047
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	1004	882	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1585	-	-	1602	-	-	958	848	1063	958	848	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	958	848	-	958	848	-
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	1004	882	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1585	-	-	1602	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

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Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	0
Future Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	16	0	0	28	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	16	0	0	44	44	16	44	44	28
Stage 1	-	-	-	-	-	-	16	16	-	28	28	-
Stage 2	-	-	-	-	-	-	28	28	-	16	16	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1602	-	-	958	848	1063	958	848	1047
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	1004	882	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1585	-	-	1602	-	-	958	848	1063	958	848	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	958	848	-	958	848	-
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	1004	882	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1585	-	-	1602	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

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Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	3	2	0	3	5	83	2	11	80	1
Future Vol, veh/h	0	0	3	2	0	3	5	83	2	11	80	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	2	0	3	5	90	2	12	87	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	215	214	88	214	213	91	88	0	0	92	0	0
Stage 1	112	112	-	101	101	-	-	-	-	-	-	-
Stage 2	103	102	-	113	112	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	742	684	970	743	684	967	1508	-	-	1503	-	-
Stage 1	893	803	-	905	811	-	-	-	-	-	-	-
Stage 2	903	811	-	892	803	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	733	676	970	734	676	967	1508	-	-	1503	-	-
Mov Cap-2 Maneuver	733	676	-	734	676	-	-	-	-	-	-	-
Stage 1	890	797	-	902	809	-	-	-	-	-	-	-
Stage 2	897	809	-	882	797	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9.2	0.4	0.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1508	-	-	970	858	1503	-	-
HCM Lane V/C Ratio	0.004	-	-	0.003	0.006	0.008	-	-
HCM Control Delay (s)	7.4	0	-	8.7	9.2	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

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Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	18	2	0	17	2	119	1	5	122	1
Future Vol, veh/h	0	0	18	2	0	17	2	119	1	5	122	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	20	2	0	18	2	129	1	5	133	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	287	278	134	288	278	130	134	0	0	130	0	0
Stage 1	144	144	-	134	134	-	-	-	-	-	-	-
Stage 2	143	134	-	154	144	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	665	630	915	664	630	920	1451	-	-	1455	-	-
Stage 1	859	778	-	869	785	-	-	-	-	-	-	-
Stage 2	860	785	-	848	778	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	649	627	915	647	627	920	1451	-	-	1455	-	-
Mov Cap-2 Maneuver	649	627	-	647	627	-	-	-	-	-	-	-
Stage 1	858	775	-	868	784	-	-	-	-	-	-	-
Stage 2	842	784	-	827	775	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	9.2	0.1	0.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1451	-	-	915	881	1455	-	-
HCM Lane V/C Ratio	0.001	-	-	0.021	0.023	0.004	-	-
HCM Control Delay (s)	7.5	0	-	9	9.2	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

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Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	88	41	134	79	35	49	81	35	27	137	35
Future Vol, veh/h	46	88	41	134	79	35	49	81	35	27	137	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	96	45	146	86	38	53	88	38	29	149	38
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	10	11.4	10.1	10.2
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	55%	0%	51%	0%	77%	0%	28%	0%
Vol Thru, %	45%	54%	49%	52%	23%	53%	72%	66%
Vol Right, %	0%	46%	0%	48%	0%	47%	0%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	76	90	85	174	75	96	104
LT Vol	49	0	46	0	134	0	27	0
Through Vol	41	41	44	44	40	40	69	69
RT Vol	0	35	0	41	0	35	0	35
Lane Flow Rate	97	82	98	92	189	81	104	112
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.175	0.134	0.173	0.148	0.333	0.127	0.182	0.185
Departure Headway (Hd)	6.485	5.878	6.363	5.762	6.365	5.642	6.295	5.912
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	554	610	563	622	566	635	570	606
Service Time	4.225	3.618	4.104	3.503	4.104	3.38	4.033	3.65
HCM Lane V/C Ratio	0.175	0.134	0.174	0.148	0.334	0.128	0.182	0.185
HCM Control Delay	10.6	9.5	10.4	9.5	12.3	9.2	10.4	10
HCM Lane LOS	B	A	B	A	B	A	B	A
HCM 95th-tile Q	0.6	0.5	0.6	0.5	1.5	0.4	0.7	0.7

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Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	3	15	2	7	15	18	142	0	6	113	11
Future Vol, veh/h	8	3	15	2	7	15	18	142	0	6	113	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	3	16	2	8	16	20	154	0	7	123	12
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	7.9	7.7	8.2	8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	28%	0%	84%	0%	36%	0%	10%	0%
Vol Thru, %	72%	100%	16%	9%	64%	19%	90%	84%
Vol Right, %	0%	0%	0%	91%	0%	81%	0%	16%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	95	10	17	6	19	63	68
LT Vol	18	0	8	0	2	0	6	0
Through Vol	47	95	2	2	4	4	57	57
RT Vol	0	0	0	15	0	15	0	11
Lane Flow Rate	71	103	10	18	6	20	68	73
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.095	0.134	0.016	0.023	0.009	0.026	0.092	0.094
Departure Headway (Hd)	4.836	4.698	5.731	4.668	5.494	4.741	4.863	4.601
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	732	753	628	771	655	759	741	767
Service Time	2.626	2.488	3.435	2.372	3.198	2.445	2.563	2.4
HCM Lane V/C Ratio	0.097	0.137	0.016	0.023	0.009	0.026	0.092	0.095
HCM Control Delay	8.1	8.2	8.5	7.5	8.2	7.6	8.1	7.9
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0	0.1	0	0.1	0.3	0.3

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	0	7	4	2	8	14	179	4	16	129	5
Future Volume (veh/h)	89	0	7	4	2	8	14	179	4	16	129	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	97	0	8	4	2	9	15	195	4	17	140	5
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	718	745	633	721	745	633	624	745	633	521	1395	50
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	9.1	0.0	8.2	8.1	8.1	8.2	13.0	14.4	11.8	11.1	8.7	8.7
Ln Grp LOS	A		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		105			15			214			162	
Approach Delay, s/veh		9.0			8.2			14.3			9.0	
Approach LOS		A			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.1		3.8		5.1		4.1
Max Q Clear (g_c+I1), s		6.2		4.0		6.7		2.2
Green Ext Time (g_e), s		0.8		0.2		0.5		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1238		1398		1179		1402

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3486		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		124		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	15	0	97	0	17	0	4
Grp Sat Flow (s), veh/h/ln	0	1238	0	1398	0	1179	0	1402
Q Serve Time (g_s), s	0.0	0.5	0.0	2.0	0.0	0.5	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	1.6	0.0	2.0	0.0	4.7	0.0	0.1
Perm LT Sat Flow (s_l), veh/h/ln	0	1238	0	1398	0	1179	0	1402
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	16.9	0.0	18.0	0.0	13.8	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.5	0.0	2.0	0.0	0.5	0.0	0.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	624	0	718	0	521	0	721
V/C Ratio (X)	0.00	0.02	0.00	0.14	0.00	0.03	0.00	0.01
Avail Cap (c_a), veh/h	0	624	0	718	0	521	0	721
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	8.7	0.0	11.0	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.4	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.0	0.0	9.1	0.0	11.1	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.8	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.9	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	195	0	0	0	71	0	2
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	4.2	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.2	0.0	0.0	0.0	1.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.26	0.00	0.00	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.6	0.0	0.0	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.4	0.0	0.0	0.0	8.7	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	0.0	0.0	0.6	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.4	0.0	0.0	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	4	0	8	0	74	0	9
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1841	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.07	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	736	0	633
V/C Ratio (X)	0.00	0.01	0.00	0.01	0.00	0.10	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	736	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.1	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.2	0.0	8.7	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.2
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	0	18	12	15	12	16	155	3	3	304	34
Future Volume (veh/h)	43	0	18	12	15	12	16	155	3	3	304	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	47	0	20	13	16	13	17	168	3	3	330	37
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	703	745	633	715	745	633	494	745	633	546	1285	143
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	8.7	0.0	8.3	8.2	8.2	8.2	14.9	14.0	11.8	10.5	9.9	9.9
Ln Grp LOS	A		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		67			42			188			370	
Approach Delay, s/veh		8.6			8.2			14.0			9.9	
Approach LOS		A			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.2		3.9		5.3		4.4
Max Q Clear (g_c+I1), s		5.8		3.2		5.7		2.3
Green Ext Time (g_e), s		0.7		0.1		1.7		0.1
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1011		1375		1209		1386

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3212		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		358		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	17	0	47	0	3	0	13
Grp Sat Flow (s), veh/h/ln	0	1011	0	1375	0	1209	0	1386
Q Serve Time (g_s), s	0.0	0.7	0.0	1.0	0.0	0.1	0.0	0.3
Cycle Q Clear Time (g_c), s	0.0	3.8	0.0	1.2	0.0	3.7	0.0	0.3
Perm LT Sat Flow (s_l), veh/h/ln	0	1011	0	1375	0	1209	0	1386
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	14.9	0.0	17.8	0.0	14.4	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	1.0	0.0	0.1	0.0	0.3
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	494	0	703	0	546	0	715
V/C Ratio (X)	0.00	0.03	0.00	0.07	0.00	0.01	0.00	0.02
Avail Cap (c_a), veh/h	0	494	0	703	0	546	0	715
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.8	0.0	8.5	0.0	10.5	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.9	0.0	8.7	0.0	10.5	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	168	0	0	0	181	0	16
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	3.6	0.0	0.0	0.0	3.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	0.0	0.0	3.1	0.0	0.2
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.23	0.00	0.00	0.00	0.26	0.00	0.02
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.3	0.0	0.0	0.0	9.0	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.9	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.0	0.0	0.0	0.0	9.9	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	0.0	0.0	1.5	0.0	0.1

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.0	0.0	0.0	0.0	1.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	3	0	20	0	186	0	13
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1800	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.3	0.0	3.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.3	0.0	3.1	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.20	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	720	0	633
V/C Ratio (X)	0.00	0.00	0.00	0.03	0.00	0.26	0.00	0.02
Avail Cap (c_a), veh/h	0	633	0	633	0	720	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.2	0.0	9.0	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.9	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.3	0.0	9.9	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	1.6	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.2	0.0	1.7	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	4	26	6	0	1	21	265	56	2	211	97
Future Volume (veh/h)	41	4	26	6	0	1	21	265	56	2	211	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	45	4	28	7	0	1	23	288	61	2	229	105
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	378	27	633	379	0	633	461	745	633	458	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	15.0	0.0	8.4	16.1	0.0	8.1	11.8	11.1	8.7	16.1	15.0	13.4
Ln Grp LOS	B		A	B		A	B	B	A	B	B	B
Approach Vol, veh/h		77			8			372			336	
Approach Delay, s/veh		12.6			15.1			10.8			14.5	
Approach LOS		B			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.0		4.8		4.9		5.2
Max Q Clear (g_c+l1), s		7.7		13.4		7.0		13.0
Green Ext Time (g_e), s		1.4		0.1		1.2		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1042		560		1028		548

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		68		1863		0

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	49	0	2	0	7
Grp Sat Flow (s), veh/h/ln	0	1042	0	628	0	1028	0	548
Q Serve Time (g_s), s	0.0	0.7	0.0	1.1	0.0	0.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	5.7	0.0	11.4	0.0	5.0	0.0	11.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1042	0	1439	0	1028	0	1399
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.0	0.0	7.6	0.0	13.1	0.0	7.2
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	1.1	0.0	0.1	0.0	0.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.92	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	461	0	405	0	458	0	379
V/C Ratio (X)	0.00	0.05	0.00	0.12	0.00	0.00	0.00	0.02
Avail Cap (c_a), veh/h	0	461	0	405	0	458	0	379
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.6	0.0	14.3	0.0	16.1	0.0	16.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.6	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	15.0	0.0	16.1	0.0	16.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.6	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	288	0	0	0	229	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	4.9	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.9	0.0	0.0	0.0	5.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.39	0.00	0.00	0.00	0.31	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.6	0.0	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.0	1.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.1	0.0	0.0	0.0	15.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.0	0.0	2.6	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.8	0.0	0.0	0.0	2.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	61	0	28	0	105	0	1
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	1.1	0.0	0.5	0.0	2.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	0.5	0.0	2.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.10	0.00	0.04	0.00	0.17	0.00	0.00
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.4	0.0	8.2	0.0	12.9	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.1	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.7	0.0	8.4	0.0	13.4	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	0.2	0.0	1.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.2	0.0	1.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	8	40	68	1	4	21	146	22	2	208	122
Future Volume (veh/h)	21	8	40	68	1	4	21	146	22	2	208	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	23	9	43	74	1	4	23	159	24	2	226	133
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	138	32	633	160	1	633	456	745	633	571	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	14.0	0.0	8.5	31.7	0.0	8.1	11.8	9.5	8.3	14.0	14.9	13.9
Ln Grp LOS	B		A	C		A	B	A	A	B	B	B
Approach Vol, veh/h		75			79			206			361	
Approach Delay, s/veh		10.9			30.5			9.6			14.5	
Approach LOS		B			C			A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.1		4.6		4.8		5.3
Max Q Clear (g_c+l1), s		7.7		20.0		6.9		20.0
Green Ext Time (g_e), s		0.7		0.0		1.3		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1018		0		1196		1

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		81		1863		3

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	32	0	2	0	75
Grp Sat Flow (s), veh/h/ln	0	1018	0	82	0	1196	0	4
Q Serve Time (g_s), s	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.7	0.0	18.0	0.0	2.6	0.0	18.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1018	0	1434	0	1196	0	1374
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.1	0.0	0.0	0.0	15.5	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.72	0.00	1.00	0.00	0.99
Lane Grp Cap (c), veh/h	0	456	0	170	0	571	0	161
V/C Ratio (X)	0.00	0.05	0.00	0.19	0.00	0.00	0.00	0.47
Avail Cap (c_a), veh/h	0	456	0	170	0	571	0	161
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.6	0.0	11.5	0.0	14.0	0.0	22.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	2.4	0.0	0.0	0.0	9.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	14.0	0.0	14.0	0.0	31.7
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.45
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	159	0	0	0	226	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	2.5	0.0	0.0	0.0	4.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.5	0.0	0.0	0.0	4.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	0.30	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.9	0.0	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	1.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.5	0.0	0.0	0.0	14.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	0.0	0.0	2.5	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.4	0.0	0.0	0.0	2.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	24	0	43	0	133	0	4
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	0.4	0.0	0.8	0.0	3.4	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	0.4	0.0	0.8	0.0	3.4	0.0	0.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.04	0.00	0.07	0.00	0.21	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.2	0.0	8.3	0.0	13.2	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.3	0.0	8.5	0.0	13.9	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.3	0.0	1.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	1.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	14.5
HCM 2010 LOS	B

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APPENDIX D : CONSTRUCTION YEAR PLUS PROJECT ANALYSIS WORKSHEETS

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Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	250	15	0	0	26	0	0	0	0	0	0	0
Future Vol, veh/h	250	15	0	0	26	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	272	16	0	0	28	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	16	0	0	588	588	16	588	588	28
Stage 1	-	-	-	-	-	-	560	560	-	28	28	-
Stage 2	-	-	-	-	-	-	28	28	-	560	560	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1602	-	-	421	421	1063	421	421	1047
Stage 1	-	-	-	-	-	-	513	511	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	513	511	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1585	-	-	1602	-	-	365	348	1063	365	348	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	365	348	-	365	348	-
Stage 1	-	-	-	-	-	-	424	423	-	818	872	-
Stage 2	-	-	-	-	-	-	989	872	-	424	423	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	7.3	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1585	-	-	1602	-	-	-
HCM Lane V/C Ratio	-	0.171	-	-	-	-	-	-
HCM Control Delay (s)	0	7.7	0	-	0	-	-	0
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0.6	-	-	0	-	-	-

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Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	3	2	0	3	5	83	227	36	80	1
Future Vol, veh/h	0	0	3	2	0	3	5	83	227	36	80	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	2	0	3	5	90	247	39	87	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	391	513	88	391	390	214	88	0	0	337	0	0
Stage 1	166	166	-	224	224	-	-	-	-	-	-	-
Stage 2	225	347	-	167	166	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	568	465	970	568	545	826	1508	-	-	1222	-	-
Stage 1	836	761	-	779	718	-	-	-	-	-	-	-
Stage 2	778	635	-	835	761	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	549	447	970	550	524	826	1508	-	-	1222	-	-
Mov Cap-2 Maneuver	549	447	-	550	524	-	-	-	-	-	-	-
Stage 1	833	735	-	776	715	-	-	-	-	-	-	-
Stage 2	772	632	-	804	735	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	10.3	0.1	2.5
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1508	-	-	970	688	1222	-	-
HCM Lane V/C Ratio	0.004	-	-	0.003	0.008	0.032	-	-
HCM Control Delay (s)	7.4	0	-	8.7	10.3	8	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.1	-	-

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Intersection	
Intersection Delay, s/veh	12.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	88	41	134	79	39	49	298	35	27	137	35
Future Vol, veh/h	50	88	41	134	79	39	49	298	35	27	137	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	96	45	146	86	42	53	324	38	29	149	38
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	11.2	12.9	12.9	11.1
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	25%	0%	53%	0%	77%	0%	28%	0%
Vol Thru, %	75%	81%	47%	52%	23%	50%	72%	66%
Vol Right, %	0%	19%	0%	48%	0%	50%	0%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	198	184	94	85	174	79	96	104
LT Vol	49	0	50	0	134	0	27	0
Through Vol	149	149	44	44	40	40	69	69
RT Vol	0	35	0	41	0	39	0	35
Lane Flow Rate	215	200	102	92	189	85	104	112
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.39	0.348	0.203	0.167	0.372	0.151	0.198	0.202
Departure Headway (Hd)	6.52	6.259	7.141	6.525	7.098	6.351	6.856	6.471
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	549	572	500	546	505	561	520	551
Service Time	4.291	4.03	4.926	4.31	4.876	4.129	4.638	4.253
HCM Lane V/C Ratio	0.392	0.35	0.204	0.168	0.374	0.152	0.2	0.203
HCM Control Delay	13.4	12.4	11.8	10.6	14.1	10.3	11.3	10.9
HCM Lane LOS	B	B	B	B	B	B	B	B
HCM 95th-tile Q	1.8	1.5	0.8	0.6	1.7	0.5	0.7	0.7

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	257	0	7	4	2	8	14	224	4	16	129	5
Future Volume (veh/h)	257	0	7	4	2	8	14	224	4	16	129	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	279	0	8	4	2	9	15	243	4	17	140	5
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	718	745	633	721	745	633	624	745	633	478	1395	50
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	11.7	0.0	8.2	8.1	8.1	8.2	13.0	15.2	11.8	11.9	8.7	8.7
Ln Grp LOS	B		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		287			15			262			162	
Approach Delay, s/veh		11.6			8.2			15.0			9.1	
Approach LOS		B			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.2		3.8		5.2		4.1
Max Q Clear (g_c+I1), s		7.3		8.8		7.8		2.2
Green Ext Time (g_e), s		1.0		0.6		0.5		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1238		1398		1128		1402

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3486		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		124		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	15	0	279	0	17	0	4
Grp Sat Flow (s), veh/h/ln	0	1238	0	1398	0	1128	0	1402
Q Serve Time (g_s), s	0.0	0.5	0.0	6.7	0.0	0.5	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	1.6	0.0	6.8	0.0	5.8	0.0	0.1
Perm LT Sat Flow (s_l), veh/h/ln	0	1238	0	1398	0	1128	0	1402
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	16.9	0.0	18.0	0.0	12.7	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.5	0.0	6.7	0.0	0.5	0.0	0.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	624	0	718	0	478	0	721
V/C Ratio (X)	0.00	0.02	0.00	0.39	0.00	0.04	0.00	0.01
Avail Cap (c_a), veh/h	0	624	0	718	0	478	0	721
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	10.1	0.0	11.8	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.6	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.0	0.0	11.7	0.0	11.9	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	2.6	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	2.9	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	243	0	0	0	71	0	2
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	5.3	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.3	0.0	0.0	0.0	1.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.33	0.00	0.00	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.0	0.0	0.0	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.2	0.0	0.0	0.0	8.7	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	2.7	0.0	0.0	0.0	0.6	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.0	0.0	0.0	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	4	0	8	0	74	0	9
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1841	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.07	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	736	0	633
V/C Ratio (X)	0.00	0.01	0.00	0.01	0.00	0.10	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	736	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.1	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.2	0.0	8.7	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	4	26	6	0	1	21	265	56	2	211	97
Future Volume (veh/h)	51	4	26	6	0	1	21	265	56	2	211	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	55	4	28	7	0	1	23	288	61	2	229	105
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	293	16	633	282	0	633	461	745	633	458	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	18.7	0.0	8.4	18.9	0.0	8.1	11.8	11.1	8.7	16.1	15.0	13.4
Ln Grp LOS	B		A	B		A	B	B	A	B	B	B
Approach Vol, veh/h		87			8			372			336	
Approach Delay, s/veh		15.4			17.6			10.8			14.5	
Approach LOS		B			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.0		4.9		4.9		5.2
Max Q Clear (g_c+l1), s		7.7		16.9		7.0		16.2
Green Ext Time (g_e), s		1.4		0.0		1.2		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1042		345		1028		304

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		40		1863		0

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	59	0	2	0	7
Grp Sat Flow (s), veh/h/ln	0	1042	0	385	0	1028	0	304
Q Serve Time (g_s), s	0.0	0.7	0.0	1.5	0.0	0.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	5.7	0.0	14.9	0.0	5.0	0.0	14.2
Perm LT Sat Flow (s_l), veh/h/ln	0	1042	0	1439	0	1028	0	1399
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.0	0.0	4.6	0.0	13.1	0.0	4.0
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	1.5	0.0	0.1	0.0	0.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.93	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	461	0	309	0	458	0	282
V/C Ratio (X)	0.00	0.05	0.00	0.19	0.00	0.00	0.00	0.02
Avail Cap (c_a), veh/h	0	461	0	309	0	458	0	282
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.6	0.0	17.4	0.0	16.1	0.0	18.8
Incr Delay (d2), s/veh	0.0	0.2	0.0	1.4	0.0	0.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	18.7	0.0	16.1	0.0	18.9
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.7	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.8	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	288	0	0	0	229	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	4.9	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.9	0.0	0.0	0.0	5.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.39	0.00	0.00	0.00	0.31	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.6	0.0	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.0	1.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.1	0.0	0.0	0.0	15.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.0	0.0	2.6	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.8	0.0	0.0	0.0	2.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	61	0	28	0	105	0	1
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	1.1	0.0	0.5	0.0	2.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	0.5	0.0	2.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.10	0.00	0.04	0.00	0.17	0.00	0.00
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.4	0.0	8.2	0.0	12.9	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.1	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.7	0.0	8.4	0.0	13.4	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	0.2	0.0	1.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.2	0.0	1.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.9
HCM 2010 LOS	B

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Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	250
Future Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	250
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	16	0	0	28	0	0	0	0	0	0	272

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	16	0	0	180	44	16	44	44	28
Stage 1	-	-	-	-	-	-	16	16	-	28	28	-
Stage 2	-	-	-	-	-	-	164	28	-	16	16	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1602	-	-	782	848	1063	958	848	1047
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	838	872	-	1004	882	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1585	-	-	1602	-	-	579	848	1063	958	848	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	579	848	-	958	848	-
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	621	872	-	1004	882	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1585	-	-	1602	-	-	1047
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.26
HCM Control Delay (s)	0	0	-	-	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	1

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Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	18	2	25	17	2	119	1	5	122	1
Future Vol, veh/h	0	0	18	2	25	17	2	119	1	5	122	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	20	2	27	18	2	129	1	5	133	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	300	278	134	288	278	130	134	0	0	130	0	0
Stage 1	144	144	-	134	134	-	-	-	-	-	-	-
Stage 2	156	134	-	154	144	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	652	630	915	664	630	920	1451	-	-	1455	-	-
Stage 1	859	778	-	869	785	-	-	-	-	-	-	-
Stage 2	846	785	-	848	778	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	615	627	915	647	627	920	1451	-	-	1455	-	-
Mov Cap-2 Maneuver	615	627	-	647	627	-	-	-	-	-	-	-
Stage 1	858	775	-	868	784	-	-	-	-	-	-	-
Stage 2	799	784	-	827	775	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	10.4	0.1	0.3
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1451	-	-	915	716	1455	-	-
HCM Lane V/C Ratio	0.001	-	-	0.021	0.067	0.004	-	-
HCM Control Delay (s)	7.5	0	-	9	10.4	7.5	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

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Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	3	15	2	7	15	18	142	0	10	330	15
Future Vol, veh/h	8	3	15	2	7	15	18	142	0	10	330	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	3	16	2	8	16	20	154	0	11	359	16
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.5	8.3	8.6	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	28%	0%	84%	0%	36%	0%	6%	0%
Vol Thru, %	72%	100%	16%	9%	64%	19%	94%	92%
Vol Right, %	0%	0%	0%	91%	0%	81%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	95	10	17	6	19	175	180
LT Vol	18	0	8	0	2	0	10	0
Through Vol	47	95	2	2	4	4	165	165
RT Vol	0	0	0	15	0	15	0	15
Lane Flow Rate	71	103	10	18	6	20	190	196
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.102	0.143	0.018	0.026	0.01	0.029	0.256	0.259
Departure Headway (Hd)	5.146	5.008	6.262	5.195	6.025	5.269	4.854	4.767
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	698	717	572	689	594	679	742	755
Service Time	2.867	2.729	3.995	2.928	3.759	3.003	2.572	2.485
HCM Lane V/C Ratio	0.102	0.144	0.017	0.026	0.01	0.029	0.256	0.26
HCM Control Delay	8.5	8.6	9.1	8.1	8.8	8.2	9.2	9.1
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0.1	0.1	0	0.1	1	1

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	0	18	12	15	12	16	155	3	3	511	44
Future Volume (veh/h)	43	0	18	12	15	12	16	155	3	3	511	44
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	47	0	20	13	16	13	17	168	3	3	555	48
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	703	745	633	715	745	633	386	745	633	546	1319	114
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	8.7	0.0	8.3	8.2	8.2	8.2	17.2	14.0	11.8	10.5	11.6	11.5
Ln Grp LOS	A		A	A	A	A	B	B	B	B	B	B
Approach Vol, veh/h		67			42			188			606	
Approach Delay, s/veh		8.6			8.2			14.2			11.5	
Approach LOS		A			A			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.3		3.9		5.3		4.4
Max Q Clear (g_c+l1), s		8.3		3.2		7.5		2.3
Green Ext Time (g_e), s		0.6		0.1		2.7		0.1
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		813		1375		1209		1386

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3298		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		285		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	17	0	47	0	3	0	13
Grp Sat Flow (s), veh/h/ln	0	813	0	1375	0	1209	0	1386
Q Serve Time (g_s), s	0.0	0.9	0.0	1.0	0.0	0.1	0.0	0.3
Cycle Q Clear Time (g_c), s	0.0	6.3	0.0	1.2	0.0	3.7	0.0	0.3
Perm LT Sat Flow (s_l), veh/h/ln	0	813	0	1375	0	1209	0	1386
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	12.5	0.0	17.8	0.0	14.4	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.9	0.0	1.0	0.0	0.1	0.0	0.3
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	386	0	703	0	546	0	715
V/C Ratio (X)	0.00	0.04	0.00	0.07	0.00	0.01	0.00	0.02
Avail Cap (c_a), veh/h	0	386	0	703	0	546	0	715
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.0	0.0	8.5	0.0	10.5	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.2	0.0	8.7	0.0	10.5	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	168	0	0	0	297	0	16
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	3.6	0.0	0.0	0.0	5.5	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	0.0	0.0	5.5	0.0	0.2
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.23	0.00	0.00	0.00	0.42	0.00	0.02
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.3	0.0	0.0	0.0	9.7	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	1.8	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.0	0.0	0.0	0.0	11.6	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	0.0	0.0	2.6	0.0	0.1

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.0	0.0	0.0	0.0	3.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.03	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	3	0	20	0	306	0	13
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1813	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.3	0.0	5.5	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.3	0.0	5.5	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.16	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	725	0	633
V/C Ratio (X)	0.00	0.00	0.00	0.03	0.00	0.42	0.00	0.02
Avail Cap (c_a), veh/h	0	633	0	633	0	725	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.2	0.0	9.7	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.8	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.3	0.0	11.5	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	2.7	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.2	0.0	3.1	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.7
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	8	40	68	1	4	21	146	22	2	248	290
Future Volume (veh/h)	21	8	40	68	1	4	21	146	22	2	248	290
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	23	9	43	74	1	4	23	159	24	2	270	315
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	138	32	633	160	1	633	381	745	633	571	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	14.0	0.0	8.5	31.7	0.0	8.1	12.7	9.5	8.3	14.0	15.7	18.1
Ln Grp LOS	B		A	C		A	B	A	A	B	B	B
Approach Vol, veh/h		75			79			206			587	
Approach Delay, s/veh		10.9			30.5			9.7			17.0	
Approach LOS		B			C			A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.1		4.6		4.6		5.3
Max Q Clear (g_c+I1), s		8.9		20.0		10.3		20.0
Green Ext Time (g_e), s		0.7		0.0		1.7		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		827		0		1196		1

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		81		1863		3

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	32	0	2	0	75
Grp Sat Flow (s), veh/h/ln	0	827	0	82	0	1196	0	4
Q Serve Time (g_s), s	0.0	0.9	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.9	0.0	18.0	0.0	2.6	0.0	18.0
Perm LT Sat Flow (s_l), veh/h/ln	0	827	0	1434	0	1196	0	1374
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	12.1	0.0	0.0	0.0	15.5	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.9	0.0	0.0	0.0	0.1	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.72	0.00	1.00	0.00	0.99
Lane Grp Cap (c), veh/h	0	381	0	170	0	571	0	161
V/C Ratio (X)	0.00	0.06	0.00	0.19	0.00	0.00	0.00	0.47
Avail Cap (c_a), veh/h	0	381	0	170	0	571	0	161
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.4	0.0	11.5	0.0	14.0	0.0	22.2
Incr Delay (d2), s/veh	0.0	0.3	0.0	2.4	0.0	0.0	0.0	9.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.7	0.0	14.0	0.0	14.0	0.0	31.7
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.45
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	159	0	0	0	270	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	2.5	0.0	0.0	0.0	5.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.5	0.0	0.0	0.0	5.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	0.36	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.9	0.0	0.0	0.0	14.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	1.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.5	0.0	0.0	0.0	15.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	0.0	0.0	3.1	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.4	0.0	0.0	0.0	3.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.07	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	24	0	43	0	315	0	4
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	0.4	0.0	0.8	0.0	8.3	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	0.4	0.0	0.8	0.0	8.3	0.0	0.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.04	0.00	0.07	0.00	0.50	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.2	0.0	8.3	0.0	15.3	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	2.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.3	0.0	8.5	0.0	18.1	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.3	0.0	3.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	4.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.08	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	16.0
HCM 2010 LOS	B

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Vega SES 5 Solar Energy Storage Project

TRAFFIC IMPACT STUDY
IMPERIAL COUNTY, CALIFORNIA

Prepared By:

February 2021/November 2022

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1.0 Introduction

This traffic impact analysis (TIA) has been prepared to identify the potential traffic impacts associated with developing the Vega SES 5 Solar Energy Storage (Projects) in Imperial County. The study was completed following the guidelines described in the County of Imperial Department of Public Works *Traffic Study and Report Policy* dated March 12, 2007, revised June 29, 2007 and approved by the Board of Supervisors of the County of Imperial on August 7, 2007 ("Traffic Study and Report Policy").

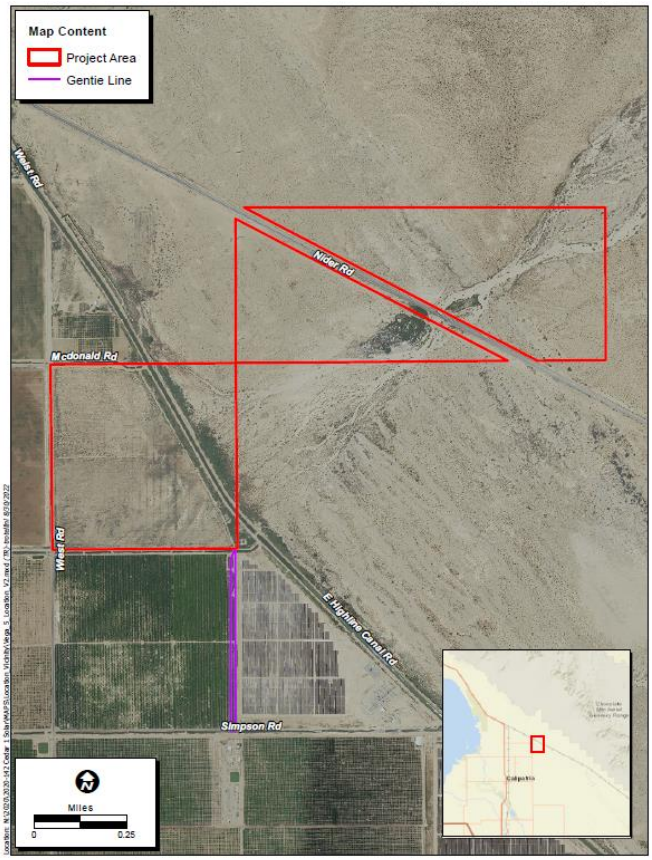
KOA has coordinated with the County's Engineering Department on the scope of the traffic analysis, including the study area and future year analysis assumptions. As necessary, if required, projects will be identified to offset or reduce significant impacts. Based on discussions with City staff, current and future traffic conditions at select intersections in close proximity to the proposed project have been evaluated for the purposes of this TIA.

This report describes the existing roadway network in the vicinity of the project site. It includes a review of the existing and proposed traffic activities for weekday peak AM and PM periods and daily traffic conditions.

Project Location

The project location is adjacent to the Highland Canal at the eastern end of McDonald Road, as shown in Figure 1.1.

Figure 1.1 Study Area



Source: ECORP

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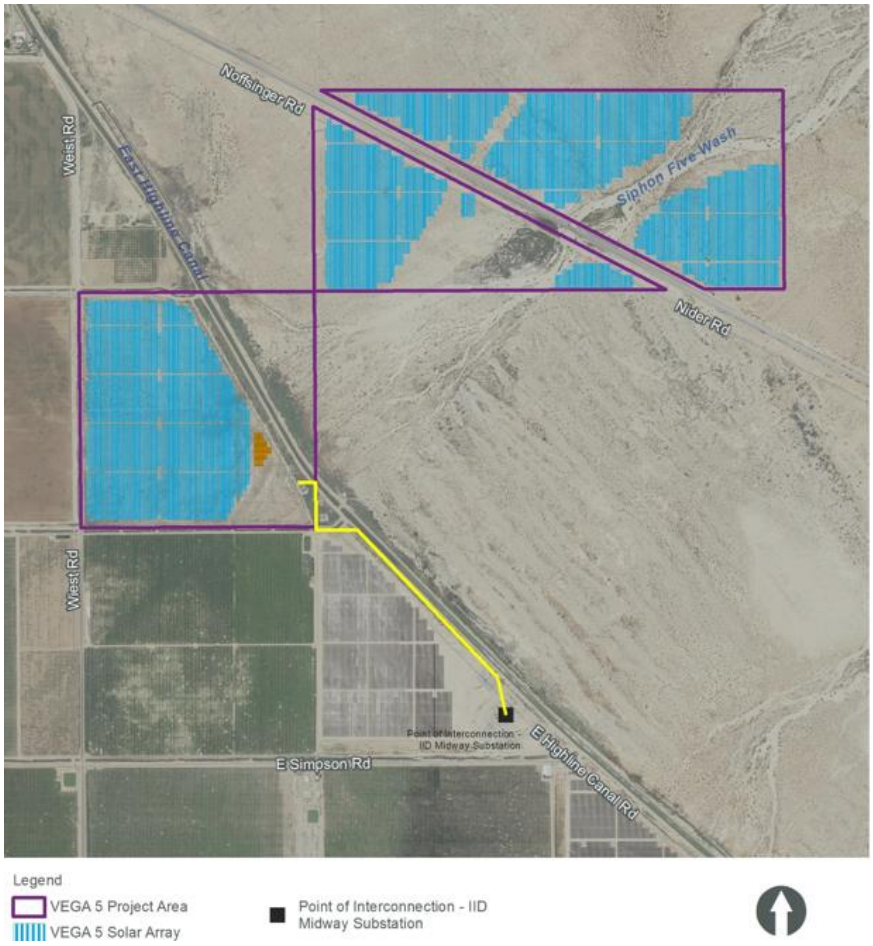
Project Description

Vega SES 5, LLC is proposing to develop the **Vega SES 5 site.** This is a fifty (50) megawatt alternating current (MWAC) solar photovoltaic (PV) energy generation project with an integrated 100 MW Battery Energy Storage System (BESS), on approximately 410 acres of land in Imperial County, California. The project site plan is shown in Figure 1.2.

Figure 1.2 Site Plan



Source: First Administrative Draft EIR | VEGA SES 2, 3, & 5 Solar Energy Project

Construction Activities

The projects are estimated to take 12 months and would begin in 2023. The project opening is anticipated to be the end of 2024 or early 2025. . The number of on–site construction workers for the solar project facilities is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the battery storage facility and the substation is not expected to exceed 50 workers at any one time.

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Construction of the Projects will include the following activities:

- Site preparation
- Grading and earthwork
- Concrete foundations
- Structural steel work
- Electrical/instrumentation work
- Collector line installation
- Architecture and landscaping

2.0 Capacity Analysis Methodologies

This section presents a brief overview of traffic analysis methodologies and concepts used in this study. Street system operating conditions are typically described in terms of "level of service (LOS)" to compare without project and with project alternatives. LOS is a report-card scale used to indicate the quality of traffic flow on roadway segments and at intersections. The levels of service range from Level A (free flow, little congestion) to Level F (forced flow, higher congestion).

Study Area Criteria

The study area is determined based on the County of Imperial Department of Public Works *Traffic Study and Report Policy* dated March 12, 2007, revised June 29, 2007 and approved by the Board of Supervisors of the County of Imperial on August 7, 2007 ("Traffic Study and Report Policy"). "Any project that has the potential to degrade an existing road section, an existing signalized intersection, or an existing unsignalized intersection to below the existing level of service or to cause it to be lower than a level of service (LOS) "C" during any peak hour, using the HCM Methods of analysis on any individual, existing traffic movement." Traffic Study and Report Policy, 4-5.

The study area for this project includes those locations that likely will be affected by this project where a minimum of 50 peak hour vehicles impact the location. The specific study area consists of the following intersections:

1. McDonald Road and Weist Road
2. McDonald Road and SR-111
3. SR-111 and SR-115
4. SR-111 and north ramps with SR-78
5. SR-111 and south ramps with SR-78

The study area also includes the following study segments:

1. McDonald Road from SR-111 to Weist Road
2. SR-111 from McDonald Road to Niland Ave
3. SR-111 from McDonald Road to SR-115
4. SR-111 from SR-115 to SR-78 north ramps
5. SR-111 from SR-78 north ramps to SR-78 south ramps

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Scenario Criteria

The proposed project's traffic impacts were analyzed in three scenarios as listed below. The traffic analysis included intersections and roadway segments within Imperial County and Caltrans District 11 in the following scenarios to determine the potential impacts:

- Existing Year (2020) Conditions
- Construction Year (2023) Baseline Conditions
- Construction Year (2023) + Project Construction Conditions

Peak Hour Intersection Level of Service Standards

Traffic conditions on most roadway facilities are analyzed using the principles of the specific analysis methods contained in the latest version (2010) of the *Highway Capacity Manual* (*HCM*), a publication of the Transportation Research Board, a research agency affiliated with the Federal Government. Chapter 18 of the *HCM 2010* is devoted to analysis of signalized intersections. The methodology in the *HCM 2010* for signalized intersections is based upon measurements or forecasts of control delay for traffic utilizing all approaches to the intersection.

Unsignalized intersections, including two-way and all-way stop controlled intersections were analyzed using the 2010 Highway Capacity Manual unsignalized intersection analysis methodology. The LOS for a two-way stop controlled (TWSC) intersection is determined by the computed or measured control delay and is defined for each minor movement. The analysis of peak hour intersection conditions was conducted using the Synchro 10 software program developed by Trafficware. Results are displayed in terms of control delay (seconds per vehicle) and an equivalent LOS as shown in Table 2.1.

Table 2.1 HCM Level of Service Definitions for Intersections

LOS	Signalized Intersection Delay (Seconds per Vehicle)	Unsignalized Intersection Average Stop Delay (Seconds)
A	<10	<10
B	>10 and <20	>10 and <15
C	>20 and <35	>15 and <25
D	>35 and <55	>25 and <35
E	>55 and <80	>35 and <50
F	>80	>50

Source: Highway Capacity Manual, 2010.

Roadway Segment Level of Service Standards

Roadway segment LOS standards and thresholds provide the basis for analysis of roadway segment performance. The analysis of roadway segment LOS is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and existing or forecast Average Daily Traffic (ADT) volumes. The County of Imperial level of service analysis was performed by utilizing the *Circulation and Scenic Highways Element, January 2008*. The thresholds for each facility type are presented in Table 2.2.

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Table 2.2 County of Imperial ADT Level of Service Volumes by Roadway Type

Road		Level of Service (LOS)				
Class	X-Section	A	B	C	D	E
Expressway	154/210	30,000	42,000	60,000	70,000	80,000
Prime Arterial	106/136	22,200	37,000	44,600	50,000	57,000
Minor Arterial	82/102	14,800	24,700	29,600	33,400	37,000
Major Collector	64/84	13,700	22,800	27,400	30,800	34,200
Minor (Local) Collector	40/70	1,900	4,100	7,100	10,900	16,200

* Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.
Source: *Imperial County Circulation and Scenic Highways Element 2008 and Imperial County Long Range Transportation Plan 2013 Update*

Freeway Segments

Freeway level of service analysis is based upon procedures developed by Caltrans. The procedure for calculating freeway level of service involves calculating a peak hour volume to capacity (V/C) ratio. Peak hour volumes are calculated from Average Daily Traffic (ADT) volumes by applying design hour ("K"), directional ("D") and truck ("T") factors. The base capacities for Interstate 8 freeway lanes determined from the Highway Capacity Manual as assumed to be 2,350 passenger-car per hour per main lane (pc/h/ln).

The resulting V/C ratio is then compared to acceptable ranges of V/C values corresponding to the various levels of service for each facility classification, as shown in Table 2.3. The corresponding level of service represents an approximation of freeway operating conditions in the peak direction of travel during the peak hour. Constant with Caltrans requirements, LOS D or better is used in this study as the threshold for acceptable freeway operations.

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Table 2.3 CALTRANS Level of Service Facility Classification

CALTRANS FREEWAY SEGMENT LEVEL OF SERVICE DEFINITIONS

LOS	Maximum V/C	Congestion/Delay	Traffic Description
A	≤ 0.30	None	Free flow.
B	> 0.30 - 0.50	None	Free to stable flow, light to moderate volumes.
C	> 0.50 - 0.71	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
D	> 0.71 - 0.89	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
E	> 0.89 - 1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
F	> 1.00	Considerable	Forced or breakdown flow. Delay measured in average travel speed (MPH). Signalized segments experience delays >60.0 seconds/vehicle.

Source: Caltrans Guide for the Preparation of Traffic Impact Studies, 2002.

Analysis of Significance

Imperial County

The significance criteria for traffic impacts are based on the Imperial County Planning & Development Services Department LOS standard as outlined in the "Circulation Element". "The County's goal for an acceptable traffic service standard on an Average Daily Traffic (ADT) basis and during AM and PM peak periods for all County-Maintained Roads shall be LOS C for all street segment links and intersections."

- Strive to maintain LOS "C" or better on arterial and collector streets, at all intersections, and on principal arterials during the hour of highest volume during the AM hours and also during the PM hours. Imperial County has established LOS "C" as the general threshold for acceptable overall traffic operations for both signalized and un-signalized intersections.

- Accept LOS "D" after finding that there is no practical and feasible way to mitigate to LOS "C;" and the development causing the lower level of service provides a clear, overall public benefit.

- For segments that operate at LOS D or lower, an incremental increase in V/C of greater than 0.02 is considered to be a significant impact. For intersections that operate at LOS D or lower, an incremental increase in vehicle delay of 2.0 seconds or greater is considered to be a significant impact.

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Caltrans

- For segments that operate at LOS D or lower, an incremental increase in V/C of greater than 0.02 is considered to be a significant impact. For intersections that operate at LOS D or lower, an incremental increase in vehicle delay of 2.0 seconds or greater is considered to be a significant impact.
- For freeway segments that operate at LOS D or lower, an incremental increase in V/C of greater than 0.01 is considered to be a significant impact.

3.0 Existing Conditions

This section documents the Existing Year Conditions in the study area. The Existing Year is taken to be 2020 for analysis purposes based on existing traffic counts taken in December, 2020 The discussion presented here is limited to segments and intersections in the project's vicinity.

Existing Roadways

Each of the key roadways, as well as associated study intersections within the study area, are discussed below.

Roadway Facilities

1. *State Route 111 (SR-111))* is a two-lane highway with no median and a posted speed limit of 65 mph.

2. *McDonald Road* is a two lane paved local roadway that runs in an east-west direction. This road provides access from the site to/from SR-111.

3. Weist Road is a north-south roadway that connect McDonald Road. North of McDonald Rod, Weist Road is unpaved.

Figure 3.1 displays the existing intersection geometrics for study area intersections.

Traffic Volumes

Existing turning movement counts at the study intersections were conducted on Tuesday, December 8, 2020. The existing condition reflects those land uses that were built and occupied at the time of the traffic counts and represent a typical weekday commute period. Intersection turning movement counts are provided in Appendix A. Existing average daily traffic (ADT) segment counts were obtained from the Caltrans for the year 2019. The ADT, weekday a.m. and p.m. peak hour traffic volumes are shown on Figure 3.2.

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Figure 3.1 Intersection Geometrics

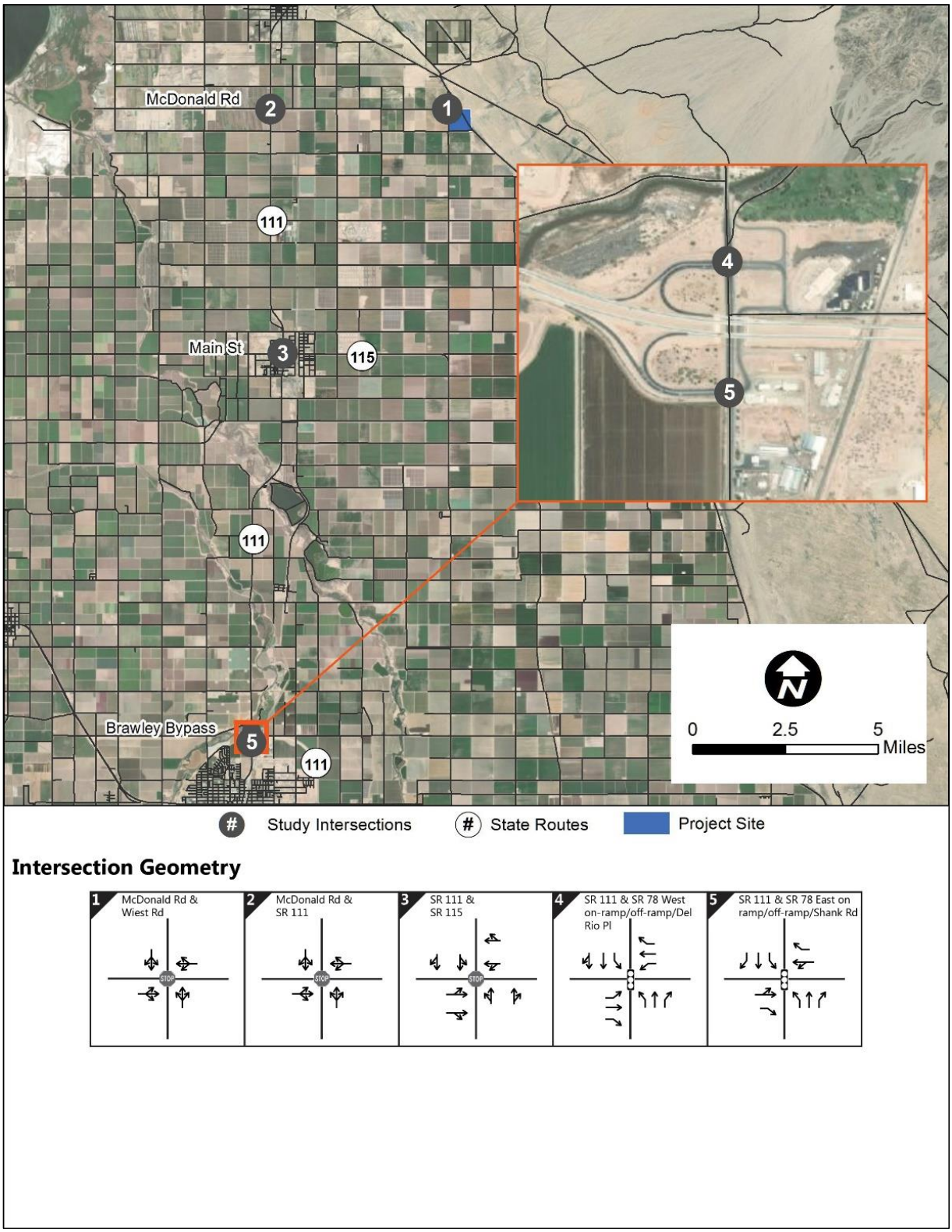

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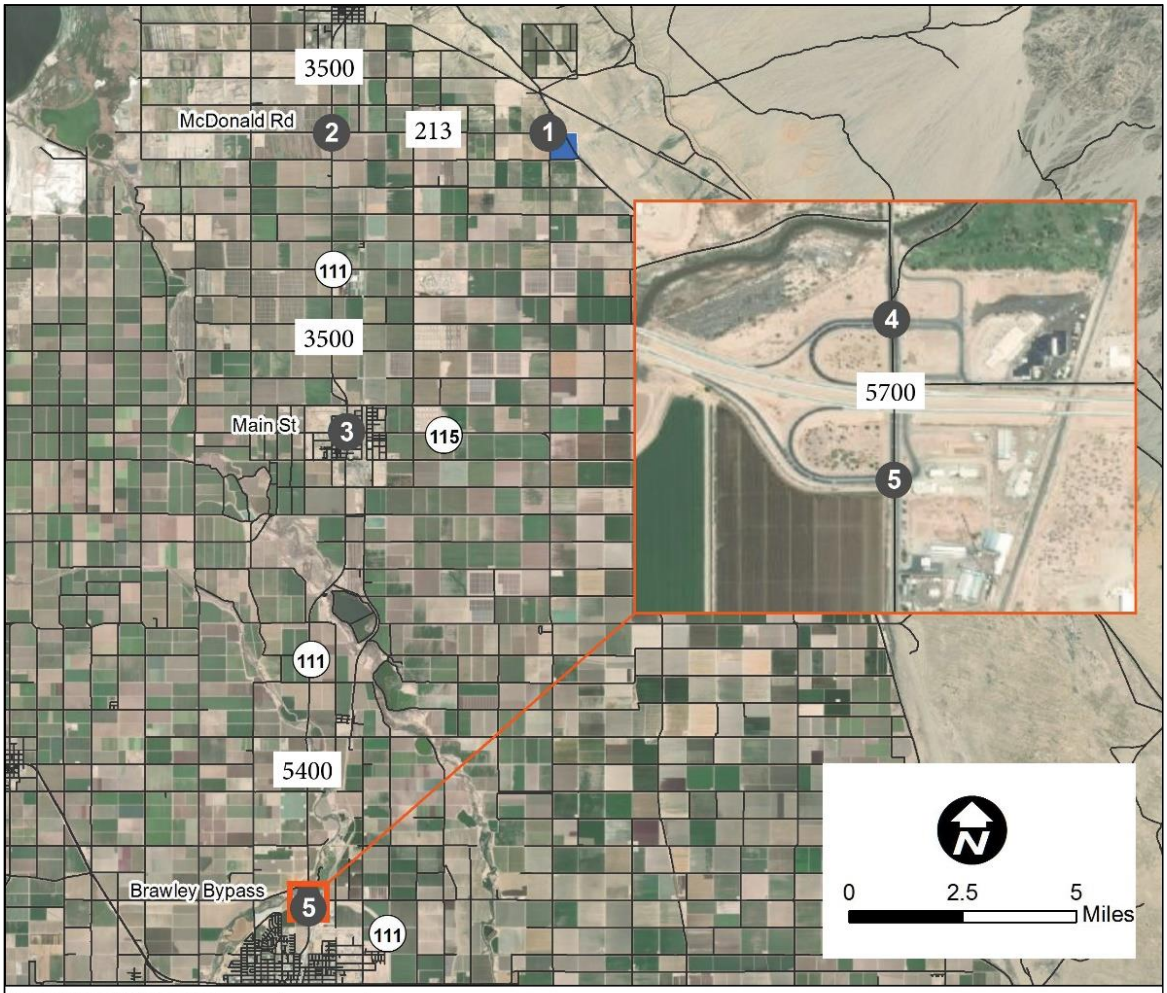
Figure 3.2 Existing Volumes



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Existing Year Conditions

This section documents the existing traffic conditions of study area segments and intersections.

Segments

Roadway segment analysis was conducted for the study area's specified segments. Using average daily traffic (ADT) counts, KOA was able to determine the existing level of service for the designated roadway segments. Table 3.1 below displays these levels of service.

Table 3.1 Existing Year Conditions Roadway Segment Analysis

Roadway Segment	From/ To	Lanes/ Class	LOS E Capacity	Existing		
				ADT	V/C	LOS
McDonald Rd	Project to SR 111	Minor Collector	16,200	213	0.01	A
SR-111	McDonald Road to Niland Ave	Major Collector 2 Lane	17,100	3,500	0.20	A
SR-111	McDonald Rd to SR-115	Major Collector 2 Lane	17,100	3,500	0.20	A
SR-111	SR-115 to SR-78 North Ramps	Major Collector 2 Lane	17,100	5,400	0.32	B
SR-111	SR-78 North Ramps to SR-78 South Ramps	Major Collector 4 Lane	34,200	5,700	0.17	A

Intersections

An intersection LOS analysis was prepared for the existing (without-project) condition and is summarized in Table 3.2 which indicates that there are two study area intersections. Detailed LOS worksheets are included in Appendix B.

Table 3.2 Existing Year Conditions Peak Hour Intersection Analysis

#	Intersection	Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	McDonald Road and Weist Road	SB Stop	0.0	A	0.0	A
2	McDonald Road and SR-111	EB/WB Stop	9.2	A	9.1	A
3	SR-111 and SR-115	AWSC	10.2	B	8	A
4	SR-111 and north ramps with SR-78	Sig	11.1	b	10.7	B
5	SR-111 and south ramps with SR-78	Sig	12.3	B	14.3	B

Delay is in seconds/vehicle. LOS = Level of Service

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4.0 Trip Generation/Distribution/Assignment

Project Trip Generation

The project trip generation consists of a construction phase and operations phase. Once constructed, the site will not require personnel to be present on-site and will not result in daily trip generation. For this reason, only the trip generation for the construction phase was analyzed.

The number of on–site construction workers for the solar project facilities is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the battery storage facility and the substation is not expected to exceed 50 workers at any one time. The trip generation was estimated if the construction phases were to overlap, so both are included. Delivery trucks are expected to follow the same routes as the construction workers. An estimated two trucks would arrive at the project site each day during the first few weeks of construction of the solar generating facility. Truck trips have been converted into passenger equivalent volumes (PCE) using a PCE factor of 2.5.

Work hours will be between the hours of 8:00 a.m. and 5:00 p.m. Monday through Saturday. The trips generated during the construction phase of construction are shown in Table 4.1.

Table 4.1 Construction Trip Generation –Construction Phase

	Intensity	Unit	Daily Rate	Daily Trips		AM Peak Hour			PM Peak Hour		
						Total	In	Out	Total	In	Out
Solar Construction Workers	75.0	Employee	2	150	Rate	1.00	100%	0%	1.00	0%	100%
					Trips	75	75	0	75	0	75
Battery Storage Workers	50.0	Employee	2	100	Rate	1.00	100%	0%	1.00	0%	100%
					Trips	50	50	0	50	0	50
Equipment Deliveries and Construction Truck Trips (PCE)	4.0	trucks	2.5	10	Rate	0.13	75%	25%	0.13	25%	75%
					Trips	0	0	0	0	0	0
Total				260	Trips	125	125	0	125	0	125

Once construction is completed, the facilities would be remotely operated, controlled and monitored and with no requirement for daily on-site employees.

Trip Distribution and Assignment

Trip distribution and assignment is the process of identifying the probable destinations, directions and traffic routes that project related traffic will likely affect. Trip distribution and assignment information can be estimated from observed traffic patterns, experience or through use of a computerized travel forecast model. Once the proposed developments trips have been estimated, they are assigned to the study area street network. The trip distribution was estimated based on using logical travel paths between the project and local origins.

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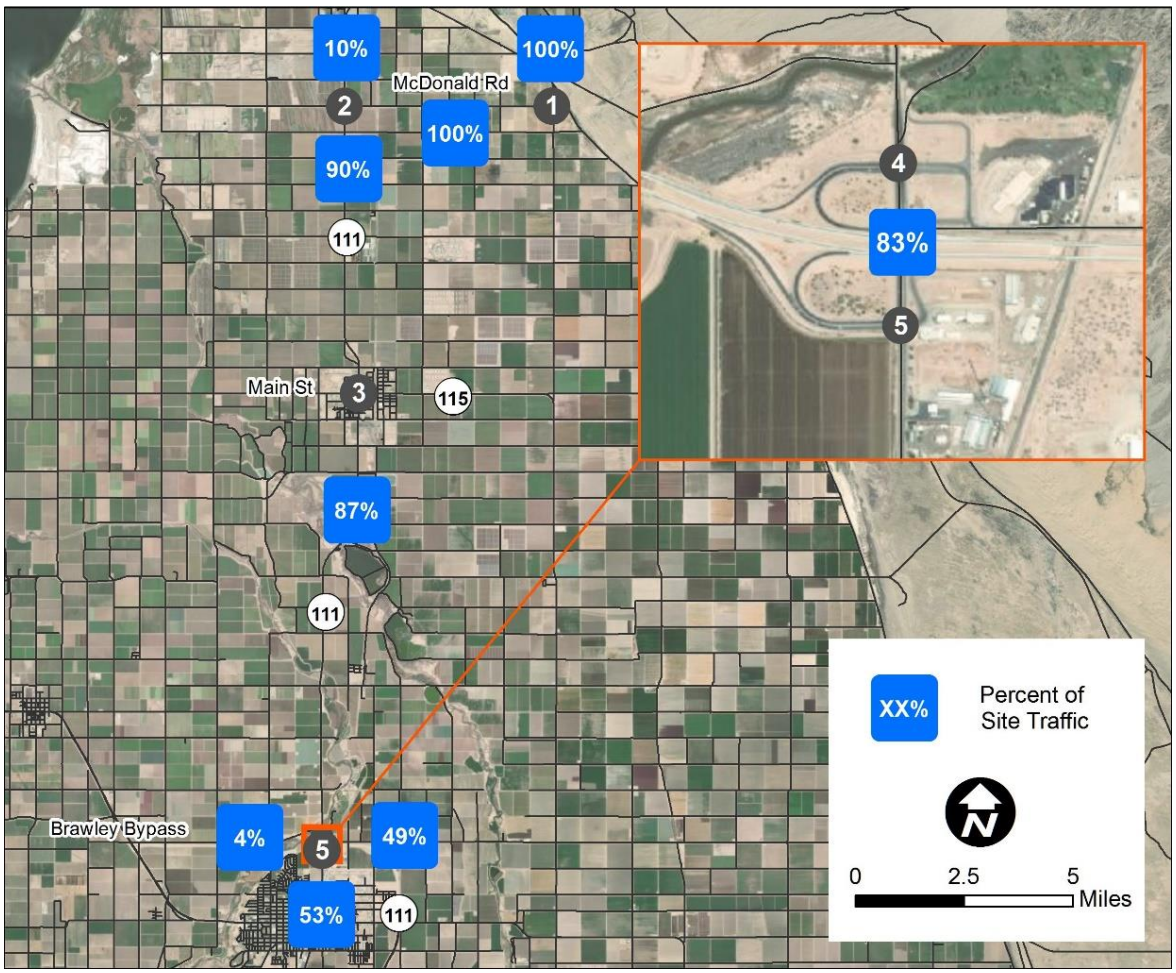
For the VEGA SES 5 project, the construction worker traffic is expected to travel to the site from SR-111, then east on McDonald Road, north to Weist Road and then the project site. Delivery trucks are expected to follow the same travel route as construction workers. An estimated two trucks would arrive at each project site each day during the first few weeks of construction of each solar facility. The trip distribution for the project-related trips is shown in Figure 4.1.

Figure 4.1 Trip Distribution



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5.0 Construction Year Conditions

This section documents the analysis for the Project Completion Year conditions. This scenario considers the traffic conditions at the time that the proposed development is constructed by increasing the existing traffic counts by an ambient growth rate to reflect cumulative projects. Projected project only volumes are then added to create the 2023 Baseline with Project Scenario. It is anticipated that the project construction will begin in 2023. An annual ambient growth of 1.8% was utilized to account for traffic growth between 2020 and 2023.

The growth rate is based on the California Economic Forecast *California County-Level Economic Forecast 2017-2050*, dated September 2017 documents an average annual growth factor of 1.8% from 2020 to 2025 for Imperial County. Year 2021 traffic data was obtained by factoring the 2019 traffic counts by the application of the 1.8% annual growth (5.4 percent for 2020-23). Figure 5.1 illustrates the Project Construction Year background volumes. Figure 5.2 shows the *Construction Year with Project* traffic volumes in the study area.

This section documents the construction year traffic conditions of study area segments and intersections with and without the project.

Segments

Roadway segment analysis was conducted for the study area's specified segments. Using average daily traffic (ADT) counts, KOA determined the opening year level of service for the designated roadway segments. Table 5.1 below displays these levels of service.

Summarized in Table 5.2 are Construction Year and Construction Year plus Project roadway segment average daily traffic volumes and their associated LOS on route segments without and with the project under the near term condition. All roadway segments would operate at LOS B or better with and without the project. Therefore, the project would not result in any significant impacts to any segments within the project study area under the construction year condition.

Table 5.1: Construction Year Roadway Segment Analysis

Roadway Segment	From/ To	Lanes/ Class	LOS E Capacity	Project Volumes	Construction Year			Construction Year + Project			Comparison	
					Volume	V/C	LOS	Volume	V/C	LOS	Δ V/C	Sig?
Mc Donald Rd	Project to SR-111	Local Collector	16,200	260	225	0.01	A	485	0.03	A	0.02	No
SR-111	Mc Donald to Weist Rd	Minor Arterial 2	18,500	26	3,692	0.20	A	3,718	0.20	A	0.00	No
SR-111	Mc Donald to SR-115	Minor Arterial 2	18,500	234	5,697	0.31	A	5,931	0.32	A	0.01	No
SR-111	SR-115 to SR-78 north ramps	Minor Arterial 2	18,500	226	6,013	0.33	A	6,239	0.34	A	0.01	No
SR-111	SR-78 north ramps to So. Ramps	Minor Arterial 2	18,500	129	5,700	0.31	A	5,829	0.32	A	0.01	No

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Intersections

Table 5.2 summarizes the LOS at each intersection during the AM and PM peak hours under the construction year condition in 2022, without and with the project volumes. The estimated change in project delay associated with the project is also reported. All intersections would operate at a LOS C or better during both AM and PM peak hours with and without the project. Therefore, the project would not result in any significant impacts to any intersections within the project study area under the construction year condition. Detailed LOS worksheets are for the Construction Year are included in Appendix C and for the Construction Year plus Project in Appendix D.

Table 5.2: Construction Year Peak Hour Intersection Analysis

No.	Intersection	Control	Construction Year		Construction Year + Project		Change Delay	Significant
			Delay	LOS	Delay	LOS		
AM Peak Hour between 7:00 to 9:00 a.m.								
1	McDonald Road and Weist Road	SB Stop	n/a	A	6.7	A	n/a	N
2	McDonald Road and SR-111	SB Stop	9.2	A	9.7	A	0.5	N
3	SR-111 and SR-115	AWSC	10.5	B	12.1	B	1.6	N
4	SR-111 and north ramps with SR-78	EB/WB Stop	11.2	B	11.6	B	0.4	N
5	SR-111 and south ramps with SR-78	EB Stop	10.5	B	12.7	B	2.2	N
PM Peak Hour between 4:00 to 6:00 p.m.								
1	McDonald Road and Weist Road	SB Stop	n/a	A	9	A	n/a	N
2	McDonald Road and SR-111	EB/WB Stop	9.2	A	10	B	0.8	N
3	SR-111 and SR-115	AWSC	8.1	A	8.5	A	0.4	N
4	SR-111 and north ramps with SR-78	Sig	9.6	A	14.1	B	4.5	N
5	SR-111 and south ramps with SR-78	Sig	10.0	B	15.1	B	5.1	N

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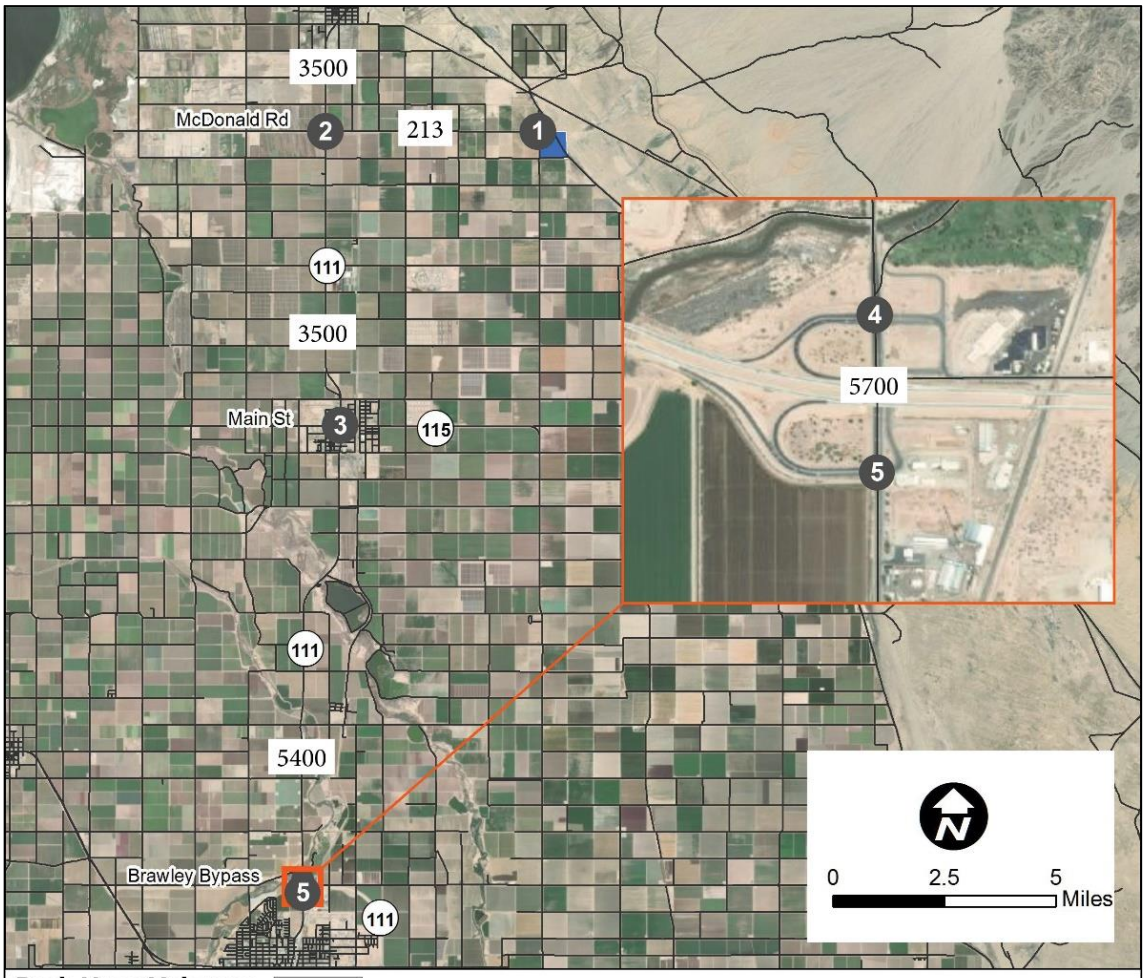
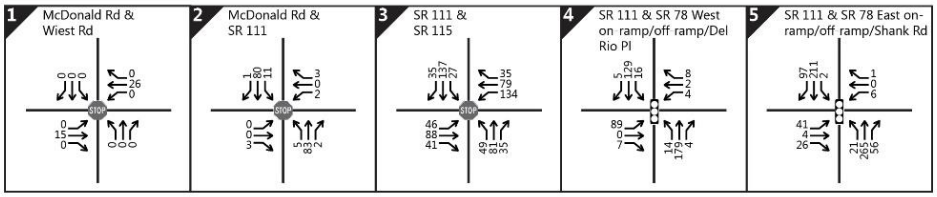
Figure 5.1 Construction Year Volumes



Peak Hour Volumes XXXX Daily Traffic

AM



PM

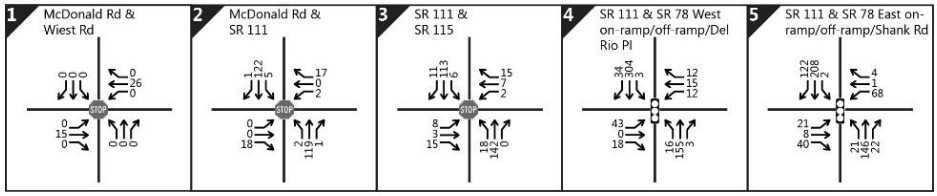


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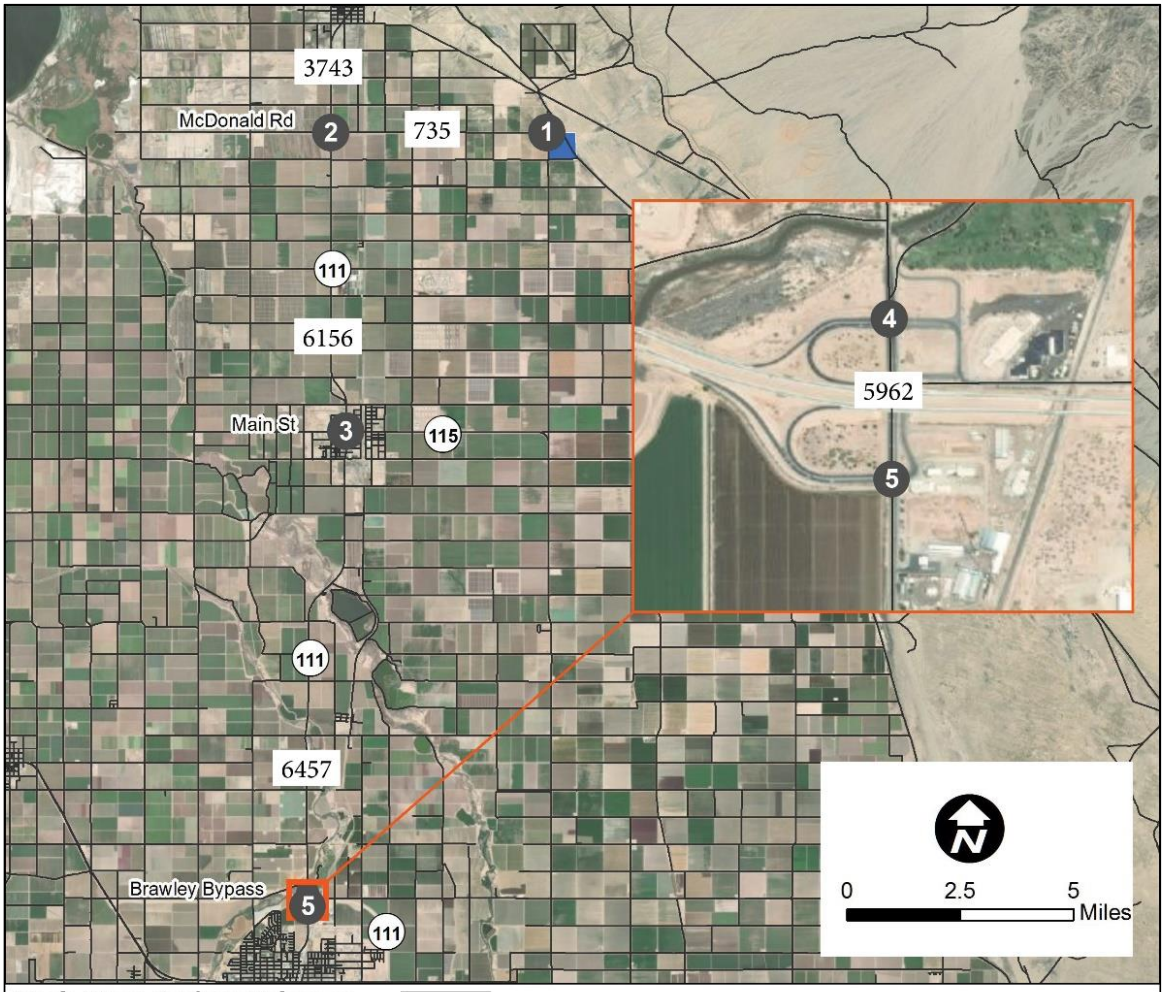
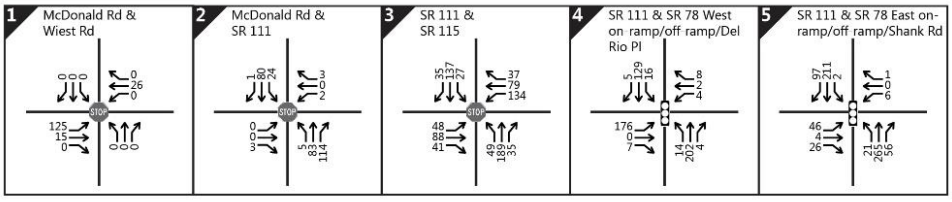
Figure 5.2 Construction Year Plus Project Year Volumes

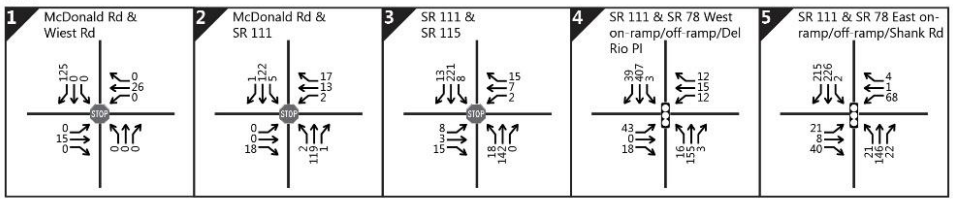


Peak Hour Project Volumes XXXX Daily Traffic

AM



PM



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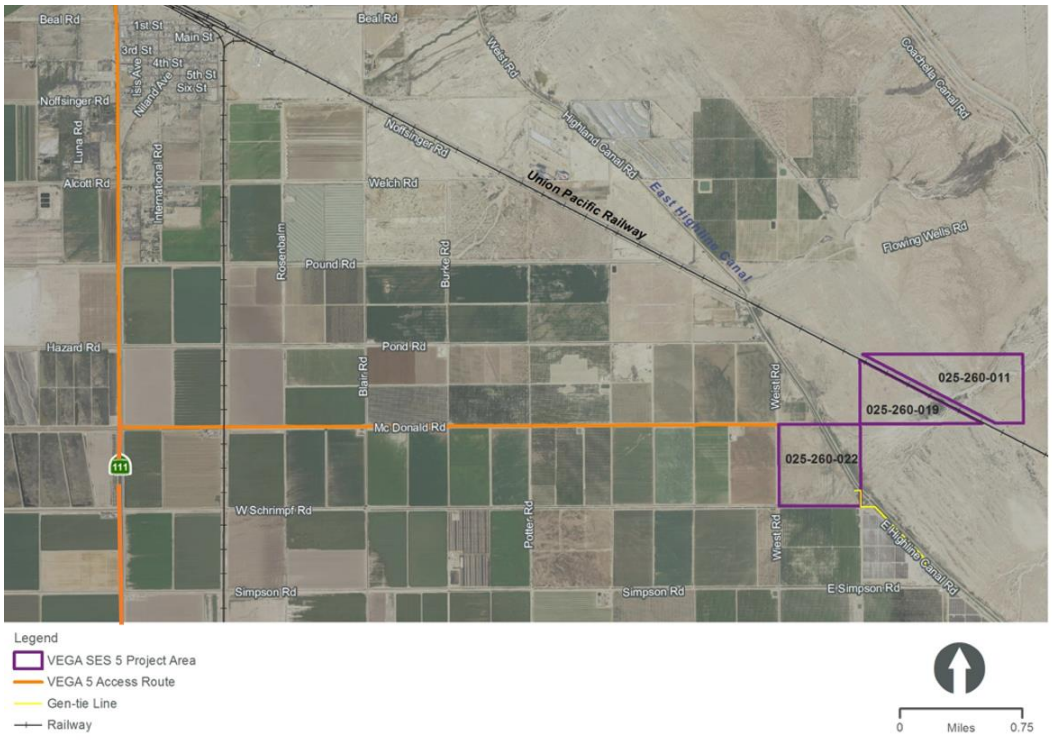
6.0 Circulation

The following section discusses the proposed project's access and circulation characteristics.

Project Access and Circulation

The project site is adjacent to the Highland Canal at McDonald Road and Weist Road. Access to and from the site will be from SR-111 along McDonald Road (see Figure 6.1). A portion of the site construction traffic will travel to the east side of the channel, by using Weist Road and Noffsinger Road. To access the portion of the site east of the UP Railroad tracks, access across the tracks will be made at Flowing Wells Road, and access to the property will be made via an easement that will be acquired. The easement will be a direct vertical south from Flowing Wells Road at the western boundary of AP 025-260-011.

Figure 6.1 Primary Vega 5 Access Route



Parking

The existing parking demand for up to vehicles and for construction equipment associated with site construction will be provided on site.

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7.0 Impacts and Mitigation

This traffic impact analysis (TIA) has been prepared to identify the potential traffic impacts associated with constructing a solar photovoltaic (PV) energy generation project and utility-scale battery energy storage system (BESS) at the Vega SES 5 site.

The construction of the project is estimated to take up to 12 months and would begin in late 2023. During the construction phase, at peak construction, the project is anticipated to generate a net total of 260 trips per day with 126 AM peak hour trips and 126 PM peak hour trips. When constructed, the project will not generate any additional trips. The project opening is anticipated to be in 2024.

The project is not expected to create significant impacts at study intersections or study segments, therefore no mitigation measures are required. All study intersections and segments were found to operate at LOS C or better for all of the traffic scenarios analyzed.

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APPENDIX A: TRAFFIC COUNT DATA

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

County of Imperial
N/S: SR-111
E/W: McDonald Road
Weather: Clear

File Name : 06_CIM_SR-111_McDonald AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				McDonald Road Westbound				SR-111 Northbound				McDonald Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	16	0	17	1	0	1	2	0	21	0	21	0	0	0	0	40
07:15 AM	2	18	0	20	0	0	0	0	2	23	0	25	0	0	0	0	45
07:30 AM	2	14	0	16	1	0	2	3	1	23	1	25	0	0	0	0	44
07:45 AM	3	23	1	27	0	0	1	1	2	16	1	19	0	0	1	1	48
Total	8	71	1	80	2	0	4	6	5	83	2	90	0	0	1	1	177
08:00 AM	3	21	0	24	1	0	0	1	0	17	0	17	0	0	2	2	44
08:15 AM	1	18	0	19	1	0	1	2	1	10	1	12	0	0	0	0	33
08:30 AM	3	19	0	22	1	0	0	1	0	14	0	14	0	1	0	1	38
08:45 AM	1	28	1	30	0	0	2	2	1	7	0	8	0	0	0	0	40
Total	8	86	1	95	3	0	3	6	2	48	1	51	0	1	2	3	155
Grand Total	16	157	2	175	5	0	7	12	7	131	3	141	0	1	3	4	332
Apprch %	9.1	89.7	1.1		41.7	0	58.3		5	92.9	2.1		0	25	75		
Total %	4.8	47.3	0.6	52.7	1.5	0	2.1	3.6	2.1	39.5	0.9	42.5	0	0.3	0.9	1.2	

	SR-111 Southbound				McDonald Road Westbound				SR-111 Northbound				McDonald Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	2	18	0	20	0	0	0	0	**2**	**23**	0	**25**	0	0	0	0	45
07:30 AM	2	14	0	16	**1**	0	**2**	**3**	1	23	**1**	25	0	0	0	0	44
07:45 AM	**3**	**23**	**1**	**27**	0	0	1	1	2	16	1	19	0	0	1	1	**48**
08:00 AM	3	21	0	24	1	0	0	1	0	17	0	17	0	0	**2**	**2**	44
Total Volume	10	76	1	87	2	0	3	5	5	79	2	86	0	0	3	3	181
% App. Total	11.5	87.4	1.1		40	0	60		5.8	91.9	2.3		0	0	100		
PHF	.833	.826	.250	.806	.500	.000	.375	.417	.625	.859	.500	.860	.000	.000	.375	.375	.943

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County of Imperial
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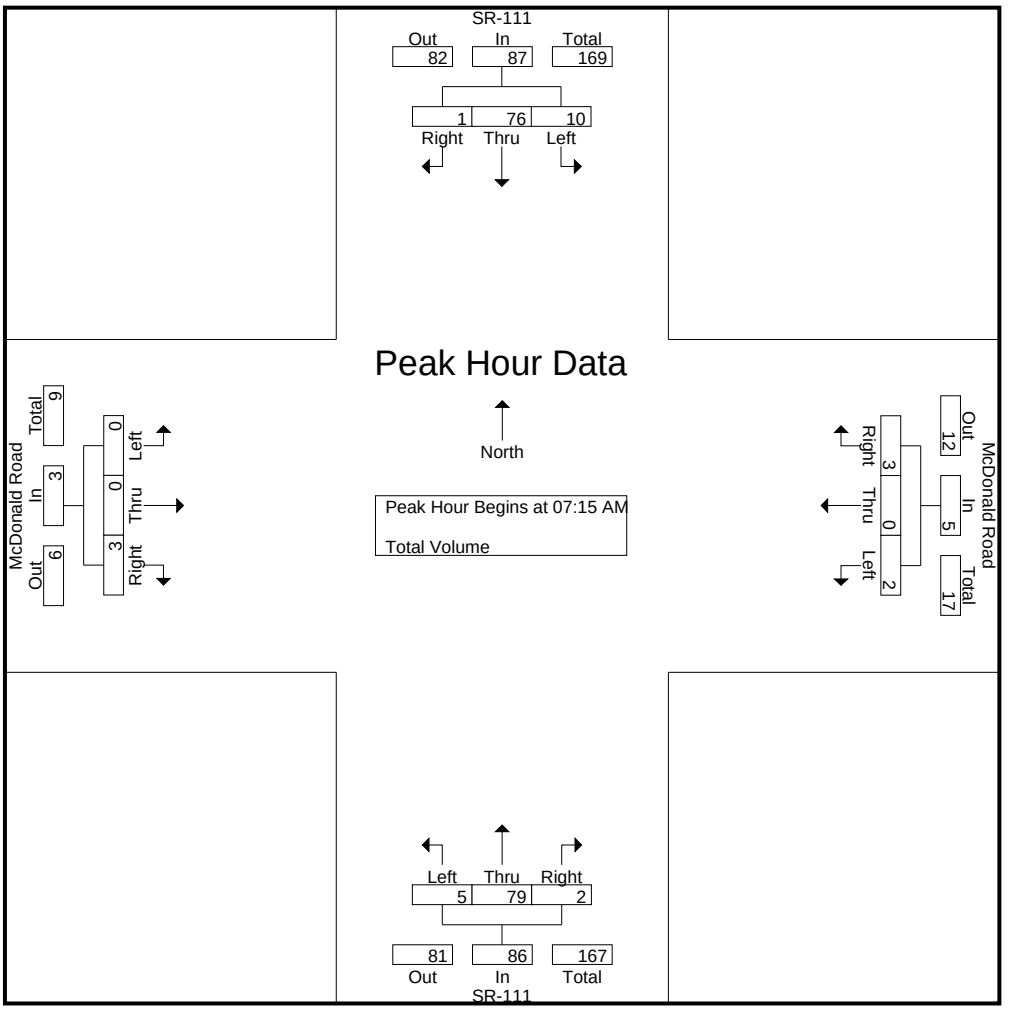
E/W: McDonald Road
Weather: Clear

File Name : 06_CIM_SR-111_McDonald AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				07:00 AM				07:45 AM			
+0 mins.	**3**	21	0	24	**1**	0	**2**	**3**	0	21	0	21	0	0	1	1
+15 mins.	1	18	0	19	0	0	1	1	**2**	**23**	0	**25**	0	0	**2**	**2**
+30 mins.	3	19	0	22	1	0	0	1	1	23	**1**	25	0	0	0	0
+45 mins.	1	**28**	**1**	**30**	1	0	1	2	2	16	1	19	0	**1**	0	1
Total Volume	8	86	1	95	3	0	4	7	5	83	2	90	0	1	3	4
% App. Total	8.4	90.5	1.1		42.9	0	57.1		5.6	92.2	2.2		0	25	75	
PHF	.667	.768	.250	.792	.750	.000	.500	.583	.625	.902	.500	.900	.000	.250	.375	.500

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County of Imperial
N/S: SR-111
E/W: McDonald Road
Weather: Clear

File Name : 06_CIM_SR-111_McDonald PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				McDonald Road Westbound				SR-111 Northbound				McDonald Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	49	0	50	1	0	6	7	0	25	0	25	0	0	12	12	94
04:15 PM	1	21	0	22	0	0	2	2	1	27	1	29	0	0	2	2	55
04:30 PM	2	21	1	24	0	0	6	6	1	32	0	33	0	0	2	2	65
04:45 PM	1	25	0	26	1	0	2	3	0	29	0	29	0	0	1	1	59
Total	5	116	1	122	2	0	16	18	2	113	1	116	0	0	17	17	273
05:00 PM	1	17	0	18	1	0	1	2	2	22	0	24	0	0	0	0	44
05:15 PM	0	18	0	18	0	0	1	1	1	26	0	27	0	0	1	1	47
05:30 PM	0	5	0	5	1	0	1	2	1	21	0	22	0	0	1	1	30
05:45 PM	0	8	0	8	0	0	0	0	0	14	0	14	0	0	3	3	25
Total	1	48	0	49	2	0	3	5	4	83	0	87	0	0	5	5	146
Grand Total	6	164	1	171	4	0	19	23	6	196	1	203	0	0	22	22	419
Apprch %	3.5	95.9	0.6		17.4	0	82.6		3	96.6	0.5		0	0	100		
Total %	1.4	39.1	0.2	40.8	1	0	4.5	5.5	1.4	46.8	0.2	48.4	0	0	5.3	5.3	

	SR-111 Southbound				McDonald Road Westbound				SR-111 Northbound				McDonald Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	**49**	0	**50**	**1**	0	**6**	**7**	0	25	0	25	0	0	**12**	**12**	**94**
04:15 PM	1	21	0	22	0	0	2	2	**1**	27	**1**	29	0	0	2	2	55
04:30 PM	**2**	21	**1**	24	0	0	6	6	1	**32**	0	**33**	0	0	2	2	65
04:45 PM	1	25	0	26	1	0	2	3	0	29	0	29	0	0	1	1	59
Total Volume	5	116	1	122	2	0	16	18	2	113	1	116	0	0	17	17	273
% App. Total	4.1	95.1	0.8		11.1	0	88.9		1.7	97.4	0.9		0	0	100		
PHF	.625	.592	.250	.610	.500	.000	.667	.643	.500	.883	.250	.879	.000	.000	.354	.354	.726

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Corona, CA 92878
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County of Imperial
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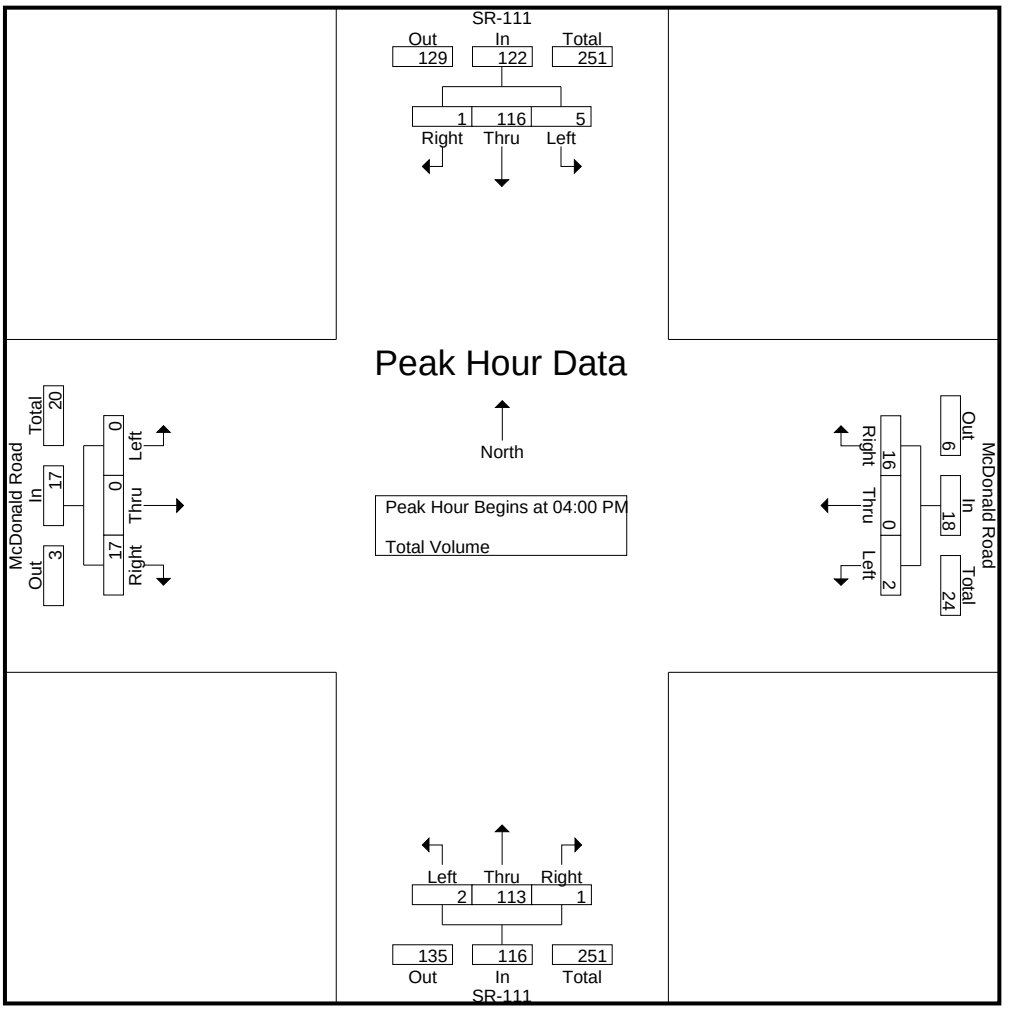
E/W: McDonald Road
Weather: Clear

File Name : 06_CIM_SR-111_McDonald PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	1	**49**	0	**50**	**1**	0	**6**	**7**	0	25	0	25	0	0	**12**	**12**
+15 mins.	1	21	0	22	0	0	2	2	**1**	27	**1**	29	0	0	2	2
+30 mins.	**2**	21	**1**	24	0	0	6	6	1	**32**	0	**33**	0	0	2	2
+45 mins.	1	25	0	26	1	0	2	3	0	29	0	29	0	0	1	1
Total Volume	5	116	1	122	2	0	16	18	2	113	1	116	0	0	17	17
% App. Total	4.1	95.1	0.8		11.1	0	88.9		1.7	97.4	0.9		0	0	100	
PHF	.625	.592	.250	.610	.500	.000	.667	.643	.500	.883	.250	.879	.000	.000	.354	.354

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City of Calipatria
N/S: SR-111
E/W: SR-115 (Main Street)
Weather: Clear

File Name : 07_CPA_SR-111_SR-115 AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				SR-115 Westbound				SR-111 Northbound				SR-115 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	15	2	17	7	6	4	17	9	29	23	61	8	9	2	19	114
07:15 AM	5	10	4	19	7	13	4	24	8	19	23	50	10	13	3	26	119
07:30 AM	3	14	1	18	6	11	2	19	8	24	33	65	3	15	6	24	126
07:45 AM	5	12	5	22	8	8	4	20	6	18	41	65	7	15	3	25	132
Total	13	51	12	76	28	38	14	80	31	90	120	241	28	52	14	94	491
08:00 AM	3	21	2	26	9	7	3	19	12	27	14	53	4	12	7	23	121
08:15 AM	5	13	6	24	9	8	4	21	9	18	11	38	7	4	6	17	100
08:30 AM	5	22	4	31	7	8	1	16	6	15	13	34	10	12	7	29	110
08:45 AM	5	16	4	25	10	5	5	20	7	12	5	24	3	6	2	11	80
Total	18	72	16	106	35	28	13	76	34	72	43	149	24	34	22	80	411
Grand Total	31	123	28	182	63	66	27	156	65	162	163	390	52	86	36	174	902
Apprch %	17	67.6	15.4		40.4	42.3	17.3		16.7	41.5	41.8		29.9	49.4	20.7		
Total %	3.4	13.6	3.1	20.2	7	7.3	3	17.3	7.2	18	18.1	43.2	5.8	9.5	4	19.3	

	SR-111 Southbound				SR-115 Westbound				SR-111 Northbound				SR-115 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**5**	10	4	19	7	**13**	**4**	**24**	8	19	23	50	**10**	13	3	**26**	119
07:30 AM	3	14	1	18	6	11	2	19	8	24	33	**65**	3	**15**	6	24	126
07:45 AM	5	12	**5**	22	8	8	4	20	6	18	**41**	65	7	15	3	25	**132**
08:00 AM	3	**21**	2	**26**	**9**	7	3	19	**12**	**27**	14	53	4	12	**7**	23	121
Total Volume	16	57	12	85	30	39	13	82	34	88	111	233	24	55	19	98	498
% App. Total	18.8	67.1	14.1		36.6	47.6	15.9		14.6	37.8	47.6		24.5	56.1	19.4		
PHF	.800	.679	.600	.817	.833	.750	.813	.854	.708	.815	.677	.896	.600	.917	.679	.942	.943

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PO Box 1178
Corona, CA 92878
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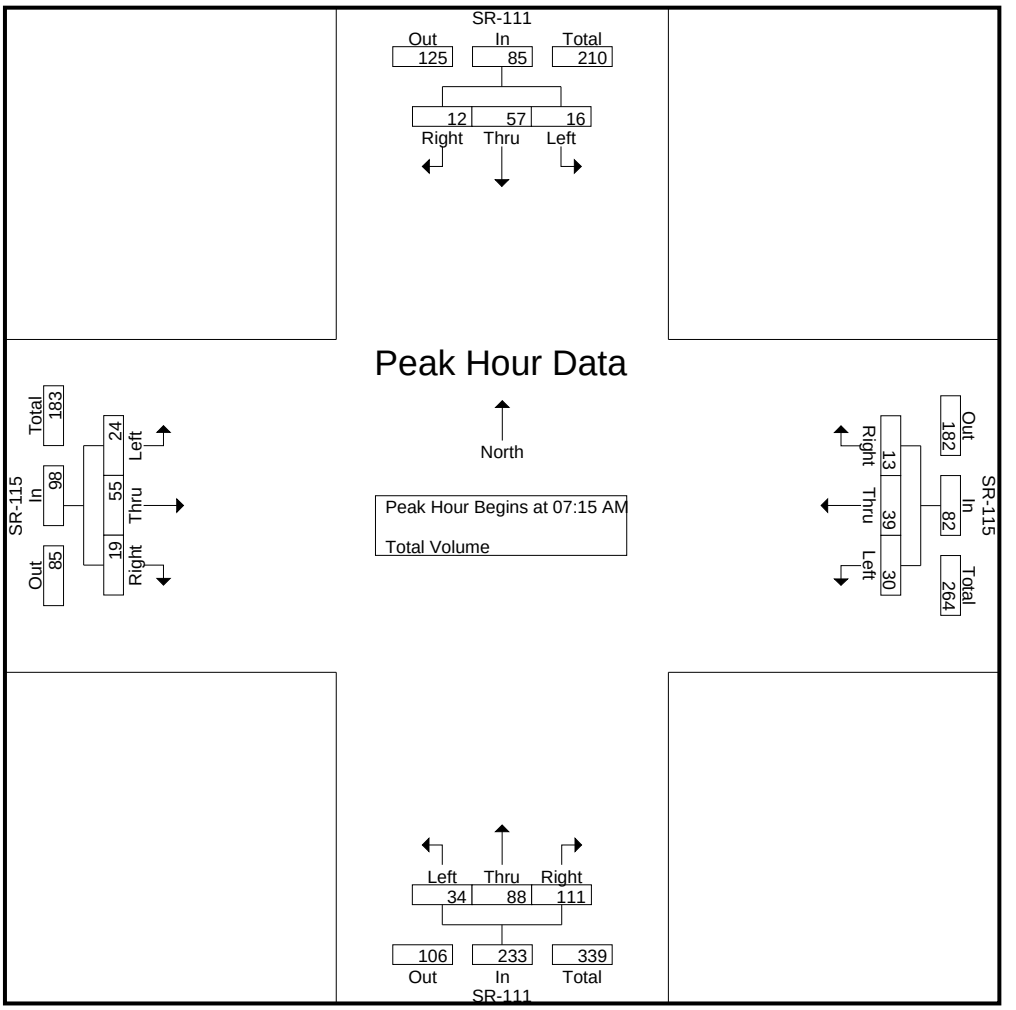
City of Calipatria
N/S: SR-111
E/W: SR-115 (Main Street)
Weather: Clear

File Name : 07_CPA_SR-111_SR-115 AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:15 AM				07:00 AM				07:15 AM			
+0 mins.	3	21	2	26	7	**13**	**4**	**24**	**9**	**29**	23	61	**10**	13	3	**26**
+15 mins.	**5**	13	**6**	24	6	11	2	19	8	19	23	50	3	**15**	6	24
+30 mins.	5	**22**	4	**31**	8	8	4	20	8	24	33	**65**	7	15	3	25
+45 mins.	5	16	4	25	**9**	7	3	19	6	18	**41**	65	4	12	**7**	23
Total Volume	18	72	16	106	30	39	13	82	31	90	120	241	24	55	19	98
% App. Total	17	67.9	15.1		36.6	47.6	15.9		12.9	37.3	49.8		24.5	56.1	19.4	
PHF	.900	.818	.667	.855	.833	.750	.813	.854	.861	.776	.732	.927	.600	.917	.679	.942

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City of Calipatria
N/S: SR-111
E/W: SR-115 (Main Street)
Weather: Clear

File Name : 07_CPA_SR-111_SR-115 PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				SR-115 Westbound				SR-111 Northbound				SR-115 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	10	49	5	64	46	24	9	79	13	18	5	36	16	16	10	42	221
04:15 PM	6	38	8	52	28	22	10	60	11	16	7	34	10	33	12	55	201
04:30 PM	6	24	11	41	26	18	4	48	11	15	14	40	9	18	13	40	169
04:45 PM	4	19	9	32	27	11	10	48	11	28	7	46	9	16	4	29	155
Total	26	130	33	189	127	75	33	235	46	77	33	156	44	83	39	166	746
05:00 PM	7	21	9	37	16	17	10	43	12	15	8	35	17	16	13	46	161
05:15 PM	3	12	3	18	16	13	5	34	12	14	11	37	3	17	4	24	113
05:30 PM	6	13	4	23	7	9	6	22	11	27	14	52	6	14	4	24	121
05:45 PM	5	17	7	29	13	10	6	29	15	13	8	36	7	12	8	27	121
Total	21	63	23	107	52	49	27	128	50	69	41	160	33	59	29	121	516
Grand Total	47	193	56	296	179	124	60	363	96	146	74	316	77	142	68	287	1262
Apprch %	15.9	65.2	18.9		49.3	34.2	16.5		30.4	46.2	23.4		26.8	49.5	23.7		
Total %	3.7	15.3	4.4	23.5	14.2	9.8	4.8	28.8	7.6	11.6	5.9	25	6.1	11.3	5.4	22.7	

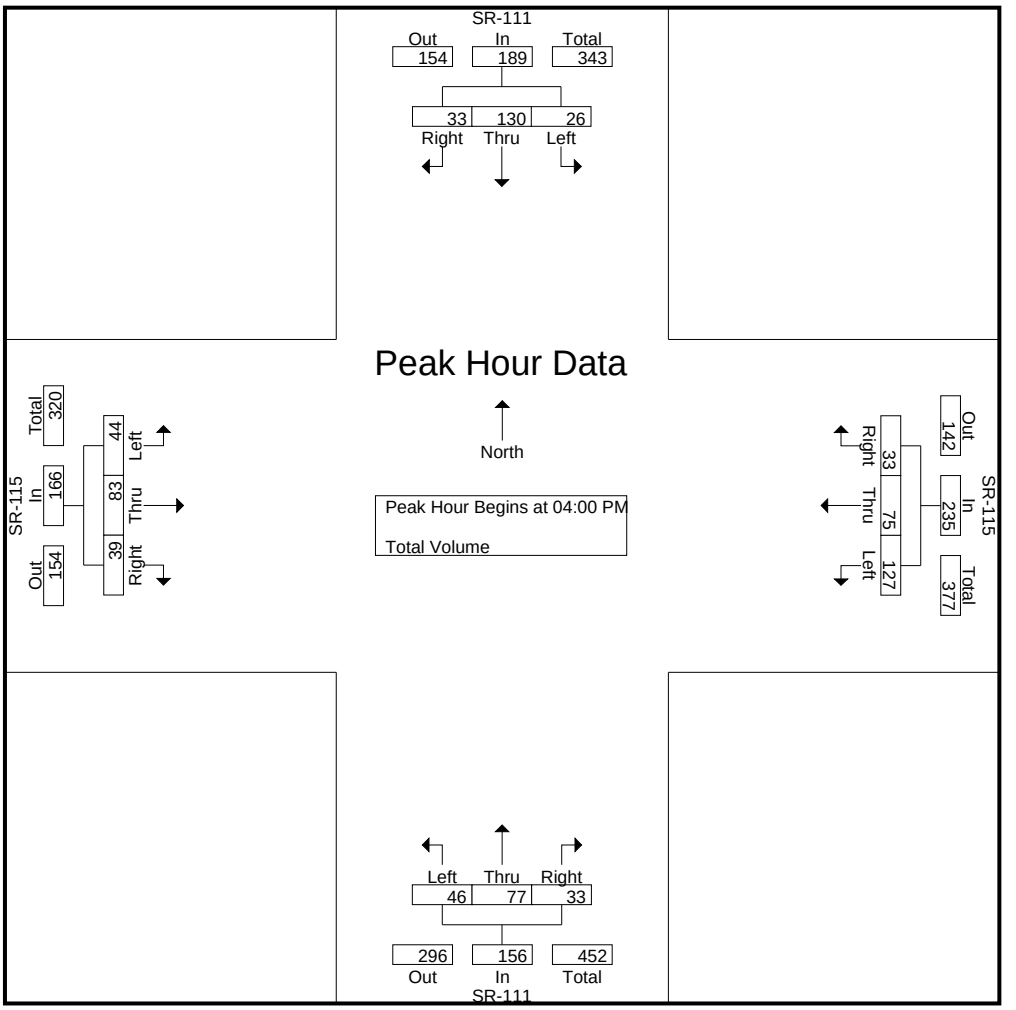
	SR-111 Southbound				SR-115 Westbound				SR-111 Northbound				SR-115 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**10**	**49**	5	**64**	**46**	**24**	9	**79**	**13**	18	5	36	**16**	16	10	42	**221**
04:15 PM	6	38	8	52	28	22	**10**	60	11	16	7	34	10	**33**	12	**55**	201
04:30 PM	6	24	**11**	41	26	18	4	48	11	15	**14**	40	9	18	**13**	40	169
04:45 PM	4	19	9	32	27	11	10	48	11	**28**	7	**46**	9	16	4	29	155
Total Volume	26	130	33	189	127	75	33	235	46	77	33	156	44	83	39	166	746
% App. Total	13.8	68.8	17.5		54	31.9	14		29.5	49.4	21.2		26.5	50	23.5		
PHF	.650	.663	.750	.738	.690	.781	.825	.744	.885	.688	.589	.848	.688	.629	.750	.755	.844

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Calipatria
N/S: SR-111
E/W: SR-115 (Main Street)
Weather: Clear

File Name : 07_CPA_SR-111_SR-115 PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:45 PM				04:15 PM			
+0 mins.	**10**	**49**	5	**64**	**46**	**24**	9	**79**	11	**28**	7	46	10	**33**	12	**55**
+15 mins.	6	38	8	52	28	22	**10**	60	**12**	15	8	35	9	18	**13**	40
+30 mins.	6	24	**11**	41	26	18	4	48	12	14	11	37	9	16	4	29
+45 mins.	4	19	9	32	27	11	10	48	11	27	**14**	**52**	**17**	16	13	46
Total Volume	26	130	33	189	127	75	33	235	46	84	40	170	45	83	42	170
% App. Total	13.8	68.8	17.5		54	31.9	14		27.1	49.4	23.5		26.5	48.8	24.7	
PHF	.650	.663	.750	.738	.690	.781	.825	.744	.958	.750	.714	.817	.662	.629	.808	.773

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Westbound Ramps/Del Rio Place
Weather: Clear

File Name : 08_BWY_SR-111_SR-78W AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				Del Rio Place Westbound				SR-111 Northbound				SR-78 Westbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	31	4	35	1	0	1	2	4	37	0	41	24	0	2	26	104
07:15 AM	1	31	3	35	1	1	3	5	4	50	2	56	24	0	1	25	121
07:30 AM	1	30	4	35	1	0	2	3	3	43	1	47	18	0	2	20	105
07:45 AM	3	30	4	37	1	1	2	4	2	40	1	43	18	0	2	20	104
Total	5	122	15	142	4	2	8	14	13	170	4	187	84	0	7	91	434
08:00 AM	2	24	6	32	1	4	2	7	5	21	1	27	19	0	3	22	88
08:15 AM	2	45	2	49	0	3	1	4	1	26	1	28	9	0	7	16	97
08:30 AM	0	41	4	45	0	2	0	2	3	21	2	26	10	0	4	14	87
08:45 AM	0	36	2	38	0	4	1	5	4	18	1	23	10	2	2	14	80
Total	4	146	14	164	1	13	4	18	13	86	5	104	48	2	16	66	352
Grand Total	9	268	29	306	5	15	12	32	26	256	9	291	132	2	23	157	786
Apprch %	2.9	87.6	9.5		15.6	46.9	37.5		8.9	88	3.1		84.1	1.3	14.6		
Total %	1.1	34.1	3.7	38.9	0.6	1.9	1.5	4.1	3.3	32.6	1.1	37	16.8	0.3	2.9	20	

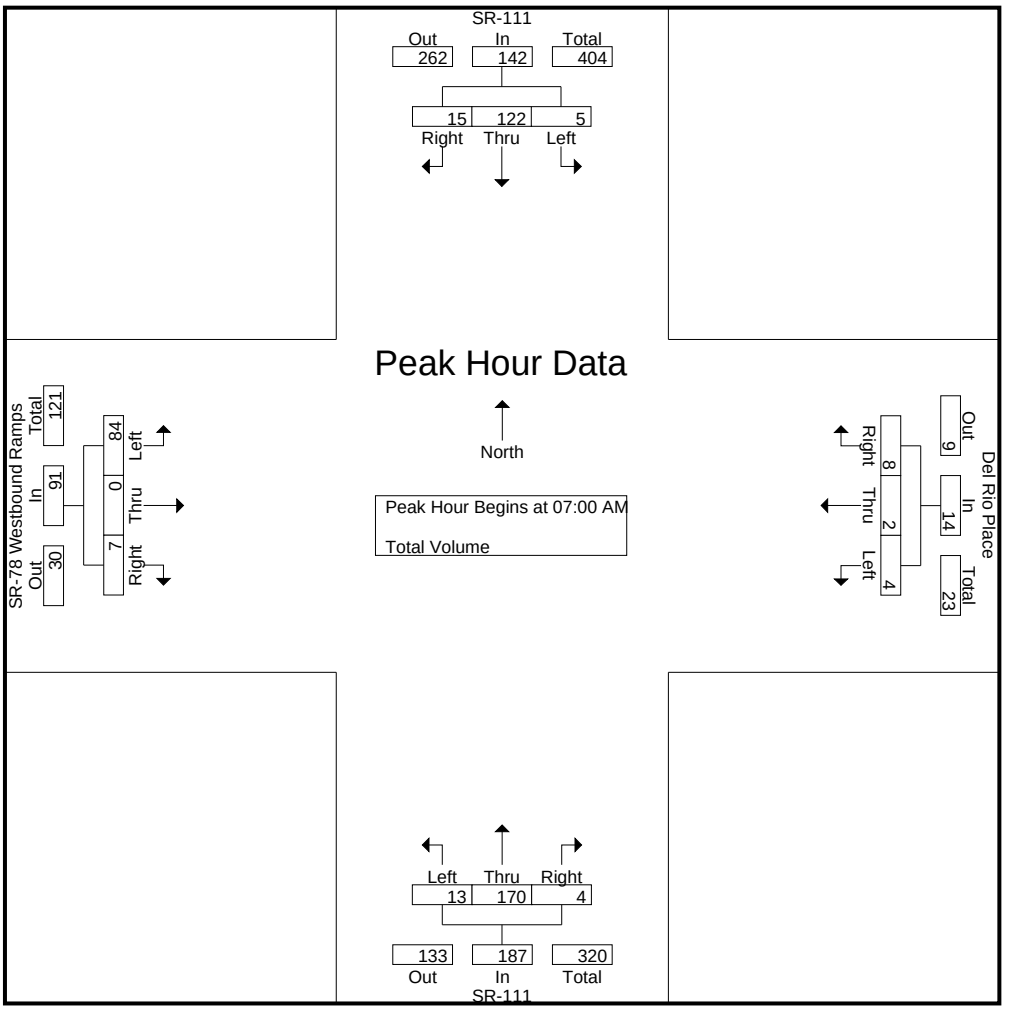
	SR-111 Southbound				Del Rio Place Westbound				SR-111 Northbound				SR-78 Westbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	**31**	**4**	35	**1**	0	1	2	**4**	37	0	41	**24**	0	**2**	**26**	104
07:15 AM	1	31	3	35	1	**1**	**3**	**5**	4	**50**	**2**	**56**	24	0	1	25	**121**
07:30 AM	1	30	4	35	1	0	2	3	3	43	1	47	18	0	2	20	105
07:45 AM	**3**	30	4	**37**	1	1	2	4	2	40	1	43	18	0	2	20	104
Total Volume	5	122	15	142	4	2	8	14	13	170	4	187	84	0	7	91	434
% App. Total	3.5	85.9	10.6		28.6	14.3	57.1		7	90.9	2.1		92.3	0	7.7		
PHF	.417	.984	.938	.959	1.00	.500	.667	.700	.813	.850	.500	.835	.875	.000	.875	.875	.897

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Westbound Ramps/Del Rio Place
Weather: Clear

File Name : 08_BWY_SR-111_SR-78W AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:15 AM				07:00 AM				07:00 AM			
+0 mins.	**2**	24	**6**	32	**1**	1	**3**	5	**4**	37	0	41	**24**	0	**2**	**26**
+15 mins.	2	**45**	2	**49**	1	0	2	3	4	**50**	**2**	**56**	24	0	1	25
+30 mins.	0	41	4	45	1	1	2	4	3	43	1	47	18	0	2	20
+45 mins.	0	36	2	38	1	**4**	2	**7**	2	40	1	43	18	0	2	20
Total Volume	4	146	14	164	4	6	9	19	13	170	4	187	84	0	7	91
% App. Total	2.4	89	8.5		21.1	31.6	47.4		7	90.9	2.1		92.3	0	7.7	
PHF	.500	.811	.583	.837	1.000	.375	.750	.679	.813	.850	.500	.835	.875	.000	.875	.875

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PO Box 1178
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Westbound Ramps/Del Rio Place
Weather: Clear

File Name : 08_BWY_SR-111_SR-78W PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				Del Rio Place Westbound				SR-111 Northbound				SR-78 Westbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	72	7	79	7	8	2	17	4	32	1	37	4	0	3	7	140
04:15 PM	1	82	12	95	2	5	5	12	6	40	0	46	7	0	8	15	168
04:30 PM	1	73	8	82	2	1	4	7	3	43	2	48	18	0	4	22	159
04:45 PM	1	61	5	67	0	0	0	0	2	32	0	34	12	0	2	14	115
Total	3	288	32	323	11	14	11	36	15	147	3	165	41	0	17	58	582
05:00 PM	0	50	5	55	1	3	2	6	5	38	0	43	14	1	5	20	124
05:15 PM	4	48	4	56	0	2	2	4	2	34	0	36	15	0	5	20	116
05:30 PM	1	28	2	31	1	4	0	5	1	34	0	35	16	0	4	20	91
05:45 PM	0	33	7	40	1	1	1	3	2	29	0	31	3	0	0	3	77
Total	5	159	18	182	3	10	5	18	10	135	0	145	48	1	14	63	408
Grand Total	8	447	50	505	14	24	16	54	25	282	3	310	89	1	31	121	990
Apprch %	1.6	88.5	9.9		25.9	44.4	29.6		8.1	91	1		73.6	0.8	25.6		
Total %	0.8	45.2	5.1	51	1.4	2.4	1.6	5.5	2.5	28.5	0.3	31.3	9	0.1	3.1	12.2	

	SR-111 Southbound				Del Rio Place Westbound				SR-111 Northbound				SR-78 Westbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	72	7	79	**7**	**8**	2	**17**	4	32	1	37	4	0	3	7	140
04:15 PM	**1**	**82**	**12**	**95**	2	5	**5**	12	**6**	40	0	46	7	0	**8**	15	**168**
04:30 PM	1	73	8	82	2	1	4	7	3	**43**	**2**	**48**	**18**	0	4	**22**	159
04:45 PM	1	61	5	67	0	0	0	0	2	32	0	34	12	0	2	14	115
Total Volume	3	288	32	323	11	14	11	36	15	147	3	165	41	0	17	58	582
% App. Total	0.9	89.2	9.9		30.6	38.9	30.6		9.1	89.1	1.8		70.7	0	29.3		
PHF	.750	.878	.667	.850	.393	.438	.550	.529	.625	.855	.375	.859	.569	.000	.531	.659	.866

PC ORIGINAL PKG

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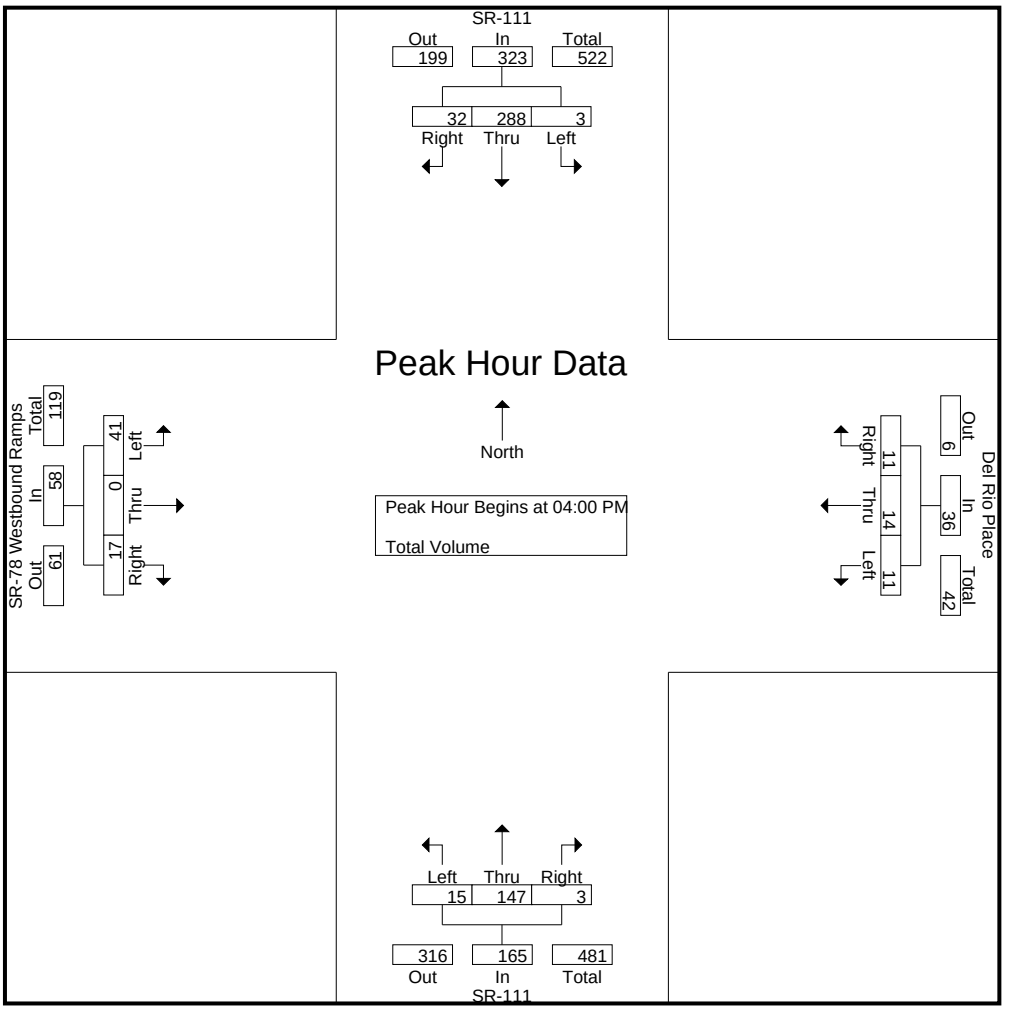
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Westbound Ramps/Del Rio Place
Weather: Clear

File Name : 08_BWY_SR-111_SR-78W PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:15 PM				04:30 PM			
+0 mins.	0	72	7	79	**7**	**8**	2	**17**	**6**	40	0	46	**18**	0	4	**22**
+15 mins.	**1**	**82**	**12**	**95**	2	5	**5**	12	3	**43**	**2**	**48**	12	0	2	14
+30 mins.	1	73	8	82	2	1	4	7	2	32	0	34	14	**1**	**5**	20
+45 mins.	1	61	5	67	0	0	0	0	5	38	0	43	15	0	5	20
Total Volume	3	288	32	323	11	14	11	36	16	153	2	171	59	1	16	76
% App. Total	0.9	89.2	9.9		30.6	38.9	30.6		9.4	89.5	1.2		77.6	1.3	21.1	
PHF	.750	.878	.667	.850	.393	.438	.550	.529	.667	.890	.250	.891	.819	.250	.800	.864

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Eastbound Ramps/Shank Road
Weather: Clear

File Name : 09_BWY_SR-111_SR-78E AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				Shank Road Westbound				SR-111 Northbound				SR-78 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	22	12	35	2	0	0	2	0	37	8	45	5	0	2	7	89
07:15 AM	0	19	10	29	3	0	0	3	7	45	6	58	3	1	0	4	94
07:30 AM	2	17	18	37	2	0	0	2	3	47	5	55	8	0	4	12	106
07:45 AM	1	24	8	33	6	0	1	7	2	34	11	47	9	1	5	15	102
Total	4	82	48	134	13	0	1	14	12	163	30	205	25	2	11	38	391
08:00 AM	0	23	5	28	3	0	0	3	3	26	3	32	2	1	4	7	70
08:15 AM	0	41	12	53	3	0	0	3	0	20	9	29	6	0	4	10	95
08:30 AM	1	31	12	44	4	0	0	4	3	21	9	33	5	1	2	8	89
08:45 AM	1	23	15	39	2	0	1	3	2	21	2	25	1	0	4	5	72
Total	2	118	44	164	12	0	1	13	8	88	23	119	14	2	14	30	326
Grand Total	6	200	92	298	25	0	2	27	20	251	53	324	39	4	25	68	717
Apprch %	2	67.1	30.9		92.6	0	7.4		6.2	77.5	16.4		57.4	5.9	36.8		
Total %	0.8	27.9	12.8	41.6	3.5	0	0.3	3.8	2.8	35	7.4	45.2	5.4	0.6	3.5	9.5	

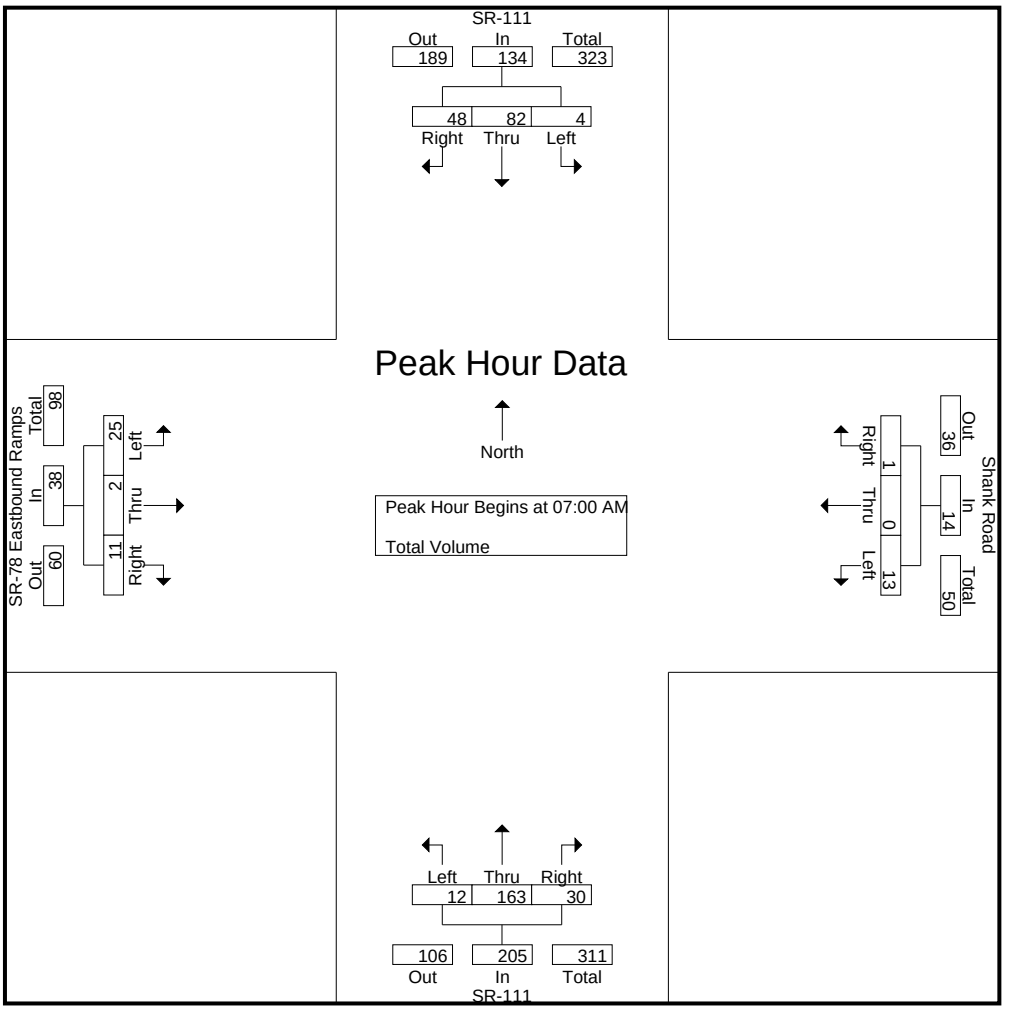
	SR-111 Southbound				Shank Road Westbound				SR-111 Northbound				SR-78 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	22	12	35	2	0	0	2	0	37	8	45	5	0	2	7	89
07:15 AM	0	19	10	29	3	0	0	3	**7**	45	6	**58**	3	**1**	0	4	94
07:30 AM	**2**	17	**18**	**37**	2	0	0	2	3	**47**	5	55	8	0	4	12	**106**
07:45 AM	1	**24**	8	33	**6**	0	**1**	**7**	2	34	**11**	47	**9**	1	**5**	**15**	102
Total Volume	4	82	48	134	13	0	1	14	12	163	30	205	25	2	11	38	391
% App. Total	3	61.2	35.8		92.9	0	7.1		5.9	79.5	14.6		65.8	5.3	28.9		
PHF	.500	.854	.667	.905	.542	.000	.250	.500	.429	.867	.682	.884	.694	.500	.550	.633	.922

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Eastbound Ramps/Shank Road
Weather: Clear

File Name : 09_BWY_SR-111_SR-78E AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

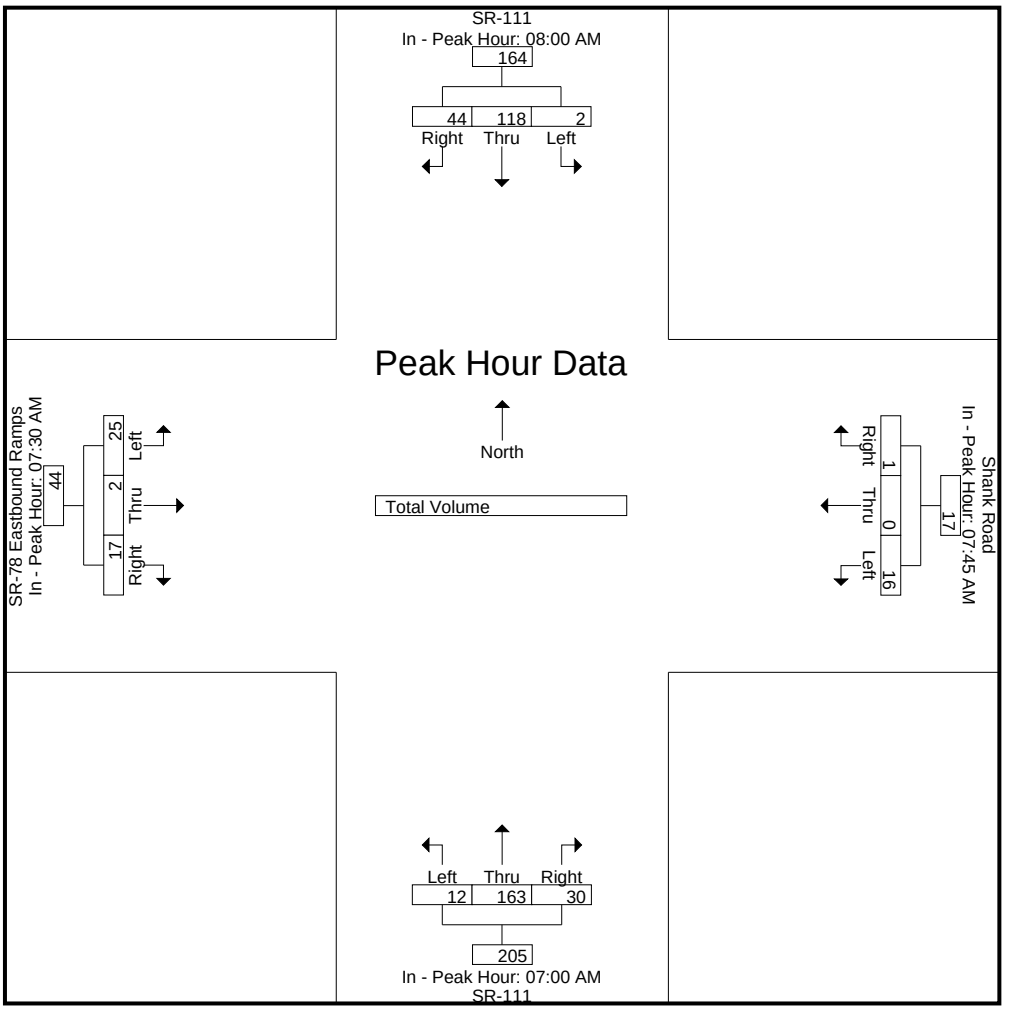
	08:00 AM				07:45 AM				07:00 AM				07:30 AM			
+0 mins.	0	23	5	28	**6**	0	**1**	**7**	0	37	8	45	8	0	4	12
+15 mins.	0	**41**	12	**53**	3	0	0	3	**7**	45	6	**58**	**9**	**1**	**5**	**15**
+30 mins.	**1**	31	12	44	3	0	0	3	3	**47**	5	55	2	1	4	7
+45 mins.	1	23	**15**	39	4	0	0	4	2	34	**11**	47	6	0	4	10
Total Volume	2	118	44	164	16	0	1	17	12	163	30	205	25	2	17	44
% App. Total	1.2	72	26.8		94.1	0	5.9		5.9	79.5	14.6		56.8	4.5	38.6	
PHF	.500	.720	.733	.774	.667	.000	.250	.607	.429	.867	.682	.884	.694	.500	.850	.733

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Eastbound Ramps/Shank Road
Weather: Clear

File Name : 09_BWY_SR-111_SR-78E AM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 3



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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Eastbound Ramps/Shank Road
Weather: Clear

File Name : 09_BWY_SR-111_SR-78E PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 1

Groups Printed- Total Volume

	SR-111 Southbound				Shank Road Westbound				SR-111 Northbound				SR-78 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	52	32	84	17	0	0	17	5	28	3	36	9	2	10	21	158
04:15 PM	1	56	37	94	15	0	0	15	4	38	6	48	5	1	8	14	171
04:30 PM	1	52	24	77	13	0	4	17	7	38	7	52	5	4	11	20	166
04:45 PM	0	37	23	60	19	1	0	20	4	34	5	43	1	1	9	11	134
Total	2	197	116	315	64	1	4	69	20	138	21	179	20	8	38	66	629
05:00 PM	1	39	18	58	17	0	1	18	11	35	3	49	6	1	8	15	140
05:15 PM	0	39	17	56	5	3	0	8	1	34	3	38	2	1	6	9	111
05:30 PM	1	23	8	32	10	0	0	10	2	30	2	34	6	1	3	10	86
05:45 PM	0	28	7	35	7	2	0	9	0	27	3	30	8	1	1	10	84
Total	2	129	50	181	39	5	1	45	14	126	11	151	22	4	18	44	421
Grand Total	4	326	166	496	103	6	5	114	34	264	32	330	42	12	56	110	1050
Apprch %	0.8	65.7	33.5		90.4	5.3	4.4		10.3	80	9.7		38.2	10.9	50.9		
Total %	0.4	31	15.8	47.2	9.8	0.6	0.5	10.9	3.2	25.1	3	31.4	4	1.1	5.3	10.5	

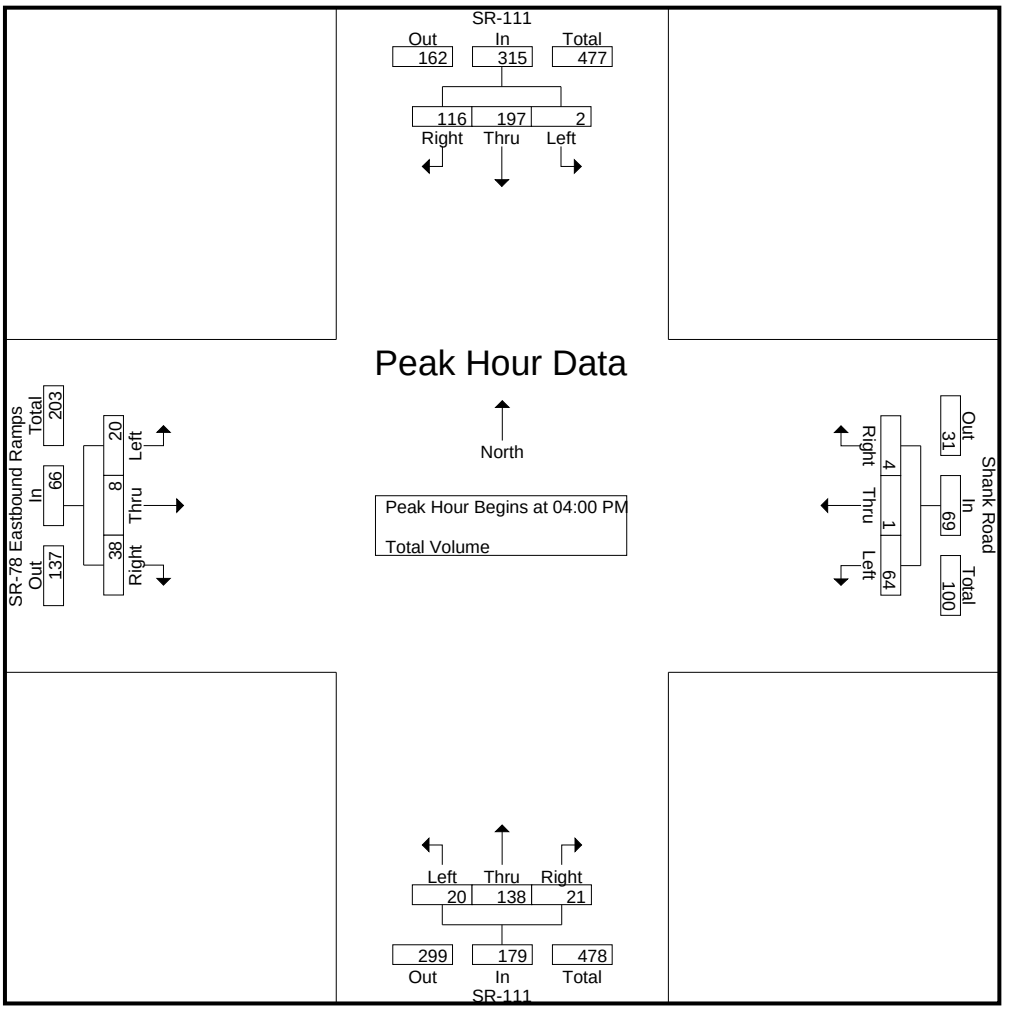
	SR-111 Southbound				Shank Road Westbound				SR-111 Northbound				SR-78 Eastbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	52	32	84	17	0	0	17	5	28	3	36	**9**	2	10	**21**	158
04:15 PM	**1**	**56**	**37**	**94**	15	0	0	15	4	**38**	6	48	5	1	8	14	**171**
04:30 PM	1	52	24	77	13	0	**4**	17	**7**	38	**7**	**52**	5	**4**	**11**	20	166
04:45 PM	0	37	23	60	**19**	**1**	0	**20**	4	34	5	43	1	1	9	11	134
Total Volume	2	197	116	315	64	1	4	69	20	138	21	179	20	8	38	66	629
% App. Total	0.6	62.5	36.8		92.8	1.4	5.8		11.2	77.1	11.7		30.3	12.1	57.6		
PHF	.500	.879	.784	.838	.842	.250	.250	.863	.714	.908	.750	.861	.556	.500	.864	.786	.920

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Brawley
N/S: SR-111
E/W: SR-78 Eastbound Ramps/Shank Road
Weather: Clear

File Name : 09_BWY_SR-111_SR-78E PM
Site Code : 04120461
Start Date : 12/8/2020
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM				04:15 PM				04:00 PM			
+0 mins.	0	52	32	84	15	0	0	15	4	**38**	6	48	**9**	2	10	**21**
+15 mins.	**1**	**56**	**37**	**94**	13	0	**4**	17	7	38	**7**	**52**	5	1	8	14
+30 mins.	1	52	24	77	**19**	**1**	0	**20**	4	34	5	43	5	**4**	**11**	20
+45 mins.	0	37	23	60	17	0	1	18	**11**	35	3	49	1	1	9	11
Total Volume	2	197	116	315	64	1	5	70	26	145	21	192	20	8	38	66
% App. Total	0.6	62.5	36.8		91.4	1.4	7.1		13.5	75.5	10.9		30.3	12.1	57.6	
PHF	.500	.879	.784	.838	.842	.250	.313	.875	.591	.954	.750	.923	.556	.500	.864	.786

PC ORIGINAL PKG

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City of Brawley
N/S: SR-111
E/W: SR-78 Eastbound Ramps/Shank Road
Weather: Clear

File Name : 09_BWY_SR-111_SR-78E PM
Site Code : 04120461
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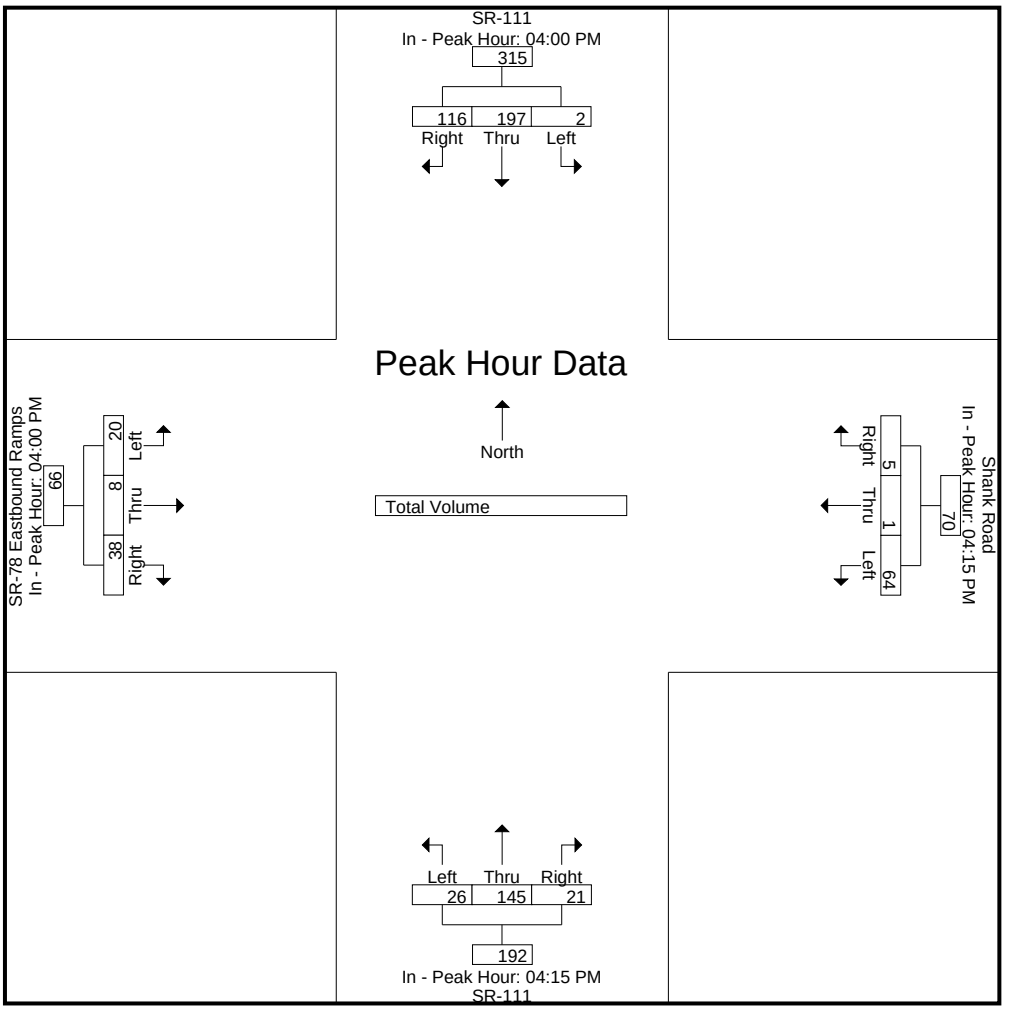
Page No : 3



PC ORIGINAL PKG

APPENDIX B : EXISTING YEAR CONDITIONS ANALYSIS WORKSHEETS

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	14	0	0	25	0	0	0	0	0	0	0
Future Vol, veh/h	0	14	0	0	25	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	15	0	0	27	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	27	0	0	15	0	0	42	42	15	42	42	27
Stage 1	-	-	-	-	-	-	15	15	-	27	27	-
Stage 2	-	-	-	-	-	-	27	27	-	15	15	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1587	-	-	1603	-	-	961	850	1065	961	850	1048
Stage 1	-	-	-	-	-	-	1005	883	-	990	873	-
Stage 2	-	-	-	-	-	-	990	873	-	1005	883	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1587	-	-	1603	-	-	961	850	1065	961	850	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	961	850	-	961	850	-
Stage 1	-	-	-	-	-	-	1005	883	-	990	873	-
Stage 2	-	-	-	-	-	-	990	873	-	1005	883	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1587	-	-	1603	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	14	0	0	25	0	0	0	0	0	0	0
Future Vol, veh/h	0	14	0	0	25	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	15	0	0	27	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	27	0	0	15	0	0	42	42	15	42	42	27
Stage 1	-	-	-	-	-	-	15	15	-	27	27	-
Stage 2	-	-	-	-	-	-	27	27	-	15	15	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1587	-	-	1603	-	-	961	850	1065	961	850	1048
Stage 1	-	-	-	-	-	-	1005	883	-	990	873	-
Stage 2	-	-	-	-	-	-	990	873	-	1005	883	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1587	-	-	1603	-	-	961	850	1065	961	850	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	961	850	-	961	850	-
Stage 1	-	-	-	-	-	-	1005	883	-	990	873	-
Stage 2	-	-	-	-	-	-	990	873	-	1005	883	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1587	-	-	1603	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	3	2	0	3	5	79	2	10	76	1
Future Vol, veh/h	0	0	3	2	0	3	5	79	2	10	76	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	2	0	3	5	86	2	11	83	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	205	204	84	204	203	87	84	0	0	88	0	0
Stage 1	106	106	-	97	97	-	-	-	-	-	-	-
Stage 2	99	98	-	107	106	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	753	692	975	754	693	971	1513	-	-	1508	-	-
Stage 1	900	807	-	910	815	-	-	-	-	-	-	-
Stage 2	907	814	-	898	807	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	744	684	975	745	685	971	1513	-	-	1508	-	-
Mov Cap-2 Maneuver	744	684	-	745	685	-	-	-	-	-	-	-
Stage 1	897	801	-	907	813	-	-	-	-	-	-	-
Stage 2	901	812	-	888	801	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9.2	0.4	0.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1513	-	-	975	866	1508	-	-
HCM Lane V/C Ratio	0.004	-	-	0.003	0.006	0.007	-	-
HCM Control Delay (s)	7.4	0	-	8.7	9.2	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	17	2	0	16	2	113	1	5	116	1
Future Vol, veh/h	0	0	17	2	0	16	2	113	1	5	116	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	18	2	0	17	2	123	1	5	126	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	273	265	127	274	265	124	127	0	0	124	0	0
Stage 1	137	137	-	128	128	-	-	-	-	-	-	-
Stage 2	136	128	-	146	137	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	679	640	923	678	640	927	1459	-	-	1463	-	-
Stage 1	866	783	-	876	790	-	-	-	-	-	-	-
Stage 2	867	790	-	857	783	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	664	637	923	662	637	927	1459	-	-	1463	-	-
Mov Cap-2 Maneuver	664	637	-	662	637	-	-	-	-	-	-	-
Stage 1	865	780	-	875	789	-	-	-	-	-	-	-
Stage 2	850	789	-	836	780	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	9.1	0.1	0.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1459	-	-	923	888	1463	-	-
HCM Lane V/C Ratio	0.001	-	-	0.02	0.022	0.004	-	-
HCM Control Delay (s)	7.5	0	-	9	9.1	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

PC ORIGINAL PKG

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	83	39	127	75	33	46	77	33	26	130	33
Future Vol, veh/h	44	83	39	127	75	33	46	77	33	26	130	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	90	42	138	82	36	50	84	36	28	141	36
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	9.8	11	9.9	10
HCM LOS	A	B	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	54%	0%	51%	0%	77%	0%	29%	0%
Vol Thru, %	46%	54%	49%	52%	23%	53%	71%	66%
Vol Right, %	0%	46%	0%	48%	0%	47%	0%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	85	72	86	81	165	71	91	98
LT Vol	46	0	44	0	127	0	26	0
Through Vol	39	39	42	42	38	38	65	65
RT Vol	0	33	0	39	0	33	0	33
Lane Flow Rate	92	78	93	88	179	77	99	107
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.163	0.125	0.162	0.138	0.312	0.118	0.17	0.172
Departure Headway (Hd)	6.375	5.772	6.262	5.658	6.273	5.552	6.192	5.808
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	563	621	573	634	574	646	580	618
Service Time	4.112	3.509	3.996	3.392	4.005	3.283	3.929	3.545
HCM Lane V/C Ratio	0.163	0.126	0.162	0.139	0.312	0.119	0.171	0.173
HCM Control Delay	10.4	9.3	10.2	9.3	11.8	9	10.2	9.8
HCM Lane LOS	B	A	B	A	B	A	B	A
HCM 95th-tile Q	0.6	0.4	0.6	0.5	1.3	0.4	0.6	0.6

PC ORIGINAL PKG

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	3	14	2	7	14	17	135	0	6	107	10
Future Vol, veh/h	8	3	14	2	7	14	17	135	0	6	107	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	3	15	2	8	15	18	147	0	7	116	11
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	7.8	7.7	8.2	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	27%	0%	84%	0%	36%	0%	10%	0%
Vol Thru, %	73%	100%	16%	10%	64%	20%	90%	84%
Vol Right, %	0%	0%	0%	90%	0%	80%	0%	16%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	90	10	16	6	18	60	64
LT Vol	17	0	8	0	2	0	6	0
Through Vol	45	90	2	2	4	4	54	54
RT Vol	0	0	0	14	0	14	0	10
Lane Flow Rate	67	98	10	17	6	19	65	69
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.09	0.127	0.016	0.022	0.009	0.025	0.085	0.088
Departure Headway (Hd)	4.827	4.69	5.691	4.632	5.454	4.708	4.758	4.597
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	734	755	633	777	660	765	742	768
Service Time	2.613	2.475	3.392	2.333	3.154	2.409	2.553	2.392
HCM Lane V/C Ratio	0.091	0.13	0.016	0.022	0.009	0.025	0.088	0.09
HCM Control Delay	8.1	8.2	8.5	7.4	8.2	7.5	8	7.8
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.4	0	0.1	0	0.1	0.3	0.3

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	0	7	4	2	8	13	170	4	15	122	5
Future Volume (veh/h)	84	0	7	4	2	8	13	170	4	15	122	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	91	0	8	4	2	9	14	185	4	16	133	5
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	718	745	633	721	745	633	629	745	633	530	1392	52
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	9.0	0.0	8.2	8.1	8.1	8.2	12.9	14.3	11.8	10.9	8.7	8.7
Ln Grp LOS	A		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		99			15			203			154	
Approach Delay, s/veh		9.0			8.2			14.1			8.9	
Approach LOS		A			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.1		3.8		5.1		4.1
Max Q Clear (g_c+I1), s		6.0		3.9		6.4		2.2
Green Ext Time (g_e), s		0.8		0.2		0.5		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1246		1398		1189		1402

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3479		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		130		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	14	0	91	0	16	0	4
Grp Sat Flow (s), veh/h/ln	0	1246	0	1398	0	1189	0	1402
Q Serve Time (g_s), s	0.0	0.4	0.0	1.9	0.0	0.4	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	1.5	0.0	1.9	0.0	4.4	0.0	0.1
Perm LT Sat Flow (s_l), veh/h/ln	0	1246	0	1398	0	1189	0	1402
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	16.9	0.0	18.0	0.0	14.0	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.4	0.0	1.9	0.0	0.4	0.0	0.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	629	0	718	0	530	0	721
V/C Ratio (X)	0.00	0.02	0.00	0.13	0.00	0.03	0.00	0.01
Avail Cap (c_a), veh/h	0	629	0	718	0	530	0	721
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	8.7	0.0	10.8	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.4	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.9	0.0	9.0	0.0	10.9	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.7	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.8	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	185	0	0	0	67	0	2
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	4.0	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.0	0.0	0.0	0.0	1.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.25	0.00	0.00	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.5	0.0	0.0	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.3	0.0	0.0	0.0	8.7	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	0.0	0.0	0.5	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.2	0.0	0.0	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	4	0	8	0	71	0	9
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1840	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.07	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	736	0	633
V/C Ratio (X)	0.00	0.01	0.00	0.01	0.00	0.10	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	736	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.1	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.2	0.0	8.7	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.5	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.1
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	0	17	11	14	11	15	147	3	3	288	32
Future Volume (veh/h)	41	0	17	11	14	11	15	147	3	3	288	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	45	0	18	12	15	12	16	160	3	3	313	35
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	704	745	633	716	745	633	504	745	633	554	1285	143
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	8.7	0.0	8.3	8.2	8.2	8.2	14.7	13.9	11.8	10.3	9.8	9.8
Ln Grp LOS	A		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		63			39			179			351	
Approach Delay, s/veh		8.6			8.2			13.9			9.8	
Approach LOS		A			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.2		3.9		5.3		4.4
Max Q Clear (g_c+I1), s		5.6		3.1		5.5		2.2
Green Ext Time (g_e), s		0.7		0.1		1.6		0.1
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1029		1378		1218		1389

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3213		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		357		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	16	0	45	0	3	0	12
Grp Sat Flow (s), veh/h/ln	0	1029	0	1378	0	1218	0	1389
Q Serve Time (g_s), s	0.0	0.6	0.0	0.9	0.0	0.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	1.1	0.0	3.5	0.0	0.2
Perm LT Sat Flow (s_l), veh/h/ln	0	1029	0	1378	0	1218	0	1389
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	15.1	0.0	17.8	0.0	14.5	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.6	0.0	0.9	0.0	0.1	0.0	0.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	504	0	704	0	554	0	716
V/C Ratio (X)	0.00	0.03	0.00	0.06	0.00	0.01	0.00	0.02
Avail Cap (c_a), veh/h	0	504	0	704	0	554	0	716
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.6	0.0	8.5	0.0	10.3	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.7	0.0	8.7	0.0	10.3	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.3	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	160	0	0	0	171	0	15
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	3.5	0.0	0.0	0.0	2.9	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	3.5	0.0	0.0	0.0	2.9	0.0	0.2
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	0.24	0.00	0.02
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.2	0.0	0.0	0.0	9.0	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.9	0.0	0.0	0.0	9.8	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	0.0	0.0	1.4	0.0	0.1

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.9	0.0	0.0	0.0	1.5	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	3	0	18	0	177	0	12
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1800	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.3	0.0	2.9	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.3	0.0	2.9	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.20	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	720	0	633
V/C Ratio (X)	0.00	0.00	0.00	0.03	0.00	0.25	0.00	0.02
Avail Cap (c_a), veh/h	0	633	0	633	0	720	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.2	0.0	9.0	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.8	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.3	0.0	9.8	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	1.4	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	1.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	10.7
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	4	25	6	0	1	20	251	53	2	200	92
Future Volume (veh/h)	39	4	25	6	0	1	20	251	53	2	200	92
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	42	4	27	7	0	1	22	273	58	2	217	100
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	402	32	633	409	0	633	472	745	633	470	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	14.0	0.0	8.4	15.2	0.0	8.1	11.6	10.9	8.7	15.9	14.8	13.3
Ln Grp LOS	B		A	B		A	B	B	A	B	B	B
Approach Vol, veh/h		73			8			353			319	
Approach Delay, s/veh		11.9			14.4			10.6			14.3	
Approach LOS		B			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.0		4.8		4.9		5.2
Max Q Clear (g_c+l1), s		7.4		12.4		6.7		12.0
Green Ext Time (g_e), s		1.4		0.1		1.2		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1058		623		1045		621

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		79		1863		0

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	22	0	46	0	2	0	7
Grp Sat Flow (s), veh/h/ln	0	1058	0	702	0	1045	0	621
Q Serve Time (g_s), s	0.0	0.7	0.0	0.9	0.0	0.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	5.4	0.0	10.4	0.0	4.7	0.0	10.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1058	0	1439	0	1045	0	1400
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.3	0.0	8.5	0.0	13.4	0.0	8.1
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	0.9	0.0	0.1	0.0	0.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.91	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	472	0	434	0	470	0	409
V/C Ratio (X)	0.00	0.05	0.00	0.11	0.00	0.00	0.00	0.02
Avail Cap (c_a), veh/h	0	472	0	434	0	470	0	409
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.4	0.0	13.5	0.0	15.9	0.0	15.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.6	0.0	14.0	0.0	15.9	0.0	15.2
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	273	0	0	0	217	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	4.6	0.0	0.0	0.0	4.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.6	0.0	0.0	0.0	4.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.37	0.00	0.00	0.00	0.29	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.5	0.0	0.0	0.0	13.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.0	0.0	1.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.9	0.0	0.0	0.0	14.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	0.0	0.0	2.4	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.6	0.0	0.0	0.0	2.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	58	0	27	0	100	0	1
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	1.0	0.0	0.5	0.0	2.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.0	0.0	0.5	0.0	2.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.09	0.00	0.04	0.00	0.16	0.00	0.00
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.4	0.0	8.2	0.0	12.8	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.1	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.7	0.0	8.4	0.0	13.3	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	0.2	0.0	1.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.2	0.0	1.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	8	38	64	1	4	20	138	21	2	197	116
Future Volume (veh/h)	20	8	38	64	1	4	20	138	21	2	197	116
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	22	9	41	70	1	4	22	150	23	2	214	126
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	137	34	633	161	1	633	467	745	633	579	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	13.8	0.0	8.5	30.6	0.0	8.1	11.6	9.4	8.3	13.8	14.7	13.8
Ln Grp LOS	B		A	C		A	B	A	A	B	B	B
Approach Vol, veh/h		72			75			195			342	
Approach Delay, s/veh		10.8			29.4			9.5			14.4	
Approach LOS		B			C			A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.0		4.6		4.8		5.3
Max Q Clear (g_c+l1), s		7.4		20.0		6.7		20.0
Green Ext Time (g_e), s		0.7		0.0		1.2		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1036		1		1207		5

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		85		1863		3

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	22	0	31	0	2	0	71
Grp Sat Flow (s), veh/h/ln	0	1036	0	87	0	1207	0	8
Q Serve Time (g_s), s	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	5.4	0.0	18.0	0.0	2.4	0.0	18.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1036	0	1434	0	1207	0	1376
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.3	0.0	0.0	0.0	15.6	0.0	0.1
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.71	0.00	1.00	0.00	0.99
Lane Grp Cap (c), veh/h	0	467	0	171	0	579	0	162
V/C Ratio (X)	0.00	0.05	0.00	0.18	0.00	0.00	0.00	0.44
Avail Cap (c_a), veh/h	0	467	0	171	0	579	0	162
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.4	0.0	11.5	0.0	13.8	0.0	22.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	2.3	0.0	0.0	0.0	8.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.6	0.0	13.8	0.0	13.8	0.0	30.6
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.3	0.0	0.0	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.42
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	150	0	0	0	214	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	2.4	0.0	0.0	0.0	4.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.4	0.0	0.0	0.0	4.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.20	0.00	0.00	0.00	0.29	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.8	0.0	0.0	0.0	13.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	0.0	1.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.4	0.0	0.0	0.0	14.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	0.0	0.0	2.4	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	0.0	0.0	2.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	41	0	126	0	4
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	0.4	0.0	0.7	0.0	3.2	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	0.4	0.0	0.7	0.0	3.2	0.0	0.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.04	0.00	0.06	0.00	0.20	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.2	0.0	8.3	0.0	13.1	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.3	0.0	8.5	0.0	13.8	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.3	0.0	1.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.3	0.0	1.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	14.3
HCM 2010 LOS	B

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APPENDIX C : CONSTRUCTION YEAR ANALYSIS WORKSHEETS

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	0
Future Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	16	0	0	28	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	16	0	0	44	44	16	44	44	28
Stage 1	-	-	-	-	-	-	16	16	-	28	28	-
Stage 2	-	-	-	-	-	-	28	28	-	16	16	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1602	-	-	958	848	1063	958	848	1047
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	1004	882	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1585	-	-	1602	-	-	958	848	1063	958	848	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	958	848	-	958	848	-
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	1004	882	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1585	-	-	1602	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

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Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	0
Future Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	16	0	0	28	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	16	0	0	44	44	16	44	44	28
Stage 1	-	-	-	-	-	-	16	16	-	28	28	-
Stage 2	-	-	-	-	-	-	28	28	-	16	16	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1602	-	-	958	848	1063	958	848	1047
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	1004	882	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1585	-	-	1602	-	-	958	848	1063	958	848	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	958	848	-	958	848	-
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	1004	882	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1585	-	-	1602	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	-

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Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	3	2	0	3	5	83	2	11	80	1
Future Vol, veh/h	0	0	3	2	0	3	5	83	2	11	80	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	2	0	3	5	90	2	12	87	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	215	214	88	214	213	91	88	0	0	92	0	0
Stage 1	112	112	-	101	101	-	-	-	-	-	-	-
Stage 2	103	102	-	113	112	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	742	684	970	743	684	967	1508	-	-	1503	-	-
Stage 1	893	803	-	905	811	-	-	-	-	-	-	-
Stage 2	903	811	-	892	803	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	733	676	970	734	676	967	1508	-	-	1503	-	-
Mov Cap-2 Maneuver	733	676	-	734	676	-	-	-	-	-	-	-
Stage 1	890	797	-	902	809	-	-	-	-	-	-	-
Stage 2	897	809	-	882	797	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9.2	0.4	0.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1508	-	-	970	858	1503	-	-
HCM Lane V/C Ratio	0.004	-	-	0.003	0.006	0.008	-	-
HCM Control Delay (s)	7.4	0	-	8.7	9.2	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

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Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	18	2	0	17	2	119	1	5	122	1
Future Vol, veh/h	0	0	18	2	0	17	2	119	1	5	122	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	20	2	0	18	2	129	1	5	133	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	287	278	134	288	278	130	134	0	0	130	0	0
Stage 1	144	144	-	134	134	-	-	-	-	-	-	-
Stage 2	143	134	-	154	144	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	665	630	915	664	630	920	1451	-	-	1455	-	-
Stage 1	859	778	-	869	785	-	-	-	-	-	-	-
Stage 2	860	785	-	848	778	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	649	627	915	647	627	920	1451	-	-	1455	-	-
Mov Cap-2 Maneuver	649	627	-	647	627	-	-	-	-	-	-	-
Stage 1	858	775	-	868	784	-	-	-	-	-	-	-
Stage 2	842	784	-	827	775	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	9.2	0.1	0.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1451	-	-	915	881	1455	-	-
HCM Lane V/C Ratio	0.001	-	-	0.021	0.023	0.004	-	-
HCM Control Delay (s)	7.5	0	-	9	9.2	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

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Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	88	41	134	79	35	49	81	35	27	137	35
Future Vol, veh/h	46	88	41	134	79	35	49	81	35	27	137	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	96	45	146	86	38	53	88	38	29	149	38
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	10	11.4	10.1	10.2
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	55%	0%	51%	0%	77%	0%	28%	0%
Vol Thru, %	45%	54%	49%	52%	23%	53%	72%	66%
Vol Right, %	0%	46%	0%	48%	0%	47%	0%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	76	90	85	174	75	96	104
LT Vol	49	0	46	0	134	0	27	0
Through Vol	41	41	44	44	40	40	69	69
RT Vol	0	35	0	41	0	35	0	35
Lane Flow Rate	97	82	98	92	189	81	104	112
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.175	0.134	0.173	0.148	0.333	0.127	0.182	0.185
Departure Headway (Hd)	6.485	5.878	6.363	5.762	6.365	5.642	6.295	5.912
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	554	610	563	622	566	635	570	606
Service Time	4.225	3.618	4.104	3.503	4.104	3.38	4.033	3.65
HCM Lane V/C Ratio	0.175	0.134	0.174	0.148	0.334	0.128	0.182	0.185
HCM Control Delay	10.6	9.5	10.4	9.5	12.3	9.2	10.4	10
HCM Lane LOS	B	A	B	A	B	A	B	A
HCM 95th-tile Q	0.6	0.5	0.6	0.5	1.5	0.4	0.7	0.7

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Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	3	15	2	7	15	18	142	0	6	113	11
Future Vol, veh/h	8	3	15	2	7	15	18	142	0	6	113	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	3	16	2	8	16	20	154	0	7	123	12
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	7.9	7.7	8.2	8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	28%	0%	84%	0%	36%	0%	10%	0%
Vol Thru, %	72%	100%	16%	9%	64%	19%	90%	84%
Vol Right, %	0%	0%	0%	91%	0%	81%	0%	16%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	95	10	17	6	19	63	68
LT Vol	18	0	8	0	2	0	6	0
Through Vol	47	95	2	2	4	4	57	57
RT Vol	0	0	0	15	0	15	0	11
Lane Flow Rate	71	103	10	18	6	20	68	73
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.095	0.134	0.016	0.023	0.009	0.026	0.092	0.094
Departure Headway (Hd)	4.836	4.698	5.731	4.668	5.494	4.741	4.863	4.601
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	732	753	628	771	655	759	741	767
Service Time	2.626	2.488	3.435	2.372	3.198	2.445	2.563	2.4
HCM Lane V/C Ratio	0.097	0.137	0.016	0.023	0.009	0.026	0.092	0.095
HCM Control Delay	8.1	8.2	8.5	7.5	8.2	7.6	8.1	7.9
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0	0.1	0	0.1	0.3	0.3

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	0	7	4	2	8	14	179	4	16	129	5
Future Volume (veh/h)	89	0	7	4	2	8	14	179	4	16	129	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	97	0	8	4	2	9	15	195	4	17	140	5
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	718	745	633	721	745	633	624	745	633	521	1395	50
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	9.1	0.0	8.2	8.1	8.1	8.2	13.0	14.4	11.8	11.1	8.7	8.7
Ln Grp LOS	A		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		105			15			214			162	
Approach Delay, s/veh		9.0			8.2			14.3			9.0	
Approach LOS		A			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.1		3.8		5.1		4.1
Max Q Clear (g_c+I1), s		6.2		4.0		6.7		2.2
Green Ext Time (g_e), s		0.8		0.2		0.5		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1238		1398		1179		1402

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3486		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		124		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	15	0	97	0	17	0	4
Grp Sat Flow (s), veh/h/ln	0	1238	0	1398	0	1179	0	1402
Q Serve Time (g_s), s	0.0	0.5	0.0	2.0	0.0	0.5	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	1.6	0.0	2.0	0.0	4.7	0.0	0.1
Perm LT Sat Flow (s_l), veh/h/ln	0	1238	0	1398	0	1179	0	1402
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	16.9	0.0	18.0	0.0	13.8	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.5	0.0	2.0	0.0	0.5	0.0	0.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	624	0	718	0	521	0	721
V/C Ratio (X)	0.00	0.02	0.00	0.14	0.00	0.03	0.00	0.01
Avail Cap (c_a), veh/h	0	624	0	718	0	521	0	721
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	8.7	0.0	11.0	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.4	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.0	0.0	9.1	0.0	11.1	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.8	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.9	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	195	0	0	0	71	0	2
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	4.2	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.2	0.0	0.0	0.0	1.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.26	0.00	0.00	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.6	0.0	0.0	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.4	0.0	0.0	0.0	8.7	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	0.0	0.0	0.6	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.4	0.0	0.0	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	4	0	8	0	74	0	9
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1841	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.07	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	736	0	633
V/C Ratio (X)	0.00	0.01	0.00	0.01	0.00	0.10	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	736	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.1	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.2	0.0	8.7	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.2
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	0	18	12	15	12	16	155	3	3	304	34
Future Volume (veh/h)	43	0	18	12	15	12	16	155	3	3	304	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	47	0	20	13	16	13	17	168	3	3	330	37
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	703	745	633	715	745	633	494	745	633	546	1285	143
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	8.7	0.0	8.3	8.2	8.2	8.2	14.9	14.0	11.8	10.5	9.9	9.9
Ln Grp LOS	A		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		67			42			188			370	
Approach Delay, s/veh		8.6			8.2			14.0			9.9	
Approach LOS		A			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.2		3.9		5.3		4.4
Max Q Clear (g_c+I1), s		5.8		3.2		5.7		2.3
Green Ext Time (g_e), s		0.7		0.1		1.7		0.1
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1011		1375		1209		1386

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3212		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		358		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	17	0	47	0	3	0	13
Grp Sat Flow (s), veh/h/ln	0	1011	0	1375	0	1209	0	1386
Q Serve Time (g_s), s	0.0	0.7	0.0	1.0	0.0	0.1	0.0	0.3
Cycle Q Clear Time (g_c), s	0.0	3.8	0.0	1.2	0.0	3.7	0.0	0.3
Perm LT Sat Flow (s_l), veh/h/ln	0	1011	0	1375	0	1209	0	1386
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	14.9	0.0	17.8	0.0	14.4	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	1.0	0.0	0.1	0.0	0.3
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	494	0	703	0	546	0	715
V/C Ratio (X)	0.00	0.03	0.00	0.07	0.00	0.01	0.00	0.02
Avail Cap (c_a), veh/h	0	494	0	703	0	546	0	715
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.8	0.0	8.5	0.0	10.5	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.9	0.0	8.7	0.0	10.5	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	168	0	0	0	181	0	16
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	3.6	0.0	0.0	0.0	3.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	0.0	0.0	3.1	0.0	0.2
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.23	0.00	0.00	0.00	0.26	0.00	0.02
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.3	0.0	0.0	0.0	9.0	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.9	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.0	0.0	0.0	0.0	9.9	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	0.0	0.0	1.5	0.0	0.1

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.0	0.0	0.0	0.0	1.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	3	0	20	0	186	0	13
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1800	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.3	0.0	3.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.3	0.0	3.1	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.20	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	720	0	633
V/C Ratio (X)	0.00	0.00	0.00	0.03	0.00	0.26	0.00	0.02
Avail Cap (c_a), veh/h	0	633	0	633	0	720	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.2	0.0	9.0	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.9	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.3	0.0	9.9	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	1.6	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.2	0.0	1.7	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	4	26	6	0	1	21	265	56	2	211	97
Future Volume (veh/h)	41	4	26	6	0	1	21	265	56	2	211	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	45	4	28	7	0	1	23	288	61	2	229	105
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	378	27	633	379	0	633	461	745	633	458	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	15.0	0.0	8.4	16.1	0.0	8.1	11.8	11.1	8.7	16.1	15.0	13.4
Ln Grp LOS	B		A	B		A	B	B	A	B	B	B
Approach Vol, veh/h		77			8			372			336	
Approach Delay, s/veh		12.6			15.1			10.8			14.5	
Approach LOS		B			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.0		4.8		4.9		5.2
Max Q Clear (g_c+l1), s		7.7		13.4		7.0		13.0
Green Ext Time (g_e), s		1.4		0.1		1.2		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1042		560		1028		548

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		68		1863		0

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	49	0	2	0	7
Grp Sat Flow (s), veh/h/ln	0	1042	0	628	0	1028	0	548
Q Serve Time (g_s), s	0.0	0.7	0.0	1.1	0.0	0.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	5.7	0.0	11.4	0.0	5.0	0.0	11.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1042	0	1439	0	1028	0	1399
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.0	0.0	7.6	0.0	13.1	0.0	7.2
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	1.1	0.0	0.1	0.0	0.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.92	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	461	0	405	0	458	0	379
V/C Ratio (X)	0.00	0.05	0.00	0.12	0.00	0.00	0.00	0.02
Avail Cap (c_a), veh/h	0	461	0	405	0	458	0	379
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.6	0.0	14.3	0.0	16.1	0.0	16.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.6	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	15.0	0.0	16.1	0.0	16.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.6	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	288	0	0	0	229	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	4.9	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.9	0.0	0.0	0.0	5.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.39	0.00	0.00	0.00	0.31	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.6	0.0	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.0	1.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.1	0.0	0.0	0.0	15.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.0	0.0	2.6	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.8	0.0	0.0	0.0	2.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	61	0	28	0	105	0	1
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	1.1	0.0	0.5	0.0	2.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	0.5	0.0	2.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.10	0.00	0.04	0.00	0.17	0.00	0.00
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.4	0.0	8.2	0.0	12.9	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.1	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.7	0.0	8.4	0.0	13.4	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	0.2	0.0	1.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.2	0.0	1.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	8	40	68	1	4	21	146	22	2	208	122
Future Volume (veh/h)	21	8	40	68	1	4	21	146	22	2	208	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	23	9	43	74	1	4	23	159	24	2	226	133
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	138	32	633	160	1	633	456	745	633	571	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	14.0	0.0	8.5	31.7	0.0	8.1	11.8	9.5	8.3	14.0	14.9	13.9
Ln Grp LOS	B		A	C		A	B	A	A	B	B	B
Approach Vol, veh/h		75			79			206			361	
Approach Delay, s/veh		10.9			30.5			9.6			14.5	
Approach LOS		B			C			A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.1		4.6		4.8		5.3
Max Q Clear (g_c+l1), s		7.7		20.0		6.9		20.0
Green Ext Time (g_e), s		0.7		0.0		1.3		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1018		0		1196		1

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		81		1863		3

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	32	0	2	0	75
Grp Sat Flow (s), veh/h/ln	0	1018	0	82	0	1196	0	4
Q Serve Time (g_s), s	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.7	0.0	18.0	0.0	2.6	0.0	18.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1018	0	1434	0	1196	0	1374
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.1	0.0	0.0	0.0	15.5	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.72	0.00	1.00	0.00	0.99
Lane Grp Cap (c), veh/h	0	456	0	170	0	571	0	161
V/C Ratio (X)	0.00	0.05	0.00	0.19	0.00	0.00	0.00	0.47
Avail Cap (c_a), veh/h	0	456	0	170	0	571	0	161
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.6	0.0	11.5	0.0	14.0	0.0	22.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	2.4	0.0	0.0	0.0	9.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	14.0	0.0	14.0	0.0	31.7
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.45
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	159	0	0	0	226	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	2.5	0.0	0.0	0.0	4.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.5	0.0	0.0	0.0	4.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	0.30	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.9	0.0	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	1.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.5	0.0	0.0	0.0	14.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	0.0	0.0	2.5	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.4	0.0	0.0	0.0	2.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	24	0	43	0	133	0	4
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	0.4	0.0	0.8	0.0	3.4	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	0.4	0.0	0.8	0.0	3.4	0.0	0.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.04	0.00	0.07	0.00	0.21	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.2	0.0	8.3	0.0	13.2	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.3	0.0	8.5	0.0	13.9	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.3	0.0	1.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	1.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	14.5
HCM 2010 LOS	B

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APPENDIX D : CONSTRUCTION YEAR PLUS PROJECT ANALYSIS WORKSHEETS

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	125	15	0	0	26	0	0	0	0	0	0	0
Future Vol, veh/h	125	15	0	0	26	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	136	16	0	0	28	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	16	0	0	316	316	16	316	316	28
Stage 1	-	-	-	-	-	-	288	288	-	28	28	-
Stage 2	-	-	-	-	-	-	28	28	-	288	288	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1602	-	-	637	600	1063	637	600	1047
Stage 1	-	-	-	-	-	-	720	674	-	989	872	-
Stage 2	-	-	-	-	-	-	989	872	-	720	674	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1585	-	-	1602	-	-	594	548	1063	594	548	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	594	548	-	594	548	-
Stage 1	-	-	-	-	-	-	657	615	-	903	872	-
Stage 2	-	-	-	-	-	-	989	872	-	657	615	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.7	0	0	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1585	-	-	1602	-	-	-
HCM Lane V/C Ratio	-	0.086	-	-	-	-	-	-
HCM Control Delay (s)	0	7.5	0	-	0	-	-	0
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0.3	-	-	0	-	-	-

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Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	3	2	0	3	5	83	114	24	80	1
Future Vol, veh/h	0	0	3	2	0	3	5	83	114	24	80	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	2	0	3	5	90	124	26	87	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	304	364	88	303	302	152	88	0	0	214	0	0
Stage 1	140	140	-	162	162	-	-	-	-	-	-	-
Stage 2	164	224	-	141	140	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	648	564	970	649	611	894	1508	-	-	1356	-	-
Stage 1	863	781	-	840	764	-	-	-	-	-	-	-
Stage 2	838	718	-	862	781	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	634	550	970	635	596	894	1508	-	-	1356	-	-
Mov Cap-2 Maneuver	634	550	-	635	596	-	-	-	-	-	-	-
Stage 1	860	765	-	837	761	-	-	-	-	-	-	-
Stage 2	832	715	-	842	765	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9.7	0.2	1.8
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1508	-	-	970	769	1356	-	-
HCM Lane V/C Ratio	0.004	-	-	0.003	0.007	0.019	-	-
HCM Control Delay (s)	7.4	0	-	8.7	9.7	7.7	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.1	-	-

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Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	88	41	134	79	37	49	189	35	27	137	35
Future Vol, veh/h	48	88	41	134	79	37	49	189	35	27	137	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	96	45	146	86	40	53	205	38	29	149	38
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	10.6	12.1	11.3	10.6
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	34%	0%	52%	0%	77%	0%	28%	0%
Vol Thru, %	66%	73%	48%	52%	23%	52%	72%	66%
Vol Right, %	0%	27%	0%	48%	0%	48%	0%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	144	130	92	85	174	77	96	104
LT Vol	49	0	48	0	134	0	27	0
Through Vol	95	95	44	44	40	40	69	69
RT Vol	0	35	0	41	0	37	0	35
Lane Flow Rate	156	141	100	92	189	83	104	112
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.281	0.239	0.188	0.158	0.353	0.139	0.19	0.193
Departure Headway (Hd)	6.474	6.109	6.764	6.155	6.742	6.007	6.574	6.19
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	554	586	529	580	532	595	544	577
Service Time	4.231	3.866	4.527	3.918	4.501	3.765	4.337	3.953
HCM Lane V/C Ratio	0.282	0.241	0.189	0.159	0.355	0.139	0.191	0.194
HCM Control Delay	11.8	10.8	11.1	10.1	13.2	9.7	10.9	10.4
HCM Lane LOS	B	B	B	B	B	A	B	B
HCM 95th-tile Q	1.1	0.9	0.7	0.6	1.6	0.5	0.7	0.7

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	0	7	4	2	8	14	202	4	16	129	5
Future Volume (veh/h)	176	0	7	4	2	8	14	202	4	16	129	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	191	0	8	4	2	9	15	220	4	17	140	5
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	718	745	633	721	745	633	624	745	633	498	1395	50
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	10.3	0.0	8.2	8.1	8.1	8.2	13.0	14.8	11.8	11.5	8.7	8.7
Ln Grp LOS	B		A	A	A	A	B	B	B	B	A	A
Approach Vol, veh/h		199			15			239			162	
Approach Delay, s/veh		10.2			8.2			14.6			9.0	
Approach LOS		B			A			B			A	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.2		3.8		5.2		4.1
Max Q Clear (g_c+I1), s		6.8		6.3		7.3		2.2
Green Ext Time (g_e), s		0.9		0.4		0.5		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1238		1398		1152		1402

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3486		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		124		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	15	0	191	0	17	0	4
Grp Sat Flow (s), veh/h/ln	0	1238	0	1398	0	1152	0	1402
Q Serve Time (g_s), s	0.0	0.5	0.0	4.3	0.0	0.5	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	1.6	0.0	4.3	0.0	5.3	0.0	0.1
Perm LT Sat Flow (s_l), veh/h/ln	0	1238	0	1398	0	1152	0	1402
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	16.9	0.0	18.0	0.0	13.2	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.5	0.0	4.3	0.0	0.5	0.0	0.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	624	0	718	0	498	0	721
V/C Ratio (X)	0.00	0.02	0.00	0.27	0.00	0.03	0.00	0.01
Avail Cap (c_a), veh/h	0	624	0	718	0	498	0	721
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	9.4	0.0	11.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.9	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.0	0.0	10.3	0.0	11.5	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	1.6	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	1.8	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	220	0	0	0	71	0	2
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	4.8	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.8	0.0	0.0	0.0	1.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.30	0.00	0.00	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.8	0.0	0.0	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.8	0.0	0.0	0.0	8.7	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.0	0.0	0.6	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.7	0.0	0.0	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	4	0	8	0	74	0	9
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1841	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.1	0.0	1.1	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.07	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	736	0	633
V/C Ratio (X)	0.00	0.01	0.00	0.01	0.00	0.10	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	736	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.1	0.0	8.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.2	0.0	8.7	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.6
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	4	26	6	0	1	21	265	56	2	211	97
Future Volume (veh/h)	46	4	26	6	0	1	21	265	56	2	211	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	50	4	28	7	0	1	23	288	61	2	229	105
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	336	21	633	331	0	633	461	745	633	458	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	16.7	0.0	8.4	17.5	0.0	8.1	11.8	11.1	8.7	16.1	15.0	13.4
Ln Grp LOS	B		A	B		A	B	B	A	B	B	B
Approach Vol, veh/h		82			8			372			336	
Approach Delay, s/veh		13.9			16.3			10.8			14.5	
Approach LOS		B			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.0		4.8		4.9		5.2
Max Q Clear (g_c+l1), s		7.7		15.2		7.0		14.6
Green Ext Time (g_e), s		1.4		0.1		1.2		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		1042		454		1028		427

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		53		1863		0

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	54	0	2	0	7
Grp Sat Flow (s), veh/h/ln	0	1042	0	507	0	1028	0	427
Q Serve Time (g_s), s	0.0	0.7	0.0	1.3	0.0	0.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	5.7	0.0	13.2	0.0	5.0	0.0	12.6
Perm LT Sat Flow (s_l), veh/h/ln	0	1042	0	1439	0	1028	0	1399
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.0	0.0	6.1	0.0	13.1	0.0	5.6
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	1.3	0.0	0.1	0.0	0.2
Time to First Blk (g_f), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.93	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	461	0	357	0	458	0	331
V/C Ratio (X)	0.00	0.05	0.00	0.15	0.00	0.00	0.00	0.02
Avail Cap (c_a), veh/h	0	461	0	357	0	458	0	331
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.6	0.0	15.8	0.0	16.1	0.0	17.3
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.9	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	16.7	0.0	16.1	0.0	17.5
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.6	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.7	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	288	0	0	0	229	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	4.9	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.9	0.0	0.0	0.0	5.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.39	0.00	0.00	0.00	0.31	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.6	0.0	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.0	1.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.1	0.0	0.0	0.0	15.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.0	0.0	2.6	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.8	0.0	0.0	0.0	2.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	61	0	28	0	105	0	1
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	1.1	0.0	0.5	0.0	2.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	0.5	0.0	2.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.10	0.00	0.04	0.00	0.17	0.00	0.00
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.4	0.0	8.2	0.0	12.9	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.1	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.7	0.0	8.4	0.0	13.4	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	0.2	0.0	1.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.2	0.0	1.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B

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Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	125
Future Vol, veh/h	0	15	0	0	26	0	0	0	0	0	0	125
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	16	0	0	28	0	0	0	0	0	0	136

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	16	0	0	112	44	16	44	44	28
Stage 1	-	-	-	-	-	-	16	16	-	28	28	-
Stage 2	-	-	-	-	-	-	96	28	-	16	16	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1585	-	-	1602	-	-	866	848	1063	958	848	1047
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	911	872	-	1004	882	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1585	-	-	1602	-	-	753	848	1063	958	848	1047
Mov Cap-2 Maneuver	-	-	-	-	-	-	753	848	-	958	848	-
Stage 1	-	-	-	-	-	-	1004	882	-	989	872	-
Stage 2	-	-	-	-	-	-	793	872	-	1004	882	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1585	-	-	1602	-	-	1047
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.13
HCM Control Delay (s)	0	0	-	-	0	-	-	9
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.4

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Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	18	2	13	17	2	119	1	5	122	1
Future Vol, veh/h	0	0	18	2	13	17	2	119	1	5	122	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	20	2	14	18	2	129	1	5	133	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	294	278	134	288	278	130	134	0	0	130	0	0
Stage 1	144	144	-	134	134	-	-	-	-	-	-	-
Stage 2	150	134	-	154	144	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	658	630	915	664	630	920	1451	-	-	1455	-	-
Stage 1	859	778	-	869	785	-	-	-	-	-	-	-
Stage 2	853	785	-	848	778	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	631	627	915	647	627	920	1451	-	-	1455	-	-
Mov Cap-2 Maneuver	631	627	-	647	627	-	-	-	-	-	-	-
Stage 1	858	775	-	868	784	-	-	-	-	-	-	-
Stage 2	820	784	-	827	775	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	10	0.1	0.3
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1451	-	-	915	756	1455	-	-
HCM Lane V/C Ratio	0.001	-	-	0.021	0.046	0.004	-	-
HCM Control Delay (s)	7.5	0	-	9	10	7.5	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

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Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	3	15	2	7	15	18	142	0	8	221	13
Future Vol, veh/h	8	3	15	2	7	15	18	142	0	8	221	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	3	16	2	8	16	20	154	0	9	240	14
Number of Lanes	0	2	0	0	2	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.2	8	8.4	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	28%	0%	84%	0%	36%	0%	7%	0%
Vol Thru, %	72%	100%	16%	9%	64%	19%	93%	89%
Vol Right, %	0%	0%	0%	91%	0%	81%	0%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	95	10	17	6	19	119	124
LT Vol	18	0	8	0	2	0	8	0
Through Vol	47	95	2	2	4	4	111	111
RT Vol	0	0	0	15	0	15	0	13
Lane Flow Rate	71	103	10	18	6	20	129	134
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.099	0.14	0.017	0.025	0.01	0.028	0.174	0.177
Departure Headway (Hd)	5.028	4.89	6.003	4.938	5.766	5.011	4.851	4.743
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	714	735	597	726	622	715	742	758
Service Time	2.746	2.608	3.729	2.663	3.491	2.736	2.567	2.459
HCM Lane V/C Ratio	0.099	0.14	0.017	0.025	0.01	0.028	0.174	0.177
HCM Control Delay	8.3	8.4	8.8	7.8	8.5	7.9	8.6	8.5
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0.1	0.1	0	0.1	0.6	0.6

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	0	18	12	15	12	16	155	3	3	407	39
Future Volume (veh/h)	43	0	18	12	15	12	16	155	3	3	407	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	47	0	20	13	16	13	17	168	3	3	442	42
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	703	745	633	715	745	633	438	745	633	546	1307	124
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.00	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Ln Grp Delay, s/veh	8.7	0.0	8.3	8.2	8.2	8.2	16.0	14.0	11.8	10.5	10.6	10.6
Ln Grp LOS	A		A	A	A	A	B	B	B	B	B	B
Approach Vol, veh/h		67			42			188			487	
Approach Delay, s/veh		8.6			8.2			14.1			10.6	
Approach LOS		A			A			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		5.0		6.0		5.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.2		3.9		5.3		4.4
Max Q Clear (g_c+I1), s		7.0		3.2		6.2		2.3
Green Ext Time (g_e), s		0.7		0.1		2.3		0.1
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		908		1375		1209		1386

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		1863		3268		1863

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		309		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment								

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	17	0	47	0	3	0	13
Grp Sat Flow (s), veh/h/ln	0	908	0	1375	0	1209	0	1386
Q Serve Time (g_s), s	0.0	0.8	0.0	1.0	0.0	0.1	0.0	0.3
Cycle Q Clear Time (g_c), s	0.0	5.0	0.0	1.2	0.0	3.7	0.0	0.3
Perm LT Sat Flow (s_l), veh/h/ln	0	908	0	1375	0	1209	0	1386
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	13.8	0.0	17.8	0.0	14.4	0.0	18.0
Perm LT Q Serve Time (g_ps), s	0.0	0.8	0.0	1.0	0.0	0.1	0.0	0.3
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	438	0	703	0	546	0	715
V/C Ratio (X)	0.00	0.04	0.00	0.07	0.00	0.01	0.00	0.02
Avail Cap (c_a), veh/h	0	438	0	703	0	546	0	715
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.8	0.0	8.5	0.0	10.5	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.0	0.0	8.7	0.0	10.5	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	168	0	0	0	238	0	16
Grp Sat Flow (s), veh/h/ln	0	1863	0	1863	0	1770	0	1863
Q Serve Time (g_s), s	0.0	3.6	0.0	0.0	0.0	4.2	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	0.0	0.0	4.2	0.0	0.2
Lane Grp Cap (c), veh/h	0	745	0	745	0	708	0	745
V/C Ratio (X)	0.00	0.23	0.00	0.00	0.00	0.34	0.00	0.02
Avail Cap (c_a), veh/h	0	745	0	745	0	708	0	745
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.3	0.0	0.0	0.0	9.4	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	1.3	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.0	0.0	0.0	0.0	10.6	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	0.0	0.0	2.1	0.0	0.1

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.0	0.0	0.0	0.0	2.3	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.02	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	3	0	20	0	246	0	13
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1808	0	1583
Q Serve Time (g_s), s	0.0	0.1	0.0	0.3	0.0	4.2	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	0.3	0.0	4.2	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.17	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	723	0	633
V/C Ratio (X)	0.00	0.00	0.00	0.03	0.00	0.34	0.00	0.02
Avail Cap (c_a), veh/h	0	633	0	633	0	723	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	8.2	0.0	9.4	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.3	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	8.3	0.0	10.6	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	2.1	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.2	0.0	2.4	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.2
HCM 2010 LOS	B

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	8	40	68	1	4	21	146	22	2	226	215
Future Volume (veh/h)	21	8	40	68	1	4	21	146	22	2	226	215
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	23	9	43	74	1	4	23	159	24	2	246	234
Adj No. of Lanes	0	1	1	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	138	32	633	160	1	633	415	745	633	571	745	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.13	0.13	0.13
Ln Grp Delay, s/veh	14.0	0.0	8.5	31.7	0.0	8.1	12.2	9.5	8.3	14.0	15.2	16.0
Ln Grp LOS	B		A	C		A	B	A	A	B	B	B
Approach Vol, veh/h		75			79			206			482	
Approach Delay, s/veh		10.9			30.5			9.7			15.6	
Approach LOS		B			C			A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Case No		5.0		7.0		5.0		7.0
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green (Gmax), s		18.0		18.0		18.0		18.0
Max Allow Headway (MAH), s		5.1		4.6		4.7		5.3
Max Q Clear (g_c+I1), s		8.2		20.0		8.1		20.0
Green Ext Time (g_e), s		0.7		0.0		1.6		0.0
Prob of Phs Call (p_c)		1.00		1.00		1.00		1.00
Prob of Max Out (p_x)		0.00		0.00		0.00		0.00

Left-Turn Movement Data								
Assigned Mvmt		5		7		1		3
Mvmt Sat Flow, veh/h		911		0		1196		1

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		1863		81		1863		3

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1583		1583		1583		1583

Left Lane Group Data								
Assigned Mvmt	0	5	0	7	0	1	0	3
Lane Assignment				L+T				L+T

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	23	0	32	0	2	0	75
Grp Sat Flow (s), veh/h/ln	0	911	0	82	0	1196	0	4
Q Serve Time (g_s), s	0.0	0.8	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.2	0.0	18.0	0.0	2.6	0.0	18.0
Perm LT Sat Flow (s_l), veh/h/ln	0	911	0	1434	0	1196	0	1374
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	18.0	0.0	18.0	0.0	18.0
Perm LT Serve Time (g_u), s	0.0	12.6	0.0	0.0	0.0	15.5	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.8	0.0	0.0	0.0	0.1	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.72	0.00	1.00	0.00	0.99
Lane Grp Cap (c), veh/h	0	415	0	170	0	571	0	161
V/C Ratio (X)	0.00	0.06	0.00	0.19	0.00	0.00	0.00	0.47
Avail Cap (c_a), veh/h	0	415	0	170	0	571	0	161
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.0	0.0	11.5	0.0	14.0	0.0	22.2
Incr Delay (d2), s/veh	0.0	0.3	0.0	2.4	0.0	0.0	0.0	9.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.2	0.0	14.0	0.0	14.0	0.0	31.7
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	0.0	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.45
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	159	0	0	0	246	0	0
Grp Sat Flow (s), veh/h/ln	0	1863	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	2.5	0.0	0.0	0.0	5.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.5	0.0	0.0	0.0	5.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	745	0	0	0	745	0	0
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	0.33	0.00	0.00
Avail Cap (c_a), veh/h	0	745	0	0	0	745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.9	0.0	0.0	0.0	14.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	1.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.5	0.0	0.0	0.0	15.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	0.0	0.0	2.8	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.4	0.0	0.0	0.0	3.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	24	0	43	0	234	0	4
Grp Sat Flow (s), veh/h/ln	0	1583	0	1583	0	1583	0	1583
Q Serve Time (g_s), s	0.0	0.4	0.0	0.8	0.0	6.1	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	0.4	0.0	0.8	0.0	6.1	0.0	0.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	633	0	633	0	633	0	633
V/C Ratio (X)	0.00	0.04	0.00	0.07	0.00	0.37	0.00	0.01
Avail Cap (c_a), veh/h	0	633	0	633	0	633	0	633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.2	0.0	8.3	0.0	14.4	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	1.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.3	0.0	8.5	0.0	16.0	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.3	0.0	2.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.4	0.0	3.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.06	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	15.1
HCM 2010 LOS	B

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Water Supply Assessment
For the ZGlobal
Vega SES 2, LLC and Vega SES 3, LLC
Solar Energy Projects
Imperial County, California

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November 30, 2022

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Water Supply Assessment
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Water Supply Assessment
For the ZGlobal
Vega SES 2, LLC and Vega SES 3, LLC
Solar Energy Projects
Imperial County, California

1.0 INTRODUCTION

EMKO Environmental, Inc. (EMKO) has prepared this Water Supply Assessment (WSA) as a subconsultant to ECORP Consulting, Inc. for the proposed ZGlobal Vega SES 2, LLC and Vega SES 3, LLC Solar Energy Projects (Project or Projects) in Imperial County, California at the location indicated on Figure 1. Project water use includes dust control and soil conditioning requirements during construction and routine maintenance, primarily panel washing, during operation.

Water Code Sections 10910 through 10915 were amended by Senate Bill 610 (SB 610) in 2002. SB 610 requires that under specific circumstances, as detailed below, an assessment of available water supplies must be conducted. The purpose of the assessment is to determine if available water supplies are sufficient to serve the demand generated by the Project, as well as the reasonably foreseeable demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. Water Code Section 10910 was further amended by SB 1262 on September 24, 2016 to require a Water Supply Assessment to include additional information regarding the groundwater basin designation and adjacent water systems. This report provides the information required for a Water Supply Assessment (WSA), as described in the October 2003 *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001 to Assist Water Suppliers, Cities, and Counties in Integrating Water and Land Use Planning*, published by the California Department of Water Resources (DWR Guidebook) along with the additional information required by SB 1262.

2.0 PROJECT DESCRIPTION

Vega SES 2, LLC and Vega SES 3, LLC are proposing to construct and operate solar energy generation and storage facilities on private lands in the Imperial Valley in Imperial County. The Project sites are located approximately four miles southeast of the community of Niland and 16 miles northeast of the City of Brawley (see Figure 1).

> **Vega SES 2** would cover approximately 1,323 acres in Sections 9, 15 and 17 of Township 11 South, Range 15 East of the San Bernardino Base and Meridian (SBB&M) within the “Iris” 7.5-minute U.S. Geologic Survey (USGS) quadrangle.

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The Project site includes all or part of Imperial County Assessor's Parcel Numbers (APNs) 025-260-011 (approximately 288 acres), APN 025-270-023 (approximately 625 acres) and APN 025-010-006 (approximately 410 acres). The site is located east of the East Highline Canal and partially straddles the Coachella Canal (see Figure 2). Vega SES 2 would include a 240-megawatt solar photovoltaic system and integrated 480-megawatt battery energy storage system along with related substations and transmission lines. Figure 3 is a Site Plan showing the Project layout and ancillary facilities.

Vega SES 3 would cover approximately 230 acres in Section 9 of Township 11 South, Range 15 East of the SBB&M within the "Iris" 7.5-minute USGS quadrangle. The Project site includes part of APN 025-010-006. The site is located east of the Coachella Canal (see Figure 2). Vega SES 3 would include a 60-megawatt solar photovoltaic system and integrated 120-megawatt battery energy storage system along with related substations and transmission lines. Figure 3 is a Site Plan showing the Project layout and ancillary facilities.

All parcels are located within the Imperial County Renewable Energy Overlay Zone, requiring projects to be permitted through the issuance of a Conditional Use Permit (CUP), which is a discretionary action by the County requiring compliance with the California Environmental Quality Act (CEQA). This Water Supply Assessment is intended to support and be a part of the CEQA analysis.

Domestic water and sanitation facilities would be required during construction. These would be provided through bottled water and portable facilities. A domestic/potable water connection would not be required.

Construction is anticipated to require 12 to 18 months to complete. Anticipated operational Project life is 25 to 30 years.

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Figure 1. Regional Location Map

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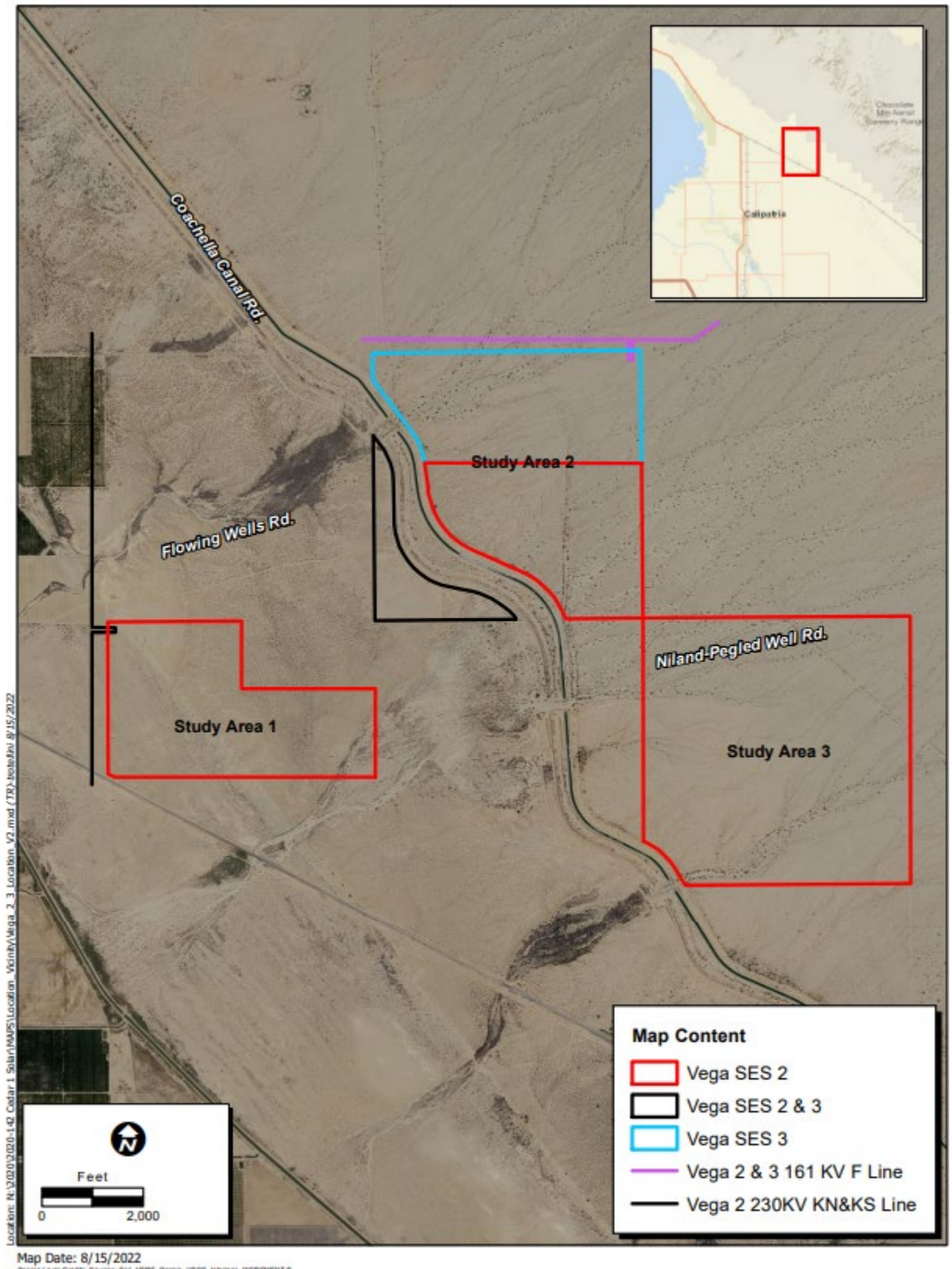

Figure 2. Project Location

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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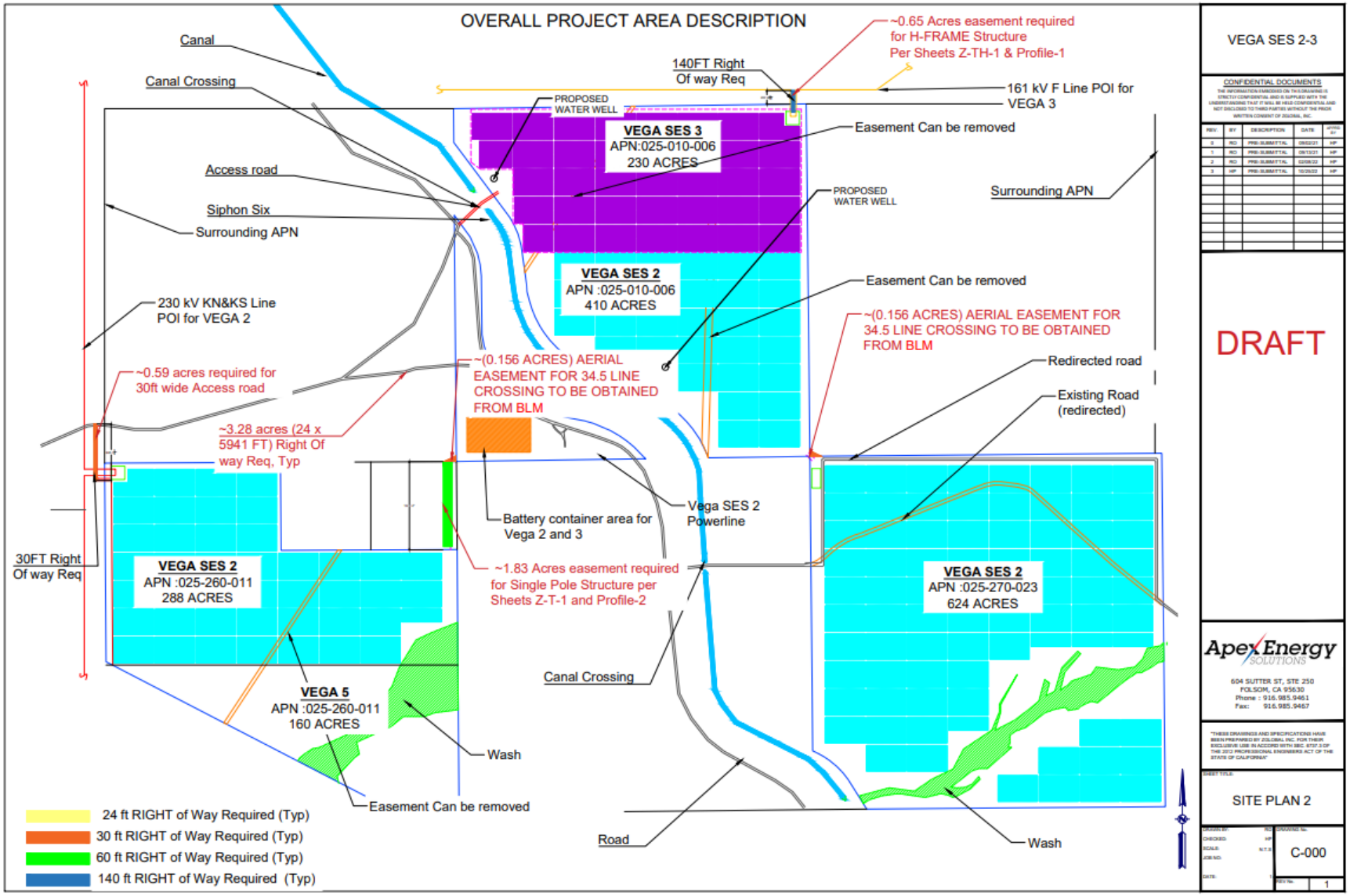
FIGURE 3. Site Plan



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3.0 WATER SUPPLY PLANNING UNDER SB 610 and SB 1262

SB 610, effective January 1, 2002, amends Sections 10910 through 10915 of the Water Code by requiring preparation of a WSA for development projects subject to CEQA and other criteria, as discussed below. SB 610 also amends Section 10631 of the Water Code, which relates to Urban Water Management Plans (UWMPs). The WSA process under SB 610 is designed to rely on the information typically contained in UWMPs, where available.

On September 24, 2016, SB 1262 further amended Section 10910 of the Water Code to require additional information related to adjacent public water systems and the status of the groundwater basin. These amendments provide additional consistency with the Sustainable Groundwater Management Act of 2014, as discussed further in Section 4.4.

The first steps in the WSA process are to determine whether SB 610 applies to the proposed Project. If so, then documentation of available water supplies, anticipated Project demand, and the sufficiency of supplies must be conducted. These issues are summarized by the following questions, as outlined in the DWR Guidebook:

1. Is the proposed Project subject to CEQA?
2. Is the proposed Project a "Project" under SB 610?
3. Is there a public water system that will service the proposed Project?
4. Is there a current UWMP that accounts for the project demand?
5. Is groundwater a component of the supplies for the Project?
6. Are there sufficient supplies to serve the Project over the next twenty years?

Each of these issues are discussed in the following sections as they relate to the proposed Project.

3.1 Is the Proposed Project Subject to CEQA?

The first step in the SB 610 process is to determine whether the proposed project is subject to CEQA. Water Code Section 10910(a) states that any city or county that determines that an application meets the definition of "project", per Water Code Section 10912 (see Section 3.2, below), and is subject to CEQA, shall prepare a water supply assessment for the project. CEQA applies to projects requiring issuance of a discretionary permit by a public agency, projects undertaken by a public agency, or projects funded by a public agency. As noted in Section 2.0, the proposed Project is within the Imperial County Renewable Energy Overlay Zone, which requires discretionary approval of a CUP by Imperial County, a public agency. Therefore, the Project is subject

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to CEQA. This WSA has been prepared to support the environmental review that will be conducted by Imperial County under CEQA.

3.2 Is the Proposed Project a "Project" Under SB 610?

The second step in the SB 610 process is to determine if the proposed Project meets the definition of "project" under Water Code Section 10912(a). Under Section 10912(a) a "project" is defined as meeting any of the following criteria:

1. a proposed residential development of more than 500 dwelling units;
2. a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
3. a proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
4. a proposed hotel or motel, or both, having more than 500 rooms;
5. a proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
6. a mixed-use project that includes one or more of the projects defined above; or
7. a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The Vega SES 2 site is 1,323 acres and the Vega SES 3 site is 230 acres. As a result, the Project will include an industrial site that is larger than 40 acres and thus this WSA is being prepared in accordance with criterion 5, above.

3.3 Is There a Public Water System That Will Service the Proposed Project?

Section 10912(c) of the Water Code identifies a public water system as a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections. The Project site is approximately four miles southeast of the community of Niland and 16 miles northeast of the City of Brawley. APN 025-260-011 and parts of APN 025-010-006 and APN 025-270-023 are located within IID's East Mesa Unit (https://mygis.iid.com/portal/apps/webappviewer/index.html?id=a33cfeb3714f4eb8a1c85320613a2d1b) but do not have water service from IID. Thus, there is not a public water system that will serve the Project. The water supply will be provided by new onsite groundwater supply wells to be drilled and installed as part of the Project.

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3.4 Is There a Current Urban Water Management Plan That Accounts for the Project Demand?

The Water Code requires that all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet per year, must prepare an UWMP. The DWR Guidebook (page iii) states that SB 610 repeatedly refers to the UWMP as a planning document that can be used to meet the standards set forth in the statute, and that UWMPs act as a foundation to fulfill the requirements of the statute. As noted in Section 3.3, above, there is no public water system that will serve the Project and, therefore, there is not an UWMP that addresses the Project area or Project demand. Since there is not an UWMP that accounts for the Project demand, this WSA is based upon available and relevant information from DWR, the U.S. Geological Survey (USGS), and other publicly available data. As this WSA has been prepared for use by the CEQA lead agency, this document includes an evaluation of whether the total projected water supplies, determined to be available during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed Project, in addition to existing and planned future uses, including agricultural and manufacturing uses, in accordance with Water Code § 10910(c)(4).

3.5 Is Groundwater a Component of the Supplies for the Project?

Water Code Section 10910(f), paragraphs 1 through 5, must be addressed if groundwater is a source of supply for the proposed Project. As described in Section 3.3, the water supply will be provided by new groundwater supply wells that will be drilled and installed as part of the Project. The proposed locations for two new groundwater supply wells are shown on Figure 3. Therefore, an assessment of groundwater conditions is included in this document.

Water Code Section 10910(f) paragraphs 1 through 5, as modified by SB 1262, state:

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

> (1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.
>
> (2) (A) A description of any groundwater basin or basins from which the proposed project will be supplied. (B) For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. (C) For a basin that has not been adjudicated that is a

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basin designated as high- or medium priority pursuant to Section 10722.4, information regarding the following: (i) Whether the department has identified the basin as being subject to critical conditions of overdraft pursuant to Section 12924; and (ii) If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative, a copy of that alternative or plan. (D) For a basin that has not been adjudicated that is a basin designated as low- or very-low priority pursuant to Section 10722.4, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

Paragraphs 1 through 4, above, are addressed in Section 4.0, below, including a description of the groundwater basin, groundwater conditions, and available supply. Section 5.0 presents available information regarding water demand for the Project.

The Paragraph 5 requirement to provide an analysis of the sufficiency of the groundwater basin to meet the projected water demand associated with the proposed project is addressed in Section 6.0, below.

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3.6 Are There Sufficient Supplies to Serve the Project Over the Next Twenty Years?

Water Code Section 10910(c)(4) requires the WSA to "*include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and future planned uses, including agricultural and manufacturing uses.*"

The sufficiency of water supply for the proposed Project is addressed in Sections 6.0 and 7.0, below.

4.0 PROJECT WATER SUPPLY

As stated in Section 3.3, above, water for the Project will be provided by new wells to be drilled at the proposed locations shown on Figure 3. As such, groundwater will be the sole water supply for both the construction and operational water needs. Because there are no public water systems or other significant users of groundwater in the groundwater basin, there are no Urban Water Management Plans or other planning documents available. Thus, limited information is available regarding groundwater conditions in the Project vicinity.

Overall conditions within the groundwater basin are described in Section 4.1. Groundwater recharge and available supply are discussed in Section 4.2. Groundwater level trends and the status of the basin relative to the Sustainable Groundwater Management Act of 2014 (SGMA) is provided in Section 4.3, as required by SB 1262.

4.1 Groundwater Basin

The Project is located within the western part of the East Salton Sea Groundwater Basin (Basin), designated as basin number 7-033, as defined by DWR (2022a). The Basin is bounded on the northeast by the Chocolate Mountains and on the southwest by the San Andreas and Banning Mission Creek fault zones (DWR, 2003). The northwest and southeast edges of the groundwater basin are approximately defined by transitions between major surface drainages coming off of the Chocolate Mountains. The groundwater basin has an area of approximately 196,000 acres, or 306 square miles (DWR, 2003). The Basin has not been adjudicated (DWR, 2022b). Figure 4 shows the groundwater basin boundary and the approximate location of the Project.

Groundwater occurs within unconsolidated to semi-consolidated coarse sediment eroded from the Chocolate Mountains (DWR, 2003). The sediment generally occurs within large alluvial fans that originate at drainages and canyons within the bedrock

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formations in the mountains and spread out as they decrease in elevation toward the floor of the Imperial Valley or the Salton Sea. The alluvial fan sediments range in age from Tertiary to Quaternary. DWR (2003) reports that the alluvium is at least 400 feet thick.

4.2 Groundwater Supply and Recharge

DWR (2022c) reports that the population in the East Salton Sea Groundwater Basin in 2010 was approximately 1,093 persons and that the population is expected to decrease 10 percent by 2030. There are no public water supply wells in the Basin and 11 total wells present. Only 4,906 acres of the 196,000-acre Basin, or 2.54 percent, are irrigated (DWR, 2022c). The total groundwater storage capacity of the groundwater basin is estimated to be 360,000 acre-feet (DWR, 2003).

The average annual rainfall is very low, as discussed further in Section 6.0 below, and typically does not provide a sufficient quantity of moisture to percolate deep into the alluvial sediments. As a result, recharge of groundwater occurs primarily due to runoff from the Chocolate Mountains during major storm events, which may not occur every year. The average annual recharge is estimated to be 200 acre-feet per year (DWR, 2003). That estimate is from a 1975 version of DWR Bulletin 118. No changes to basin conditions are reported in the most recent updates to DWR Bulletin 118 (DWR, 2021 and 2022a).

DWR's California Data Exchange Center website (https://cdec.water.ca.gov) and the U.S. Geological Survey's (USGS's) National Water Information System mapping application (https://maps.waterdata.usgs.gov/mapper/index.html) show only one active groundwater monitoring location within the Basin at the time this report was prepared. That well is located approximately 3,600 feet southeast of the southeast corner of the Project site and 950 feet northeast of the Coachella Canal. The well has USGS identification number 331144115231501, which identifies the latitude and longitude of the well (i.e., 33°11'44" latitude, -115°23'15" longitude), and California state well number 011S015E23M001, which indicates the township, range, and quarter-quarter section (i.e., northwest quarter or the southwest quarter of township 11S, range 15E, San Bernardino Base and Meridian). The ground surface elevation at the well location is reported to be 120 feet above mean sea level (ft msl) while the borehole in which the well was installed is reported to have been drilled to a depth of 550 feet below ground surface (ft bgs) (USGS, 2022).

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FIGURE 4. East Salton Sea Groundwater Basin

(Source: DWR, 2022b)

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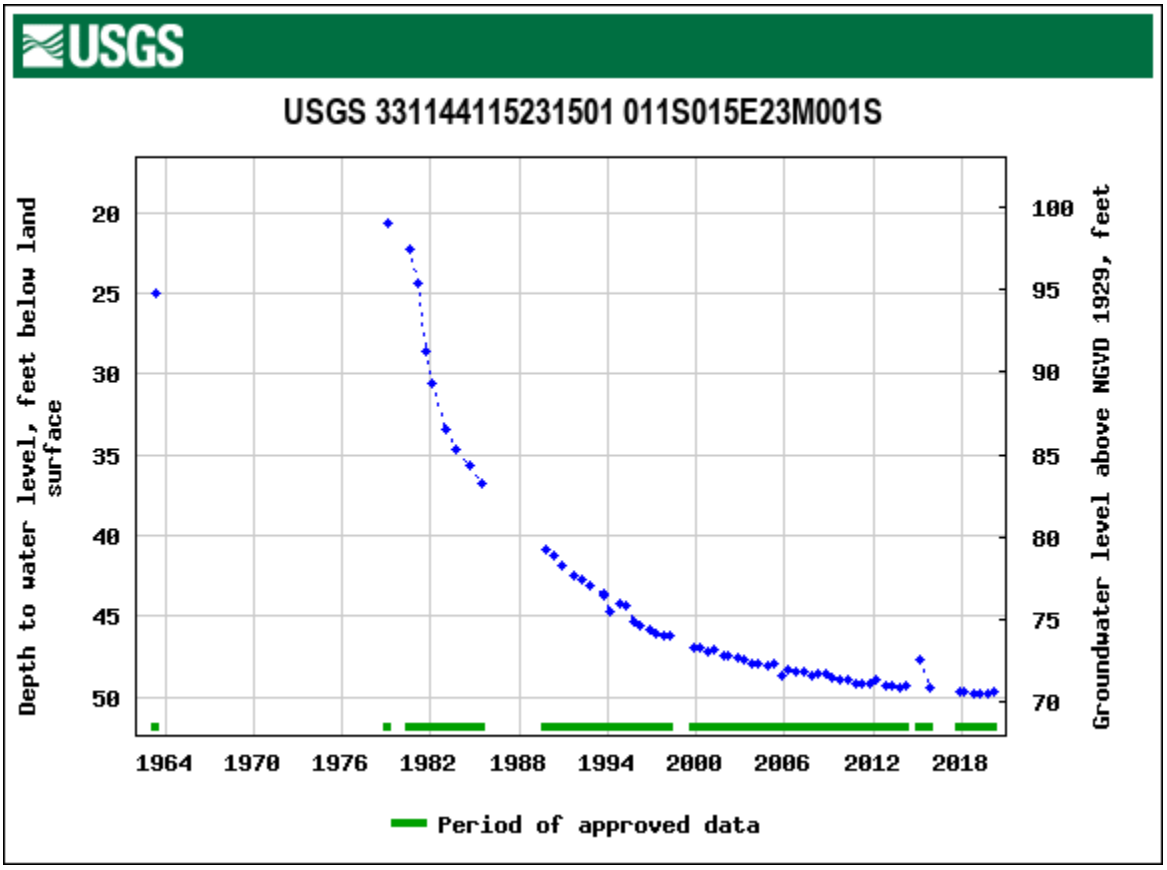
Figure 5 is a hydrograph from USGS (2022) showing the groundwater level and groundwater elevation measured since 1963 in the sole active monitoring well in the Basin. As indicated on Figure 5, the groundwater level decreased at a relatively rapid rate from 1979 to approximately 2000, with the depth to water dropping from approximately 21 ft bgs to approximately 47 ft bgs over that period. Since 2000, the groundwater level has continued to decrease, but at a slower rate, with the level in March 2020 (the last date with a reported measurement by USGS) being approximately 50 ft bgs. While the groundwater level has decreased by almost 30 feet since 1979, it has changed by less than one foot over the past decade. Based on the depth to groundwater and the borehole depth for the monitoring well, the potential loss of aquifer volume since 1979 is only six percent of the total available storage reported by DWR (2003).

FIGURE 5. USGS Groundwater Level Hydrograph



Water quality samples were collected and analyzed from the monitoring well within the Basin in June and September 1963 (USGS, 2022). Table 1 shows the water quality results from June 1963. The September results were comparable. The groundwater sampled from the monitoring well has a normal pH but the levels of sodium, chloride, and sulfate are elevated compared to what would be expected from percolation of locak

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rainfall. The dissolved soids concentration of 2,190 milligrams per liter (mg/L) is more than twice the value of the high end of the range of the secondary maximum contaminant level (MCL) for drinking water of 1,000 mg/L. The high dissolved solids concentration renders the water unsuitable for potable or agricultural uses without treatment. The existing water quality is suitable for use for construction and maintenance purposes, though.

TABLE 1. USGS Water Quality Data (June 13, 1963)

Parameter	Units	Result
Temperature	Degrees Celsius (° C)	26.9
Specific Conductance	MicroSiemens per centimeter at 25° C	3630
pH	Standard units	7.4
Carbon Dioxide	Milligrams per liter (mg/L)	14
Acid Neutralizing Capacity	mg/L as calcium carbonate ($CaCO_3$)	174
Bicarbonate	mg/L	212
Carbonate	mg/L	0.0
Hardness	mg/L as $CaCO_3$	700
Non-carbonate hardness	mg/L as $CaCO_3$	530
Calcium	mg/L	106
Magnesium	mg/L	107
Sodium + Potassium	mg/L	500
Chloride	mg/L	635
Sulfate	mg/L	700
Fluoride	mg/L	1.6
Silica	mg/L as silica dioxide (SiO_2)	33
Dissolved Solids	mg/L	2190

Source:
https://nwis.waterdata.usgs.gov/nwis/qwdata?site_no=331144115231501&agency_cd=USGS&inventory_output=0&rdb_inventory_output=file&TZoutput=0&pm_cd_compare=Greater%20than&radio_parm_cds=all_parm_cds&format=html_table&qw_attributes=0&qw_sample_wide=wide&rdb_qw_attributes=0&date_format=YYYY-MM-DD&rdb_compression=file&submitted_form=brief_list

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4.3 Groundwater Sustainability

A series of three bills passed by the California legislature and were signed by Governor Brown on September 16, 2014. These three bills, Assembly Bill (AB) 1739, SB 1168, and SB 1319, together comprise the Sustainable Groundwater Management Act of 2014 (SGMA). SGMA provides a structure under which local agencies are to develop a sustainable groundwater management program. SGMA focuses on basins or subbasins designated by DWR as high or medium priority basins, and those with critical conditions of overdraft.

According to DWR (2022b), the Basin is a very low priority basin. DWR has not identified the Basin as overdrafted nor has it projected that the basin will become overdrafted if present management conditions continue (DWR, 2021 and 2022c). Thus, the Basin is not subject to the current requirements of SGMA, including the formation of a groundwater sustainability agency (GSA) and preparation of a groundwater sustainability plan (GSP).

5.0 PROJECT WATER DEMAND

Water demand varies depending on the Project phase. During construction, water will be needed for dust control and soil conditioning during installation of the photovoltaic panels, battery storage units, and related infrastructure. During the operational phase of the project, water will be needed for routine maintenance activities, which primarily consists of washing the photovoltaic panels to maintain generation efficiency.

Table 2. Project Water Demand

Site	Area (acres)	Output (megawatts)	Construction Water (acre-feet)	Operational Water (acre-feet per year)
Vega SES 2	1323	240	630 (total combined)	10
Vega SES 3	230	60		2

Table 2 provides a summary of Project parameters that affect water demand and the estimated water needs for construction and operation. The construction water demand is primarily for dust control. Thus, the water needs are proportional to the size of the disturbed area and the local climate. Construction of the Vega SES 2 and Vega SES 3 sites is expected to occur simultaneously and the combined construction water demand is approximately 630 acre-feet. Construction is anticipated to require 12 to 18 months to complete. Thus, the monthly water demand during that period may range from 35 acre-feet to 52.5 acre-feet, on average.

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The operational water demand for panel washing and other maintenance needs is based primarily on the number of panels, which relates to the energy production or output, in megawatts. The operational water demand is anticipated to range from 10 acre-feet per year for Vega SES 2 to two acre-feet per year for Vega SES 3. The maintenance activities for each system are anticipated to be conducted up to twice a year over a one-to-two-week period each event, so the maintenance water demand is intermittent and not spread throughout the year. The operational water demand will occur throughout the life of the Project.

6.0 DRY YEAR SUPPLY

The volume and sustainability of dry-year water supply for the Project is addressed by comparing annual rainfall with changes in groundwater levels in the Basin. This comparison is made for a normal or average water year[1], for single dry year, and for multiple dry water years. Local rainfall data were obtained from the Western Region Climate Center (WRCC, 2022) for Niland, California, located approximately four miles northwest of the Project location (see Figure 1).

Figure 6 shows the annual water year rainfall for Niland, California from 1943 through 2017. The average water year rainfall during this period is 2.58 inches. The driest year was 1956, when no precipitation was recorded. The driest year during the period of available groundwater elevation data (see Figure 5) was 1996, with only 0.2 inch of rainfall reported. The wettest year was 1983, when 8.23 inches of rain was measured. As indicated on Figure 6, a relatively wet period occurred from 1976 to 1986, with 10 of 11 water years exceeding the average annual rainfall. In comparison, the period from 1996 to 2016 was relatively dry, with 18 of 21 water years having below normal rainfall.

The historic rainfall data on Figure 6 can be compared with the groundwater levels shown on Figure 5 to assess the effects of wet and dry periods on groundwater supply in the Basin. The wettest year recorded, 1983, and the relatively wet period from 1976 to 1986, correspond to a period when groundwater levels were dropping rapidly. In contrast, the dry period from 1996 to 2016 corresponds to a period when the rate of decline of the groundwater elevation was attenuating rapidly and beginning to stabilize. Thus, the available groundwater level and rainfall data do not indicate any relationship between wet, normal, single dry year, or multiple dry years and available groundwater supply. As

[1] In California, a water year is defined as the period from October 1 of a calendar year through September 30 of the subsequent calendar year. A water year is designated by the year in which it ends. For example, the period from October 1, 2006 through September 30, 2007 is referred to as the 2007 water year. Due to the nature of weather patterns in the state, a water year better represents hydrologic conditions related to wet and dry periods than does a calendar year.

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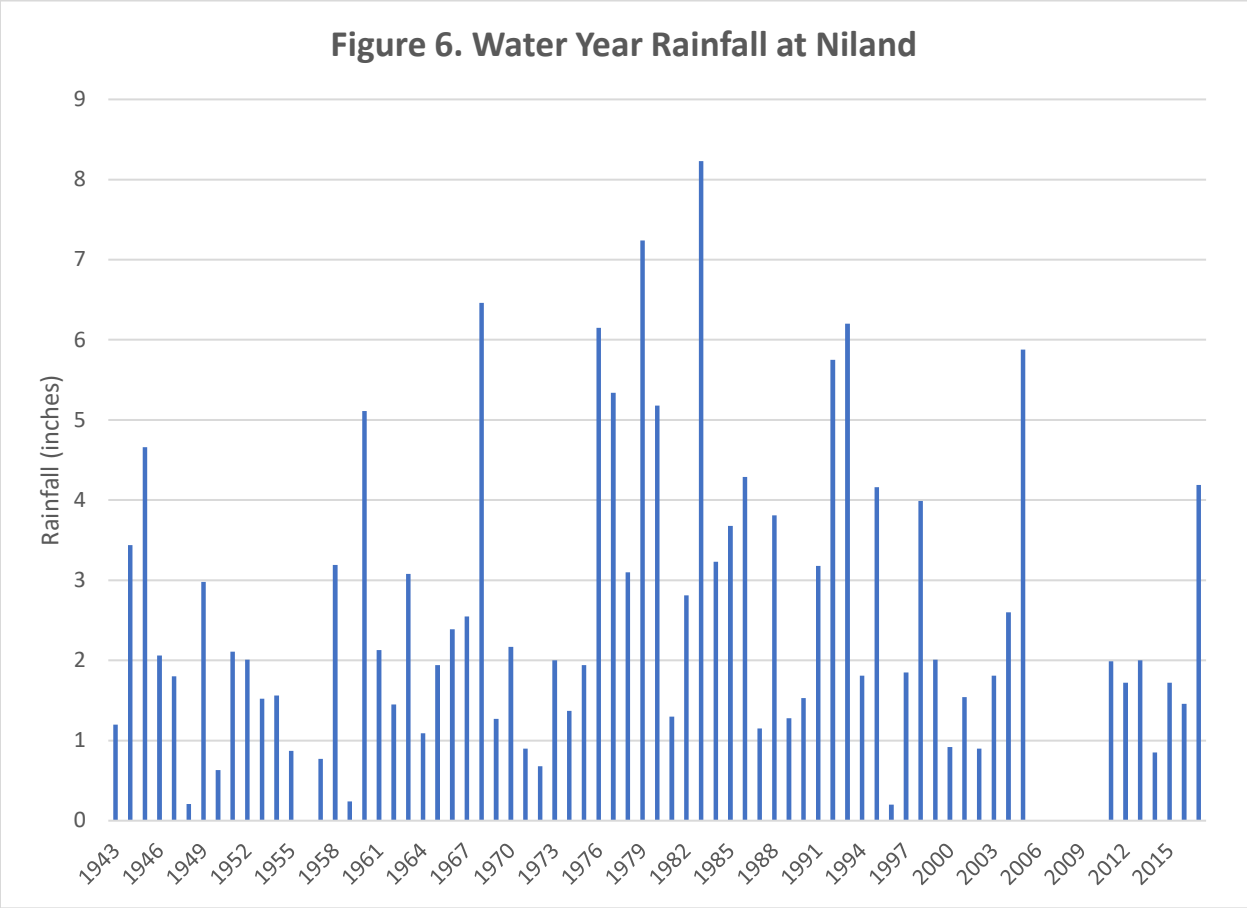
noted above in Section 4.2, recharge of groundwater occurs primarily due to runoff from the mountains during individual major storm events (DWR, 2003). Such storm events typically occur infrequently and there may be many years between events that produce enough runoff to provide appreciable recharge.



The total groundwater storage capacity of the Basin is estimated to be 360,000 acre-feet (DWR, 2003) and the groundwater level decline from 1979 to 2018 decreased groundwater storage by approximately six percent (see Section 4.2). Thus, the current storage in the Basin may be in the range of 335,000 to 340,000 acre-feet. The single year combined construction water demand of 630 acre-feet and the annual combined operational water needs of 12 acre-feet are miniscule (0.2 percent and 0.004 percent, respectively) compared to the available groundwater in storage. Furthermore, the long term annual operational water needs are much less than the estimated annual recharge of 200 acre-feet per year. Overall, there is adequate water available to supply the Project water needs during single dry, and multiple dry year periods.

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7.0 FINDINGS and DISCUSSION

This WSA has been prepared in accordance with SB 610 and SB 1262 to support the CEQA environmental review for the proposed Project and provides an assessment of water supply adequacy for the Project in accordance with Water Code Sections 10910 through 10915. As stated in Section 1.0, the purpose of the assessment is to determine if available water supplies are sufficient to serve the demand generated by the Project, as well as the reasonably foreseeable demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. As noted in Section 4.2, above, while groundwater levels in the Basin had been declining during the period from the late 1970s to the early 2000s, over the past decade they have stabilized, indicating that current water demands are in balance with recharge and replenishment. The population, and presumably the related water demand, are anticipated to decrease over the next decade. Therefore, the Basin has adequate resources for current and anticipated future existing water needs.

The water demand for the proposed Project will consist of water needed during construction and water needed for maintenance once the Project is operational. The construction water demand is anticipated to be a combined total of 630 acre-feet over 12 to 18 months, primarily for dust control. The operational demand is anticipated to be a combined total of 12 acre-feet per year for panel washing and other maintenance activities. The operational demand will exist for the life of the Project, which is anticipated to be 25 to 30 years.

The construction water demand exceeds the reported average annual recharge to the Basin of 200 acre-feet per year (DWR, 2003). However, the construction water needs are short-term and temporary. This temporary water use is not anticipated to cause persistent and long-term lowering of groundwater levels. Therefore, the construction water demand will not cause or contribute to overdraft, exhaustion of water supplies, lowering of groundwater levels to depths that would be uneconomic for pumping, land subsidence, or significant alteration of groundwater quality.

The annual operational water needs are equivalent to six percent of the average annual recharge and 0.004 percent of the estimated current storage volume of the Basin. Therefore, the long-term operation and maintenance of the Project would not have any measurable effect or impact on groundwater resources in the Basin.

Based on the analysis presented in this WSA, there will be sufficient water available for existing water uses in the Basin and the Project water demand during normal, single dry year, and multiple dry year periods for the anticipated life of the Project, which is anticipated to be greater than 20 years.

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Water Supply Assessment
For the ZGlobal
Vega SES 5, LLC
Solar Energy Project
Imperial County, California

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November 30, 2022

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Water Supply Assessment
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Water Supply Assessment
For the ZGlobal
Vega SES 5, LLC
Solar Energy Project
Imperial County, California

1.0 INTRODUCTION

EMKO Environmental, Inc. (EMKO) has prepared this Water Supply Assessment (WSA) as a subconsultant to ECORP Consulting, Inc. for the proposed ZGlobal Vega SES 5, LLC Solar Energy Project (Project) in Imperial County, California at the location indicated on Figure 1. Project water use includes dust control and soil conditioning requirements during construction and routine maintenance, primarily panel washing, during operation.

Water Code Sections 10910 through 10915 were amended by Senate Bill 610 (SB 610) in 2002. SB 610 requires that under specific circumstances, as detailed below, an assessment of available water supplies must be conducted. The purpose of the assessment is to determine if available water supplies are sufficient to serve the demand generated by the Project, as well as the reasonably foreseeable demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. Water Code Section 10910 was further amended by SB 1262 on September 24, 2016 to require a Water Supply Assessment to include additional information regarding the groundwater basin designation and adjacent water systems. This report provides the information required for a Water Supply Assessment (WSA), as described in the October 2003 *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001 to Assist Water Suppliers, Cities, and Counties in Integrating Water and Land Use Planning*, published by the California Department of Water Resources (DWR Guidebook) along with the additional information required by SB 1262.

2.0 PROJECT DESCRIPTION

Vega SES 5, LLC is proposing to construct and operate solar energy generation and storage facilities on private lands in the Imperial Valley in Imperial County. The Project site is located approximately four miles southeast of the community of Niland and 16 miles northeast of the City of Brawley (see Figure 1).

Vega SES 5 would cover approximately 410 acres in Sections 17 and 19 of Township 11 South, Range 15 East of the San Bernardino Base and Meridian (SBB&M) within the "Iris" 7.5-minute U.S. Geologic Survey (USGS) quadrangle. The Project site includes all or part of Imperial County Assessor's Parcel Numbers (APNs) 025-260-011

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(approximately 160 acres), APN 025-260-019 (approximately 90 acres) and APN 025-260-022 (approximately 160 acres). The East Highline Canal runs diagonally through APN 025-260-022 (see Figure 2). The other two parcels are located east of the East Highline Canal. Vega SES 5 would include a 50-megawatt solar photovoltaic system and integrated 100-megawatt battery energy storage system along with related substations and transmission lines. Figure 3 is a Site Plan showing the Project layout and ancillary facilities.

All parcels are located within the Imperial County Renewable Energy Overlay Zone, requiring projects to be permitted through the issuance of a Conditional Use Permit (CUP), which is a discretionary action by the County requiring compliance with the California Environmental Quality Act (CEQA). This Water Supply Assessment is intended to support and be a part of the CEQA analysis.

Domestic water and sanitation facilities would be required during construction. These would be provided through bottled water and portable facilities. A domestic/potable water connection would not be required.

Construction is anticipated to require 12 months to complete. Anticipated operational Project life is 25 to 30 years.

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Figure 1. Regional Location Map

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Figure 2. Project Location

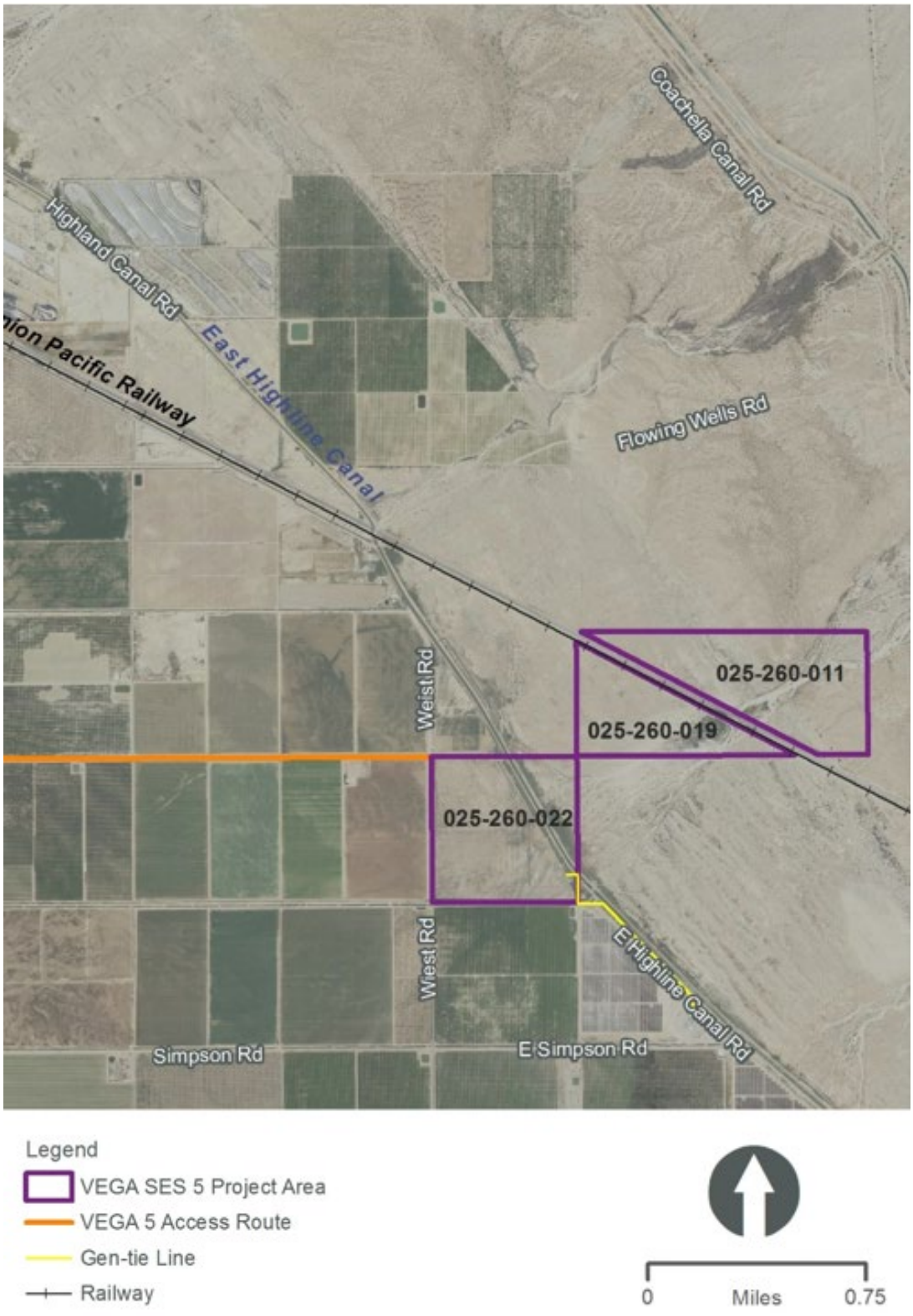

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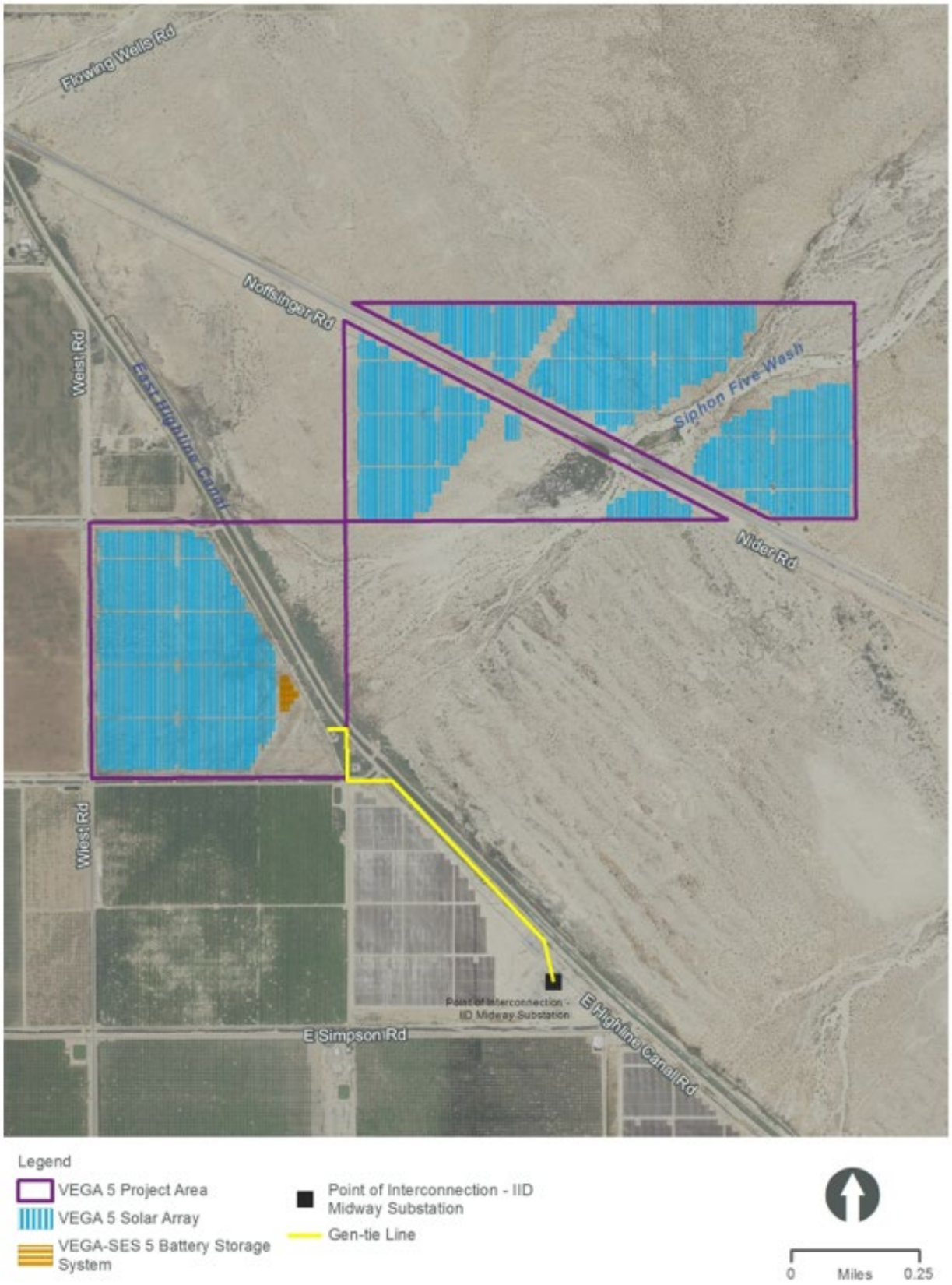
FIGURE 3. Site Plan



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3.0 WATER SUPPLY PLANNING UNDER SB 610 and SB 1262

SB 610, effective January 1, 2002, amends Sections 10910 through 10915 of the Water Code by requiring preparation of a WSA for development projects subject to CEQA and other criteria, as discussed below. SB 610 also amends Section 10631 of the Water Code, which relates to Urban Water Management Plans (UWMPs). The WSA process under SB 610 is designed to rely on the information typically contained in UWMPs, where available.

On September 24, 2016, SB 1262 further amended Section 10910 of the Water Code to require additional information related to adjacent public water systems and the status of the groundwater basin. These amendments provide additional consistency with the Sustainable Groundwater Management Act of 2014, as discussed further in Section 4.4.

The first steps in the WSA process are to determine whether SB 610 applies to the proposed Project. If so, then documentation of available water supplies, anticipated Project demand, and the sufficiency of supplies must be conducted. These issues are summarized by the following questions, as outlined in the DWR Guidebook:

1. Is the proposed Project subject to CEQA?
2. Is the proposed Project a "Project" under SB 610?
3. Is there a public water system that will service the proposed Project?
4. Is there a current UWMP that accounts for the project demand?
5. Is groundwater a component of the supplies for the Project?
6. Are there sufficient supplies to serve the Project over the next twenty years?

Each of these issues are discussed in the following sections as they relate to the proposed Project.

3.1 Is the Proposed Project Subject to CEQA?

The first step in the SB 610 process is to determine whether the proposed project is subject to CEQA. Water Code Section 10910(a) states that any city or county that determines that an application meets the definition of "project", per Water Code Section 10912 (see Section 3.2, below), and is subject to CEQA, shall prepare a water supply assessment for the project. CEQA applies to projects requiring issuance of a discretionary permit by a public agency, projects undertaken by a public agency, or projects funded by a public agency. As noted in Section 2.0, the proposed Project is within the Imperial County Renewable Energy Overlay Zone, which requires discretionary approval of a CUP by Imperial County, a public agency. Therefore, the Project is subject

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to CEQA. This WSA has been prepared to support the environmental review that will be conducted by Imperial County under CEQA.

3.2 Is the Proposed Project a "Project" Under SB 610?

The second step in the SB 610 process is to determine if the proposed Project meets the definition of "project" under Water Code Section 10912(a). Under Section 10912(a) a "project" is defined as meeting any of the following criteria:

1. a proposed residential development of more than 500 dwelling units;
2. a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
3. a proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
4. a proposed hotel or motel, or both, having more than 500 rooms;
5. a proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
6. a mixed-use project that includes one or more of the projects defined above; or
7. a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The Project encompasses 410 acres. As a result, the Project will include an industrial site that is larger than 40 acres and thus this WSA is being prepared in accordance with criterion 5, above.

3.3 Is There a Public Water System That Will Service the Proposed Project?

Section 10912(c) of the Water Code identifies a public water system as a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections. The Project site is approximately four miles southeast of the community of Niland and 16 miles northeast of the City of Brawley. APN 025-260-011, APN 025-260-019, and the area of APN 025-260-022 east of the East Highline Canal are located within Imperial Irrigation District's (IID's) East Mesa Unit, while 114.4 acres of the area of APN 025-260-022 west of the East Highline Canal is within IID's Imperial Unit (IID, 2022). The Project parcel areas in the East Mesa Unit do not currently have water service from IID. Although water service from IID is currently available for the area of APN 025-260-022 within the Imperial Unit, Vega SES 5, LLC does not plan to use surface water from IID to supply any area of the Project. Thus, there are no public water systems that will serve the Project. The water supply will be provided by new onsite groundwater supply wells to be drilled and installed as part of the Project.

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3.4 Is There a Current Urban Water Management Plan That Accounts for the Project Demand?

The Water Code requires that all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet per year, must prepare an UWMP. The DWR Guidebook (page iii) states that SB 610 repeatedly refers to the UWMP as a planning document that can be used to meet the standards set forth in the statute, and that UWMPs act as a foundation to fulfill the requirements of the statute. As noted in Section 3.3, above, there are no public water systems that will serve the Project and, therefore, there is not an UWMP that addresses the Project area or Project demand. Since there is not an UWMP that accounts for the Project demand, this WSA is based upon available and relevant information from DWR, the USGS, and other publicly available data. As this WSA has been prepared for use by the CEQA lead agency, this document includes an evaluation of whether the total projected water supplies, determined to be available during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed Project, in addition to existing and planned future uses, including agricultural and manufacturing uses, in accordance with Water Code § 10910(c)(4).

3.5 Is Groundwater a Component of the Supplies for the Project?

Water Code Section 10910(f), paragraphs 1 through 5, must be addressed if groundwater is a source of supply for the proposed Project. As described in Section 3.3, the water supply will be provided by new groundwater supply wells that will be drilled and installed as part of the Project. One groundwater supply well is proposed to be drilled on APN 025-260-022. Additional water may be supplied from two wells to be installed as part of the ZGlobal Vega SES 2, LLC and Vega SES 3, LLC projects, located to the northeast of the Vega SES 5, LLC project area. Evaluation of available water supply from those two wells to the northeast has been conducted as part of a separate WSA for the adjacent Vega SES projects (EMKO, 2022). However, a separate assessment of groundwater conditions and availability for the Vega SES 5, LLC project is included in this document.

Water Code Section 10910(f) paragraphs 1 through 5, as modified by SB 1262, state:

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

> (1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.
>
> (2) (A) A description of any groundwater basin or basins from which the proposed project will be supplied. (B) For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to

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comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. (C) For a basin that has not been adjudicated that is a basin designated as high- or medium priority pursuant to Section 10722.4, information regarding the following: (i) Whether the department has identified the basin as being subject to critical conditions of overdraft pursuant to Section 12924; and (ii) If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative, a copy of that alternative or plan. (D) For a basin that has not been adjudicated that is a basin designated as low- or very-low priority pursuant to Section 10722.4, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

Paragraphs 1 through 4, above, are addressed in Section 4.0, below, including a description of the groundwater basin, groundwater conditions, and available supply. Section 5.0 presents available information regarding water demand for the Project.

The Paragraph 5 requirement to provide an analysis of the sufficiency of the groundwater basin to meet the projected water demand associated with the proposed project is addressed in Section 6.0, below.

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3.6 Are There Sufficient Supplies to Serve the Project Over the Next Twenty Years?

Water Code Section 10910(c)(4) requires the WSA to "*include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and future planned uses, including agricultural and manufacturing uses.*"

The sufficiency of water supply for the proposed Project is addressed in Sections 6.0 and 7.0, below.

4.0 PROJECT WATER SUPPLY

As stated in Section 3.3, above, water for the Project will be provided by new wells to be drilled for this and adjacent solar energy projects. As such, groundwater will be the sole water supply for both the construction and operational water needs. Because there are no public water systems or other significant users of groundwater in the groundwater basin, there are no Urban Water Management Plans or other planning documents that can be relied upon for this WSA. Thus, limited information is available regarding groundwater conditions in the Project vicinity.

Overall conditions within the groundwater basin are described in Section 4.1. Groundwater recharge and available supply are discussed in Section 4.2. Groundwater level trends and the status of the basin relative to the Sustainable Groundwater Management Act of 2014 (SGMA) is provided in Section 4.3, as required by SB 1262.

4.1 Groundwater Basin

Most of the Project is located within the western part of the East Salton Sea Groundwater Basin, designated as basin number 7-033, as defined by DWR (2022a) (see Figure 4). However, approximately 20 acres in the southwest corner of APN 025-260-022 overlies the adjacent Imperial Valley Groundwater Basin, designated as basin number 7-030 (DWR, 2022a). The inset on the left side of Figure 4 shows the area of the Project within the Imperial Valley Groundwater Basin. As discussed further below, all groundwater for the Project will be sourced from the East Salton Sea Groundwater Basin (Basin). Therefore, except for additional limited information provided in Section 4.3, below, the Imperial Valley Groundwater Basin is not addressed further in this WSA.

The Basin is bounded on the northeast by the Chocolate Mountains and on the southwest by the San Andreas and Banning Mission Creek fault zones (DWR, 2003). DWR (2003) reports that these faults zones may act as barriers to groundwater movement between basins. The northwest and southeast edges of the groundwater

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basin are approximately defined by transitions between major surface drainages coming off of the Chocolate Mountains. The groundwater basin has an area of approximately 196,000 acres, or 306 square miles (DWR, 2003). The Basin has not been adjudicated (DWR, 2022b). Figure 4 shows the groundwater basin boundary and the approximate location of the Project.

Groundwater occurs within unconsolidated to semi-consolidated coarse sediment eroded from the Chocolate Mountains (DWR, 2003). The sediment generally occurs within large alluvial fans that originate at drainages and canyons within the bedrock formations in the mountains and spread out as they decrease in elevation toward the floor of the Imperial Valley or the Salton Sea. The alluvial fan sediments range in age from Tertiary to Quaternary. DWR (2003) reports that the alluvium is at least 400 feet thick.

4.2 Groundwater Supply and Recharge

DWR (2022c) reports that the population in the Basin in 2010 was approximately 1,093 persons and that the population is expected to decrease 10 percent by 2030. There are no public water supply wells in the Basin and 11 total wells present. Only 4,906 acres of the 196,000-acre Basin, or 2.54 percent, are irrigated (DWR, 2022c). The total groundwater storage capacity of the groundwater basin is estimated to be 360,000 acre-feet (DWR, 2003).

The average annual rainfall is very low, as discussed further in Section 6.0 below, and typically does not provide a sufficient quantity of moisture to percolate deep into the alluvial sediments. As a result, recharge of groundwater occurs primarily due to runoff from the Chocolate Mountains during major storm events, which may not occur every year. The average annual recharge is estimated to be 200 acre-feet per year (DWR, 2003). That estimate is from a 1975 version of DWR Bulletin 118. No changes to basin conditions are reported in the most recent updates to DWR Bulletin 118 (DWR, 2021 and 2022a).

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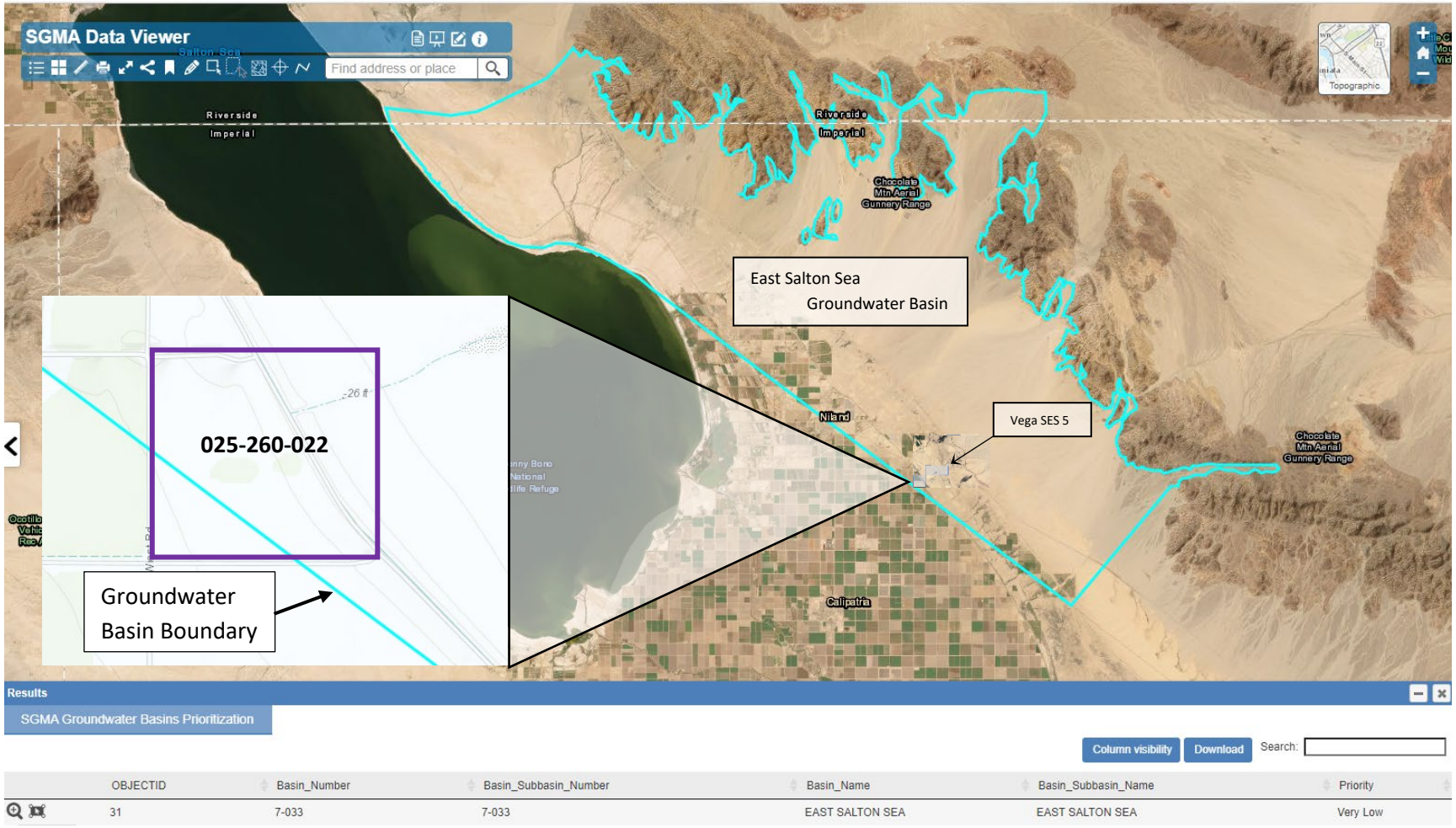
FIGURE 4. East Salton Sea Groundwater Basin



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DWR's California Data Exchange Center website (https://cdec.water.ca.gov) and the USGS's National Water Information System mapping application (https://maps.waterdata.usgs.gov/mapper/index.html) show only one active groundwater monitoring location within the Basin at the time this report was prepared. That well is located approximately 3,600 feet southeast of the southeast corner of the Project site and 950 feet northeast of the Coachella Canal. The well has USGS identification number 331144115231501, which identifies the latitude and longitude of the well (i.e., 33°11'44" latitude, -115°23'15" longitude), and California state well number 011S015E23M001, which indicates the township, range, and quarter-quarter section (i.e., northwest quarter or the southwest quarter of township 11S, range 15E, San Bernardino Base and Meridian). The ground surface elevation at the well location is reported to be 120 feet above mean sea level (ft msl) while the borehole in which the well was installed is reported to have been drilled to a depth of 550 feet below ground surface (ft bgs) (USGS, 2022).

FIGURE 5. USGS Groundwater Level Hydrograph

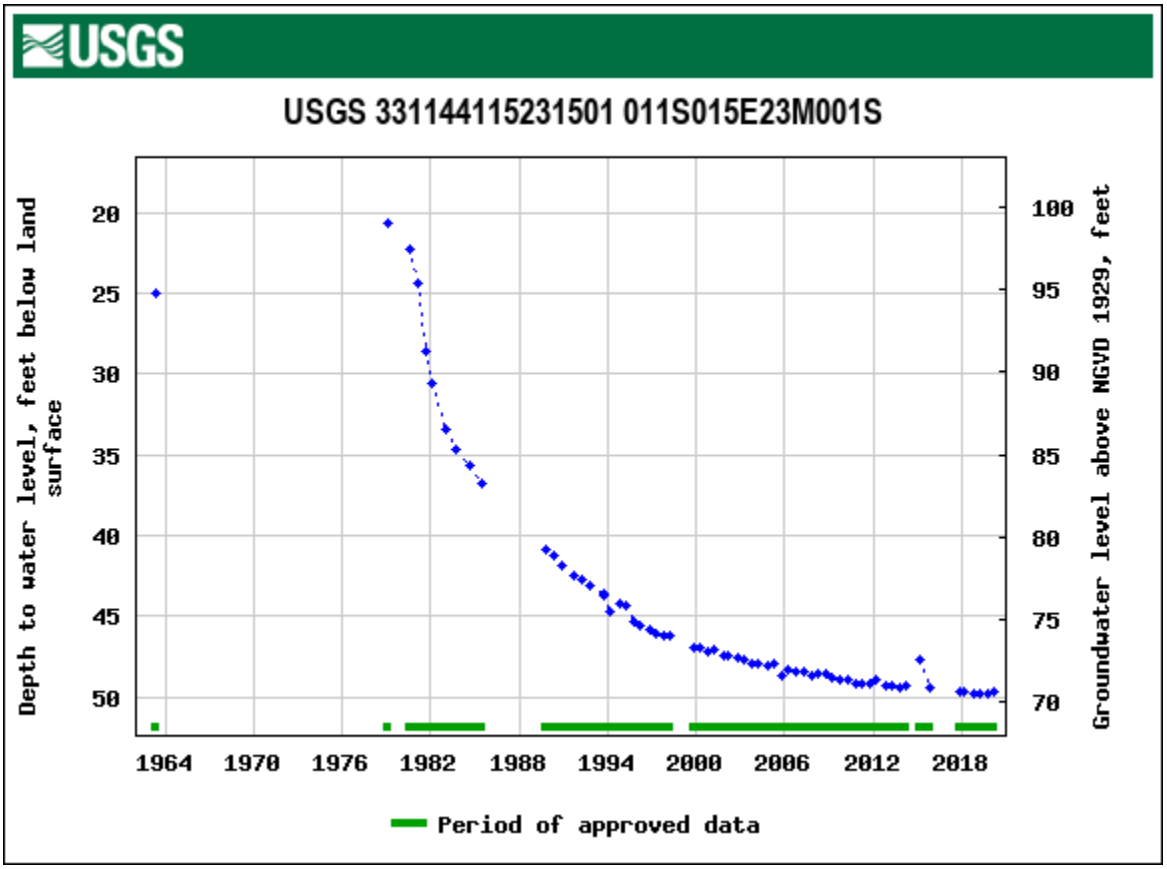

Figure 5 is a hydrograph from USGS (2022) showing the groundwater level and groundwater elevation measured since 1963 in the sole active monitoring well in the Basin. As indicated on Figure 5, the groundwater level decreased at a relatively rapid

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rate from 1979 to approximately 2000, with the depth to water dropping from approximately 21 ft bgs to approximately 47 ft bgs over that period. Since 2000, the groundwater level has continued to decrease, but at a slower rate, with the level in March 2020 (the last date with a reported measurement by USGS) being approximately 50 ft bgs. While the groundwater level has decreased by almost 30 feet since 1979, it has changed by less than one foot over the past decade. Based on the depth to groundwater and the borehole depth for the monitoring well, the potential loss of aquifer volume since 1979 is only six percent of the total available storage reported by DWR (2003).

TABLE 1. USGS Water Quality Data (June 13, 1963)

Parameter	Units	Result
Temperature	Degrees Celsius (° C)	26.9
Specific Conductance	MicroSiemens per centimeter at 25° C	3630
pH	Standard units	7.4
Carbon Dioxide	Milligrams per liter (mg/L)	14
Acid Neutralizing Capacity	mg/L as calcium carbonate ($CaCO_3$)	174
Bicarbonate	mg/L	212
Carbonate	mg/L	0.0
Hardness	mg/L as $CaCO_3$	700
Non-carbonate hardness	mg/L as $CaCO_3$	530
Calcium	mg/L	106
Magnesium	mg/L	107
Sodium + Potassium	mg/L	500
Chloride	mg/L	635
Sulfate	mg/L	700
Fluoride	mg/L	1.6
Silica	mg/L as silica dioxide (SiO_2)	33
Dissolved Solids	mg/L	2190

Source:
https://nwis.waterdata.usgs.gov/nwis/qwdata?site_no=331144115231501&agency_cd=USGS&inventory_output=0&rdb_inventory_output=file&TZoutput=0&pm_cd_compare=Greater%20than&radio_parm_cds=all_parm_cds&format=html_table&qw_attributes=0&qw_sample_wide=wide&rdb_qw_attributes=0&date_format=YYYY-MM-DD&rdb_compression=file&submitted_form=brief_list

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Water quality samples were collected and analyzed from the monitoring well within the Basin in June and September 1963 (USGS, 2022). Table 1 shows the water quality results from June 1963. The September results were comparable. The groundwater sampled from the monitoring well has a normal pH but the levels of sodium, chloride, and sulfate are elevated compared to what would be expected from percolation of local rainfall. The dissolved solids concentration of 2,190 milligrams per liter (mg/L) is more than twice the value of the high end of the range of the secondary maximum contaminant level (MCL) for drinking water of 1,000 mg/L. The high dissolved solids concentration renders the water unsuitable for potable or agricultural uses without treatment. The existing water quality is suitable for use for construction and maintenance purposes, though.

4.3 Groundwater Sustainability

A series of three bills passed by the California legislature and were signed by Governor Brown on September 16, 2014. These three bills, Assembly Bill (AB) 1739, SB 1168, and SB 1319, together comprise the Sustainable Groundwater Management Act of 2014 (SGMA). SGMA provides a structure under which local agencies are to develop a sustainable groundwater management program. SGMA focuses on basins or subbasins designated by DWR as high or medium priority basins, and those with critical conditions of overdraft.

According to DWR (2022b), the both the East Salton Sea Groundwater Basin and the Imperial Valley Groundwater Basin are very low priority basins. DWR has not identified these two basins as being overdrafted nor has it projected that these basins will become overdrafted if present management conditions continue (DWR, 2021 and 2022c). Thus, neither groundwater basin is subject to the current requirements of SGMA, including the formation of a groundwater sustainability agency (GSA) and preparation of a groundwater sustainability plan (GSP).

5.0 PROJECT WATER DEMAND

Water demand varies depending on the Project phase. During construction, water will be needed for dust control and soil conditioning during installation of the photovoltaic panels, battery storage units, and related infrastructure. During the operational phase of the project, water will be needed for routine maintenance activities, which primarily consists of washing the photovoltaic panels to maintain generation efficiency.

Table 2 provides a summary of Project parameters that affect water demand and the estimated water needs for construction and operation. The construction water demand is primarily for dust control. Thus, the water needs are proportional to the size of the disturbed area and the local climate. Construction water demand is approximately 365

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acre-feet. Construction is anticipated to require 12 months to complete. Thus, the monthly water demand during that period will average about 30 acre-feet.

Table 2. Project Water Demand

Site	Area (acres)	Output (megawatts)	Construction Water (acre-feet)	Operational Water (acre-feet per year)
Vega SES 5	410	50	365	20

The operational water demand for panel washing and other maintenance needs is based primarily on the number of panels, which relates to the energy production or output, in megawatts. The operational water demand is anticipated to be 20 acre-feet per year. The maintenance activities are anticipated to be conducted up to twice a year over a one-to-two-week period each event, so the maintenance water demand is intermittent and not spread throughout the year. The operational water demand will occur throughout the life of the Project.

For the purpose of evaluating cumulative impacts, it should be noted that the evaluations in this WSA assume that Project construction will not occur simultaneously with construction of the adjacent Vega SES 2, LLC and Vega SES 3, LLC solar energy projects. However, operational water use for all three projects will occur over the same approximate timeframe during the next 25 to 30 years.

6.0 DRY YEAR SUPPLY

The volume and sustainability of dry-year water supply for the Project is addressed by comparing annual rainfall with changes in groundwater levels in the Basin. This comparison is made for a normal or average water year[1], for single dry year, and for multiple dry water years. Local rainfall data were obtained from the Western Region Climate Center (WRCC, 2022) for Niland, California, located approximately four miles northwest of the Project location (see Figure 1).

Figure 6 shows the annual water year rainfall for Niland, California from 1943 through 2017. The average water year rainfall during this period is 2.58 inches. The driest year was 1956, when no precipitation was recorded. The driest year during the period of available groundwater elevation data (see Figure 5) was 1996, with only 0.2 inch of rainfall

[1] In California, a water year is defined as the period from October 1 of a calendar year through September 30 of the subsequent calendar year. A water year is designated by the year in which it ends. For example, the period from October 1, 2006 through September 30, 2007 is referred to as the 2007 water year. Due to the nature of weather patterns in the state, a water year better represents hydrologic conditions related to wet and dry periods than does a calendar year.

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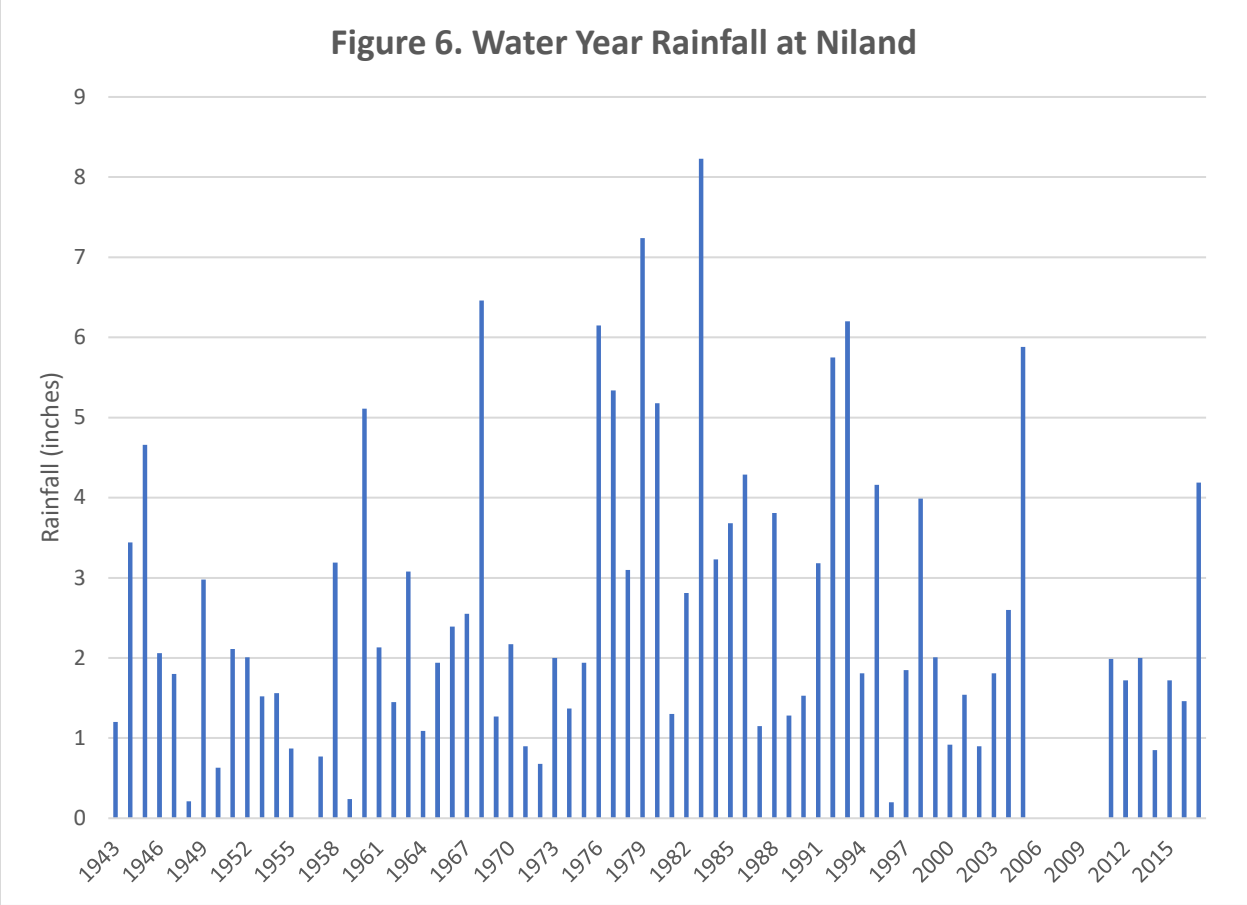
reported. The wettest year was 1983, when 8.23 inches of rain was measured. As indicated on Figure 6, a relatively wet period occurred from 1976 to 1986, with 10 of 11 water years exceeding the average annual rainfall. In comparison, the period from 1996 to 2016 was relatively dry, with 18 of 21 water years having below normal rainfall.

The historic rainfall data on Figure 6 can be compared with the groundwater levels shown on Figure 5 to assess the effects of wet and dry periods on groundwater supply in the Basin. The wettest year recorded, 1983, and the relatively wet period from 1976 to 1986, correspond to a period when groundwater levels were dropping rapidly. In contrast, the dry period from 1996 to 2016 corresponds to a period when the rate of decline of the groundwater elevation was attenuating rapidly and beginning to stabilize. Thus, the available groundwater level and rainfall data do not indicate any relationship between wet, normal, single dry year, or multiple dry years and available groundwater supply. As noted above in Section 4.2, recharge of groundwater occurs primarily due to runoff from the mountains during individual major storm events (DWR, 2003). Such storm events typically occur infrequently and there may be many years between events that produce enough runoff to provide appreciable recharge.



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The total groundwater storage capacity of the Basin is estimated to be 360,000 acre-feet (DWR, 2003) and the groundwater level decline from 1979 to 2018 decreased groundwater storage by approximately six percent (see Section 4.2). Thus, the current storage in the Basin may be in the range of 335,000 to 340,000 acre-feet. The single year construction water demand of 365 acre-feet and the annual combined operational water needs of 20 acre-feet are miniscule (0.1 percent and 0.006 percent, respectively) compared to the available groundwater in storage. Furthermore, the long term annual operational water needs are much less than the estimated annual recharge of 200 acre-feet per year. Overall, there is adequate water available to supply the Project water needs during single dry, and multiple dry year periods.

On a cumulative basis, the construction water demand for the Project and the adjacent Vega SES 2, LLC and Vega SES 3, LLC solar energy projects is equivalent to 0.3 percent of the available groundwater in storage. The annual cumulative operational water needs for all three solar energy projects is equivalent to 0.01 percent of the available groundwater in storage in the Basin. Thus, the cumulative effect on groundwater availability in the Basin would also be miniscule such that there would be adequate water available to supply the water needs of all three solar projects during single dry, and multiple dry year periods.

7.0 FINDINGS and DISCUSSION

This WSA has been prepared in accordance with SB 610 and SB 1262 to support the CEQA environmental review for the proposed Project and provides an assessment of water supply adequacy for the Project in accordance with Water Code Sections 10910 through 10915. As stated in Section 1.0, the purpose of the assessment is to determine if available water supplies are sufficient to serve the demand generated by the Project, as well as the reasonably foreseeable demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. As noted in Section 4.2, above, while groundwater levels in the Basin had been declining during the period from the late 1970s to the early 2000s, over the past decade they have stabilized, indicating that current water demands are in balance with recharge and replenishment. The population, and presumably the related water demand, are anticipated to decrease over the next decade. Therefore, the Basin has adequate resources for current and anticipated future existing water needs.

The water demand for the proposed Project will consist of water needed during construction and water needed for maintenance once the Project is operational. The construction water demand is anticipated to be a combined total of 365 acre-feet over 12 months, primarily for dust control. The operational demand is anticipated to be 20 acre-

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feet per year for panel washing and other maintenance activities. The operational demand will exist for the life of the Project, which is anticipated to be 25 to 30 years.

The construction water demand exceeds the reported average annual recharge to the Basin of 200 acre-feet per year (DWR, 2003). However, the construction water needs are short-term and temporary. This temporary water use is not anticipated to cause persistent and long-term lowering of groundwater levels. Therefore, the construction water demand will not cause or contribute to overdraft, exhaustion of water supplies, lowering of groundwater levels to depths that would be uneconomic for pumping, land subsidence, or significant alteration of groundwater quality. As discussed in Section 6.0, above, cumulative construction water demand from the Project and the adjacent Vega SES 2, LLC and Vegs SES 3, LLC solar energy projects would also not cause persistent and long-term lowering of groundwater levels.

The annual operational water needs are equivalent to 10 percent of the average annual recharge and 0.006 percent of the estimated current storage volume of the Basin. Therefore, the long-term operation and maintenance of the Project would not have any measurable effect or impact on groundwater resources in the Basin. As discussed in Section 6.0, above, cumulative operational water demand from the Project and the adjacent Vega SES 2, LLC and Vegs SES 3, LLC solar energy projects would also not cause any measurable effect or impact on groundwater resources in the Basin.

Based on the analysis presented in this WSA, there will be sufficient water available for existing water uses in the Basin, along with the Project water demand and the water demands for the adjacent solar energy projects during normal, single dry year, and multiple dry year periods for the anticipated life of the Project, which is anticipated to be greater than 20 years.

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Energy Impact Assessment

Vega SES Complex Solar Energy Storage Project

County of Imperial, California

Prepared For:

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December 2022

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Attachment A - Energy Consumption Modeling Output

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LIST OF ACRONYMS AND ABBREVIATIONS

APNs	Assessor's Parcel Numbers
CalEEMod	California Emissions Estimator Model
CAISO	California Independent System Operator
CARB	California Air Resources Board
CEC	California Energy Commission
EPS	Emissions Performance Standard
HSAT	Horizontal Single-Axis Tracker
IID	Imperial Irrigation District
kWh	Kilowatt-Hours
MW	Megawatt
mWh	Megawatt Hour
PV	Photovoltaic
Project	Vega SES Complex Solar Energy Storage Project
RPS	Renewables Portfolio Standard

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1.0 INTRODUCTION

This report documents the results of an Energy Impact Assessment completed for the Vega SES Complex Solar Energy Storage Project (Project), which includes the construction of up to a nominal 240-megawatt (MW) alternating current solar photovoltaic (PV) energy generation system with an integrated 240 MW battery storage system (known as Vega 2), a nominal 60 MW alternating current PV energy generation system with an integrated 60 MW battery storage system (known as Vega 3), and a nominal 50 MW alternating current solar PV energy generation system with an integrated 50 MW battery storage system (known as Vega 5), all spanning approximately 1,962.76 acres of land in the County of Imperial, California. This report was prepared to analyze the potential direct and indirect environmental impacts associated with the Project energy consumption, including the depletion of nonrenewable resources (oil, natural gas, coal, etc.) during the construction and operational phases. The impact analysis focuses on the four sources of energy that are relevant to the proposed Project: electricity, natural gas, the equipment-fuel necessary for Project construction, and the automotive fuel necessary for Project operations.

1.1 Project Overview

The Project proposes to construct a cluster of alternating current solar PV energy generation systems totaling 350 Megawatts (MWs) with accompanying battery storage. The Project consists of three individual site locations which make up the Vega SES Complex. Vega 2 is located on three non-contiguous parcels totaling 1,323 acres, Vega 3 is located on a 640-acre parcel but only compromising 230 acres, and Vague 5 is located on three parcels totaling 410 acres. It is proposed that Vega 2 & 3 will be constructed together beginning in early 2023 with Vega 5 being constructed in 2024.

All systems would be utilizing either thin film or crystalline solar PV technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The individual PV systems would be arranged in large arrays by placing them in columns spaced approximately ten feet apart to maximize operational performance and to allow access for panel cleaning and maintenance.

1.2 Project Location and Description

The total combined Project Site area spans approximately 1,963 acres and is located 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City (see Figure 1. Project Vicinity). The Site is transected by the Coachella and East Highline Canals and the Union Pacific Railway in northcentral Imperial County, California.

1.3 Applicable Land Use Regulations

All Project parcels for Vega 2 & 3 parcels are designated as "Recreation/Open Space" in the Imperial County General Plan and are zoned S-2-RE (Open Space/Preservation with a Renewable Energy overlay). Pursuant to Section 91703.02 (*Conditional Use Permits*), Renewable Energy Projects must be located within the Renewable Energy Overlay Zone and may be permitted only through the issuance of a Conditional Use Permit (CUP) as approved by the Approving Authority unless otherwise allowed by applicable law. All Project parcels in Vega 5 are designated as "Recreation/Open Space" in the Imperial County General Plan.

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Two of the Vega 5 properties are zoned S-2-RE (areas with intent to preserve the cultural, biological, and open spaces that are rich and natural as well as cultural resources). The third Vega 5 property is zoned A-2-RE (areas that are suitable and intended primarily for agricultural uses [limited] and agricultural related compatible uses), A-3-RE (areas that are suitable for agricultural land uses; to prevent the encroachment of incompatible uses onto and within agricultural lands; and to prohibit the premature conversion of such lands to non-agricultural uses) and S-2-RE (see above). At present, all portions of the proposed Project (Vega 2 & 3, and 5) are located within the Renewable Energy Zone.

1.4 Project Site Access

The Project Area would be accessible from McDonald Road, a paved road off State Route 111. The Vega 5 Project Site is located at the eastern end of McDonald Road. Access to the Vega 2 and 3 Project Site would require an additional 1.65 miles of travel on Wiest Road and Flowing Wells Road. Both of which are unpaved.

1.5 Project Construction

Construction activities would involve demolition and grubbing, grading of the Project Site to establish access roads and pads for electrical equipment (inverters and step–up transformers), trenching for underground electrical collection lines, and the installation of solar equipment and security fencing. The construction of each Project component (Vega 2 & 3 and Vega 5) is estimated to take 12-18 months each and would begin in early 2023. A temporary, portable construction supply container would be located at the Project Site at the beginning of construction and removed at the end of construction. The number of on–site construction workers for Vega 2 and 3 solar facility is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the Vega 2 and 3 battery storage facility and substations is not expected to exceed 100 workers at any one time. The number of on–site construction workers for the Vega 5 solar facility is not expected to exceed 75 workers at any one time. The number of on-site construction workers for the Vega 5 battery storage facility and substation is not expected to exceed 50 workers at any one time. Onsite parking would be provided for all construction workers.

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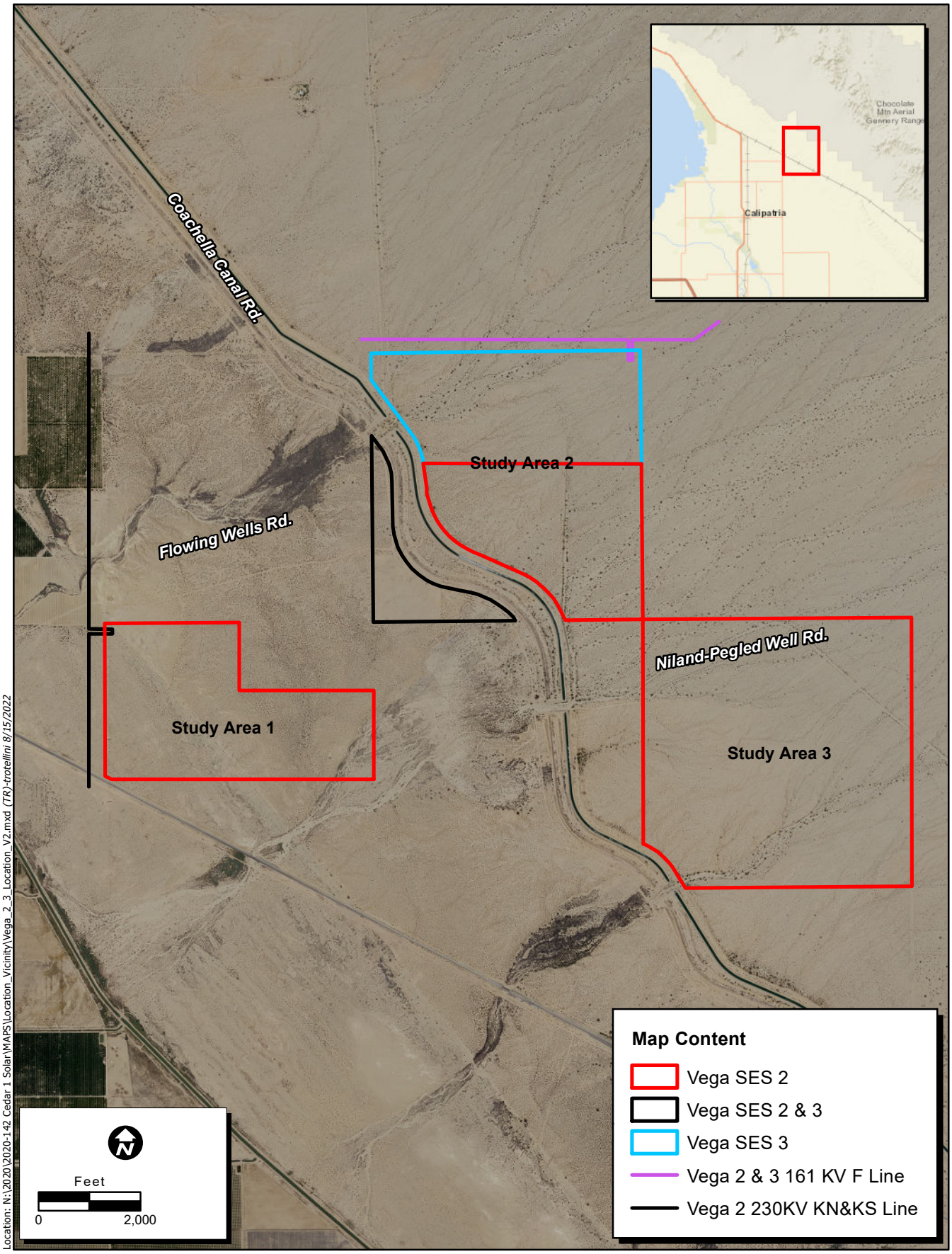

Map Date: 8/15/2022

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Figure 1. Project Location

2020-144/2020-199/2020-209 Vega SES 2 and Vega SES 3

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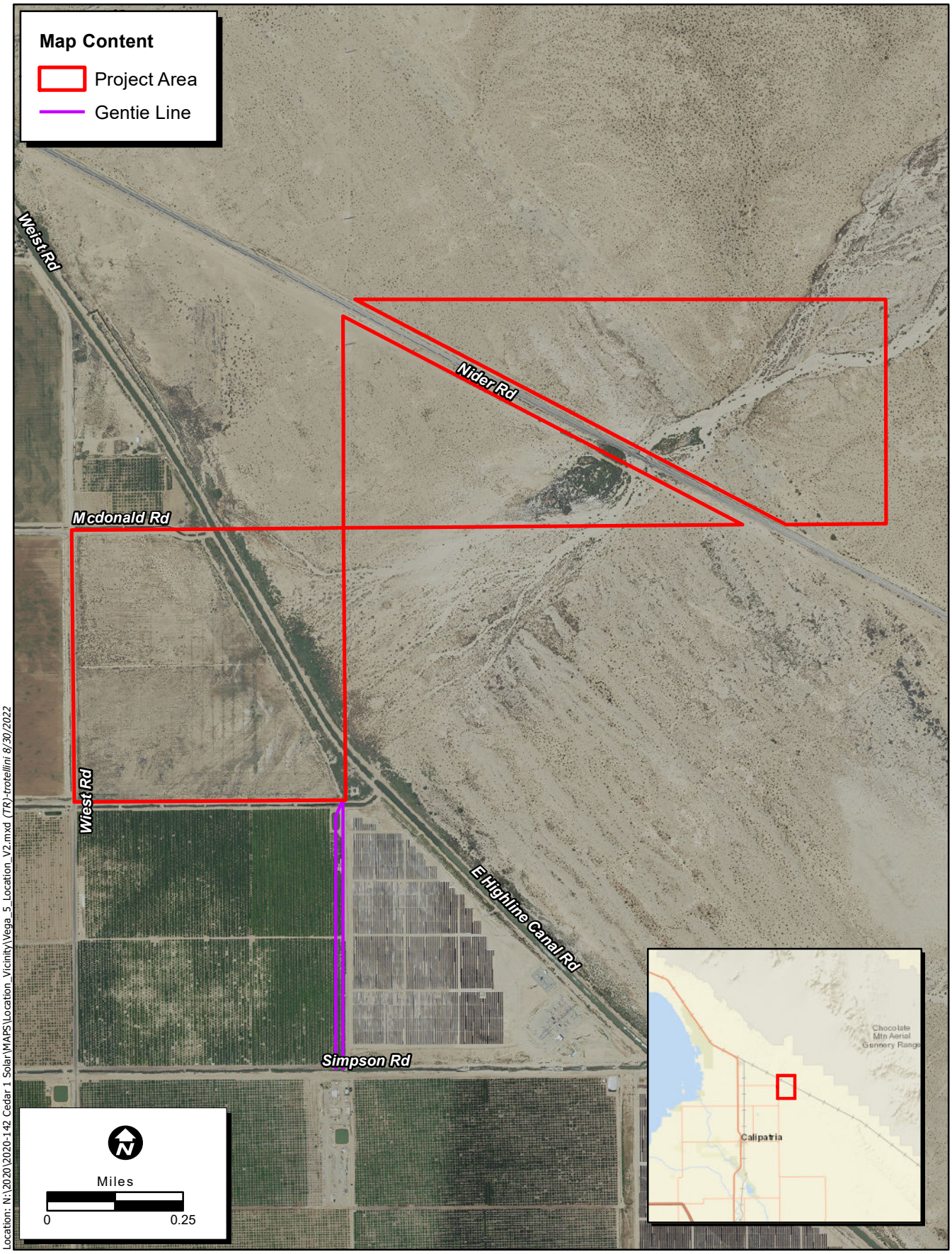

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*Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community*Photo Source: NAIP

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Figure 1. Project Location

2020-144 Vega SES 5

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2.0 ENERGY CONSUMPTION

2.1 Energy Types and Sources

California relies on a regional power system comprised of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Natural gas provides California with a majority of its electricity followed by renewables, large hydroelectric and nuclear (California Energy Commission [CEC] 2020). Imperial Irrigation District (IID), the sixth largest electrical utility in California serving more than 150,000 customers in the Imperial Valley and parts of Riverside and San Diego counties, provides electrical services to the Project area. IID controls more than 1,100 megawatts of energy derived from a diverse resource portfolio that includes its own generation, and long- and short-term power purchases. Located in a region with abundant sunshine, enviable geothermal capacity, wind and other renewable potential, IID has met or exceeded all Renewable Portfolio Standard requirements to date, procuring renewable energy from diverse sources, including biomass, biowaste, geothermal, hydroelectric, solar and wind.

The Southern California Gas Company provides natural gas services to Imperial County. As the nation's largest natural gas distribution utility, the Southern California Gas Company delivers natural gas energy to 21.8 million consumers through 5.9 million meters in more than 500 communities. The Southern California Gas Company's service territory encompasses approximately 24,000 square miles throughout Central and Southern California, from Visalia to the Mexican border.

2.1.1 Energy Consumption

Electricity use is measured in kilowatt-hours (kWh), and natural gas use is measured in therms. Vehicle fuel use is typically measured in gallons (e.g. of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh.

The non-residential electricity consumption associated with all uses in Imperial County from 2017 to 2021 is shown in Table 2-1. As indicated, the demand has increased since 2017.

Table 2-1. Non-Residential Electricity Consumption in Imperial County 2017-2021

Year	Electricity Consumption (kilowatt hours)
2021	841,302,847
2020	834,483,019
2019	839,095,659
2018	831,318,925
2017	817,450,656

Source: CEC 2022

The non-residential natural gas consumption associated with all uses in Imperial County from 2017 to 2021 is shown in Table 2-2. As indicated, the demand has remained relatively constant since 2017.

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Table 2-2. Non-Residential Natural Gas Consumption in Imperial County 2017-2021	
Year	**Natural Gas Consumption (therms)**
2021	33,421,848
2020	33,813,700
2019	34,736,596
2018	31,159,562
2017	33,090,927

Source: CEC 2022

Automotive fuel consumption in Imperial County from 2017 to 2021 is shown in Table 2-3. Fuel consumption has decreased between 2017 and 2021.

Table 2-3. Automotive Fuel Consumption in Imperial County 2017-2021	
Year	**Total Fuel Consumption (gallons)**
2021	217,447,173
2020	195,778,823
2019	219,032,998
2018	219,075,991
2017	220,921,357

Source: California Air Resources Board (CARB) EMFAC 2021

2.2 Regulatory Framework

2.2.1 State

Executive Order B-55-18

In September 2018 Governor Jerry Brown Signed Executive Order (EO) B-55-18, which establishing a new statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Carbon neutrality refers to achieving a net zero carbon dioxide emissions. This can be achieved by reducing or eliminating carbon emissions, balancing carbon emissions with carbon removal, or a combination of the two. This goal is in addition to existing statewide targets for GHG emission reduction. EO B-55-18 requires the California Air Resource Board (CARB) to "work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.

Senate Bill 1368

On September 29, 2006, Governor Arnold Schwarzenegger signed into law Senate Bill (SB) 1368 (Perata, Chapter 598, Statutes of 2006). The law limits long-term investments in baseload generation by the state's

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utilities to those power plants that meet an emissions performance standard jointly established by the CEC and the California Public Utilities Commission (CPUC).

The CEC has designed regulations that:

- Establish a standard for baseload generation owned by, or under long-term contract to, publicly owned utilities, of 1,100 pounds carbon dioxide per megawatt hour (mWh). This would encourage the development of power plants that meet California's growing energy needs while minimizing their emissions of greenhouse gas.
- Require posting of notices of public deliberations by publicly owned utilities on long-term investments on the CEC website. This would facilitate public awareness of utility efforts to meet customer needs for energy over the long term while meeting the State's standards for environmental impact.
- Establish a public process for determining the compliance of proposed investments with the emissions performance standard (EPS) (Perata, Chapter 598, Statutes of 2006).

2.2.2 Renewable Energy Sources (Renewable Portfolio Standards)

Established in 2002 under SB 1078, and accelerated by SB 107 (2006) and SB 2 (2011), California's Renewables Portfolio Standard (RPS) obligates investor-owned utilities, energy service providers, and community choice aggregators to procure 33 percent of their electricity from renewable energy sources by 2020. Eligible renewable resources are defined in the 2013 RPS to include biodiesel; biomass; hydroelectric and small hydro (30 megawatts or less); Los Angeles Aqueduct hydro power plants; digester gas; fuel cells; geothermal; landfill gas; municipal solid waste; ocean thermal, ocean wave, and tidal current technologies; renewable derived biogas; multi-fuel facilities using renewable fuels; solar photovoltaic; solar thermal electric; wind; and other renewables that may be defined later. Governor Jerry Brown signed SB 350 on October 7, 2015, which expands the RPS by establishing a goal of 60 percent of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 includes the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses upon which an energy efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the CPUC, in consultation with the CEC, establish efficiency targets for electrical and gas corporations consistent with this goal. SB 350 also provides for the transformation of the California Independent System Operator (CAISO) into a regional organization to promote the development of regional electricity transmission markets in the western states and to improve the access of consumers served by the CAISO to those markets, pursuant to a specified process. In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

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2.3 Energy Consumption Impact Assessment

2.3.1 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to energy if it would do any of the following:

1) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

2) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The impact analysis focuses on the four sources of energy that are relevant to the proposed Project: electricity, natural gas, the equipment fuel necessary for Project construction, and the automotive fuel necessary for Project operations. Addressing energy impacts requires an agency to make a determination as to what constitutes a significant impact. There are no established thresholds of significance, statewide or locally, for what constitutes a wasteful, inefficient, and unnecessary consumption of energy for a proposed land use. For the purposes of this analysis, the amount of electricity and natural gas estimated to be consumed by the Project are quantified and compared to that consumed by all land uses in Imperial County. Similarly, the amount of fuel necessary for Project construction and operations is calculated and compared to that consumed in Imperial County.

2.3.2 Methodology

Levels of construction and operational related energy consumption estimated to be consumed by the Project include the number of kWh of electricity, therms of natural gas and gallons of gasoline. Modeling was based on Project specific information such as construction timing and equipment as well as site operations. Energy consumption estimates were calculated using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. CalEEMod is a statewide land use computer model designed to quantify resources associated with both construction and operations from a variety of land use projects.

2.3.3 Impact Analysis

Energy Consumption

The Project proposes to construct a cluster of alternating current solar PV energy generation systems totaling 350 MWs with accompanying battery storage on approximately 1,962.76 acres of land. Operations of the proposed Project would not result in the consumption of electricity or natural gas and thus, would not contribute to the County wide usage. Instead, the Project would directly support the RPS goal of increasing the percentage of electricity procured from renewable sources.

Therefore, this impact analysis focuses on the two sources of energy that are most relevant to the Project: the equipment fuel necessary for construction and the automotive fuel necessary for ongoing maintenance activities. The amount of total construction-related fuel use was estimated using ratios provided in the Climate Registry's General Reporting Protocol for the Voluntary Reporting Program,

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Version 2.1. The amount of operational fuel use was estimated using CARB's EMFAC2021 computer program, which provides projections for typical daily fuel usage in Imperial County. This analysis conservatively assumes that all of the automobile trips projected to arrive at the Project during operations would be new to Imperial County.

Energy consumption associated with the proposed Project is summarized in Table 2-4. Project increases in automotive fuel consumption are compared with the countywide fuel consumption in 2021, the most recent full year of data.

Table 2-4. Proposed Project Energy and Fuel Consumption

Energy Type	Annual Energy Consumption	Percentage Increase Countywide
Electricity Consumption[1]	0 kilowatt-hours	0.00000 percent
Natural Gas[1]	0 therms	0.00000 percent
Automotive Fuel Consumption		
Vega 2 and Vega 3		
Construction	94,680 gallons	0.0435 percent
Vega 5		
Construction	77,635 gallons	0.0357 percent
Vega Complex (2,3,5 combined)		
Construction	172,315 gallons	0.0792 percent
Project Operations[3]	225.5 gallons	0.0001 percent

Source: [1]CalEEMod; [2]Climate Registry 2016; [3]EMFAC2021 (CARB 2021)

Notes: The Project increases in electricity and natural gas consumption are compared with all uses in Imperial County in 2021, the latest data available. The Project increases in automotive fuel consumption are compared with the countywide fuel consumption in 2021, the most recent full year of data.

Fuel necessary for Project construction would be required for the operation and maintenance of construction equipment and the transportation of materials to the Project site. The fuel expenditure necessary to construct the solar facility and infrastructure would be temporary, lasting only as long as Project construction. As indicated in Table 2-4, the Project's gasoline fuel consumption during the Vega 2 and Vega 3 construction period is estimated to be 94,680 gallons, which would increase the annual countywide gasoline fuel usage by 0.0435 percent. The gasoline fuel consumption in Project's Vega 5 construction period is estimated to be 77,635 gallons, which would increase the annual countywide gasoline fuel usage by 0.0357 percent. Additionally, the construction during the Vega Complex, which adds Vega 2, 3, and 5 together, has an estimate gasoline usage of 172,315 gallons, which would increase the annual countywide gasoline fuel usage by 0.0792 percent. As such, all of the Project's construction options would have a nominal effect on local and regional energy supplies. No unusual Project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the state. Construction contractors would purchase

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their own gasoline and diesel fuel from local suppliers and would judiciously use fuel supplies to minimize costs due to waste and subsequently maximize profits. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and requiring recycling of construction debris, would further reduce the amount of transportation fuel demand during Project construction. For these reasons, it is expected that construction fuel consumption associated with the Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

Once construction is completed the Project would be remotely controlled. No employees would be based at the Project sites. The only operational emissions associated with the Project would be associated with motor vehicle use for routine maintenance work and site security as well as panel upkeep and cleaning. A conservative estimate of two vehicle trips per day was assumed. This is a conservative estimate as most days would require no operational related vehicle trips. As indicated in Table 2-4, this would estimate to a consumption of approximately 225.5 gallons of automotive fuel per year, which would increase the annual countywide automotive fuel consumption by 0.0001 percent. Fuel consumption associated with both the construction equipment needed to construct the Project and the vehicle trips generated by the Project during ongoing maintenance activities would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region.

State and Local Plans for Renewable Energy/Energy Efficiency

The purpose of the proposed Project is the construction of a renewable energy and storage facility in Imperial County. Once in operation, it will decrease the need for energy from fossil fuel–based power plants in the state. The result would be a net increase in electricity resources available to the regional grid, generated from a renewable source. Therefore, the Project would directly support the RPS goal of increasing the percentage of electricity procured from renewable sources. Additionally, the Project would also be consistent with the County's General Plan Conservation and Open Space Element, Objective 9.2 which encourages renewable energy developments. Therefore, the Project would directly support state and local plans for renewable energy development.

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3.0 REFERENCES

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CEC. 2022. California Energy Consumption Database. http://www.ecdms.energy.ca.gov/

Climate Registry. 2016. *General Reporting Protocol for the Voluntary Reporting Program version 2.1*. January 2016. http://www.theclimateregistry.org/wp-content/uploads/2014/11/General-Reporting-Protocol-Version-2.1.pdf

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LIST OF ATTACHMENTS

Attachment A - Energy Consumption Modeling Output

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ATTACHMENT A

Energy Consumption Modeling Output

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Proposed Project
Total Construction-Related and Operational
Gasoline Usage

Table 1. VEGA 2 and VEGA 3			
Action	**Carbon Dioxide Equivalents (CO_2e) in Metric Tons[1]**	**Conversion of Metric Tons to Kilograms[2]**	**Construction Equipment Emission Factor[2]**
Project Construction	0,961	961,000	10.15
Total Gallons Consumed During Project Construction:			**94,680**

Table 2. VEGA 5			
Action	**Carbon Dioxide Equivalents (CO_2e) in Metric Tons[1]**	**Conversion of Metric Tons to Kilograms[2]**	**Construction Equipment Emission Factor[2]**
Project Construction	0,788	788,000	10.15
Total Gallons Consumed During Project Construction:			**77,635**

Table 3. VEGA Complex (2,3,5 combined)			
Action	**Carbon Dioxide Equivalents (CO_2e) in Metric Tons[1]**	**Conversion of Metric Tons to Kilograms[2]**	**Construction Equipment Emission Factor[2]**
Project Construction	1,749	1,749,000	10.15
Total Gallons Consumed During Project Construction:			**172,315**

Notes:

Fuel used by all construction equipment, including vehicle hauling trucks, assumed to be diesel.

[1]Per CalEEMod Output Files found in Air Quality and Greenhouse Gas Emissions Assessment Attachment C

[2]Per Climate Registry Equation 13e

Sources:

[1]ECORP Consulting, 2022.

[2]Climate Registry. 2016. *General Reporting Protocol for the Voluntary Reporting Program version 2.1.* January 2016.
http://www.theclimateregistry.org/wp-content/uploads/2014/11/General-Reporting-Protocol-Version-2.1.pdf

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Table 4. Total Gallons During Project Operations [3]								
Area	**Sub-Area**	**Cal. Year**	**Season**	**Veh_tech**	**EMFAC 2011 Category**	**Fuel_GAS Output**	**Daily Total**	**ANNUAL TOTAL**
Sub-Areas	Imperial County	2025	Annual	All Vehicles	All Vehicles [4]	0.000617813	0.617813	**225.5**

Sources:

3California Air Resource Board. 2017. EMFAC2017 Mobile Emissions Model.

Notes:

4Excluding Heavy-Duty Highway Trucks, T6 Agricultural Truck, T6 Instate Construction (heavy and small), T7 Agricultural Truck, T7 CAIRP Construction, T7 Single Construction, T7 Tractor Truck, and T7 Tractor Construction

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Attachment D:
MMRP Resolution

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RESOLUTION NO.

A RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF IMPERIAL, CALIFORNIA, RECOMMENDATING APPROVAL OF THE MITIGATION MONTORING AND REPORTING PROGRAM FOR THE VEGA SES 2, 3, & 5 SOLAR ENERGY STORAGE PROJECTS.

WHEREAS, a Mitigation Monitoring and Reporting Program has been prepared in accordance with the requirements of the California Environmental Quality Act, the State CEQA Guidelines, and the County's Rules to Implement CEQA as amended; and

WHEREAS, the Planning Commission of the County of Imperial has been delegated with the responsibility of the consideration for recommending to the Board of Supervisors the approval of the Mitigation Monitoring and Reporting Program; and

WHEREAS, public notice of said application has been given, and Planning Commission has considered evidence presented by the Imperial County Planning & Development Services Department, and other interested parties at a public hearing held with respect to this item on August 23, 2023; and,

NOW THEREFORE, the Planning Commission of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Planning Commission has considered the proposed Mitigation Monitoring and Reporting Program (MM&RP) prior to making a decision to recommend the adoption of the proposed MM&RP. The Planning Commission finds and determines that the Environmental Impact Report is adequate and prepared in accordance with the requirements of the California Environmental Quality Act (CEQA), which analyzes environmental effects, based upon the following findings and determinations.

SECTION 2. That in accordance with CEQA, State Planning and Zoning law, Imperial County Land Use Ordinance and the County of Imperial General Plan, the following findings for recommending the approval of the MM&RP as follows:

1. That the Final Project EIR **SCH #2021050013**, Candidate CEQA Findings for the Vega SES 2, 3 & 5 Solar Energy Storage Projects ("Project") have been prepared in accordance with the requirements of the California Environmental Quality Act, the State CEQA Guidelines, and the County's "Rules and Regulations to Implement CEQA as amended".

2. That the County has reviewed, analyzed, and considered Final Project EIR, the environmental impacts therein identified for this Project, the Candidate CEQA Findings, and the Mitigation Monitoring and Reporting Program, and the entire Record of Proceedings prior to approving this project.

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3. That the Mitigation Monitoring and Reporting Program is designed to ensure that during project implementation, the Developer and any other responsible parties implement the Project components and comply with feasible mitigation measures identified in the CEQA Findings, the Project entitlements, and the Mitigation Monitoring and Reporting Program and that these measures are fully enforceable through permit conditions, agreements, and/or other measures, such as their inclusion in the Mitigation Monitoring and Reporting Program.

4. That the Project will not individually or cumulative have an unmitigated adverse effect on fish and wildlife resources, as defined in Section 711.2 of the Fish and Game Code.

5. That the Record of Proceedings consists of the Final Project EIR (and all its technical reports and addendums thereto); the County staff reports; the CEQA Findings; the Mitigation Monitoring and Reporting Program; the various Project entitlements and documents referenced therein; all final reports, applications, memoranda, maps, letters, and other planning documents prepared by the EIR planning/environmental consultant; all final reports, memoranda, maps, letters, and other planning documents prepared by the County staff; all documents submitted by members of the public and public agencies in connection with the Final Project EIR; minutes and transcripts of all public meetings and public hearings; all written and verbal public testimony presented during a noticed public hearing for the proposed project which such testimony was taken and any and all other materials which constitute the record of proceeding pursuant to Public Resources Code section 21167.6(e); and matters of common knowledge to the County staff, Planning Commission, including, but not limited to the County General Plan, the County Zoning Ordinance, County policies, which may be found at the Clerk's Office located at 940 Main Street, Suite 209, El Centro, CA, 92243 during regular business hours, and the Imperial County Planning & Development Services Department at 801 Main Street, El Centro, CA 92243.

6. That the County Planning Commission does hereby recommend to the Board of Supervisors to approve of the Mitigation Monitoring and Reporting Program.

NOW, THEREFORE, based on the above findings, the **IMPERIAL COUNTY PLANNING COMMISSION DOES HEREBY RECOMMEND TO THE BOARD OF SUPERVISORS TO APPROVE OF** the Mitigation Monitoring Reporting Program (MMRP) for the VEGA SES 2, 3, & 5 solar and battery storage projects.

_____
Rudy Schaffner, Chairperson
Imperial County Planning Commission

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I hereby certify that the Planning Commission at a meeting conducted on **August 23, 2023** by the following vote took the preceding resolution:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

_____

Jim Minnick, Director of Planning & Development Services
Secretary to the Planning Commission

S:APN/025\006\cup20-0022pc\MMRP/resolutiondocx

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
GEO-1	**Prepare Geotechnical Report(s) as Part of Final Engineering for the Project and Implement Required Measures.** Facility design for all project components shall comply with the site-specific design recommendations as provided by a licensed geotechnical or civil engineer to be retained by the project applicant. The final geotechnical and/or civil engineering report shall address and make recommendations on the following: • Site preparation • Soil bearing capacity • Appropriate sources and types of fill • Potential need for soil amendments • Structural foundations • Grading practices • Soil corrosion of concrete and steel • Erosion/winterization • Seismic ground shaking • Liquefaction • Expansive/unstable soils In addition to the recommendations for the conditions listed above, the geotechnical investigation shall include subsurface testing of soil and groundwater conditions, and shall determine appropriate foundation designs that are consistent with the version of the CBC that is applicable at the time building and grading permits are applied for. All recommendations contained in the final geotechnical engineering report shall be implemented by the project applicant. The final geotechnical and/or civil engineering report shall be submitted to Imperial County Public Works Department, Engineering Division for review and approval prior to issuance of building permits.	Prior to the issuance of a grading permit, the Imperial County Public Works Department, Engineering Division shall review and approve a Final Geotechnical Report and/or Civil Engineering Report.	Department of Planning and Development Services and Imperial County Public Works Department, Engineering Division	Prior to issuance of a grading permit	Department of Planning and Development Services and Imperial County Public Works Department, Engineering Division			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching) • Sediment control practices (e.g., temporary sediment basins, fiber rolls) • Temporary and post-construction on- and off-site runoff controls • Special considerations and BMPs for water crossings and drainages • Monitoring protocols for discharge(s) and receiving waters, with emphasis place on the following water quality objectives: dissolved oxygen, floating material, oil and grease, potential of hydrogen (pH), and turbidity • Waste management, handling, and disposal control practices • Corrective action and spill contingency measures • Agency and responsible party contact information • Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP The SWPPP shall be prepared by a Qualified SWPPP Practitioner and/or Qualified SWPPP Developer with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. BMPs for soil stabilization and erosion control practices and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure.							
HYD-2	**Incorporate Post-Construction Runoff BMPs into Project Drainage Plan.** The project Drainage Plan	Post construction for the project site, the applicant	Department of Planning and Development Services	Post construction	Department of Planning and Development			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
Agricultural Resources								
AG-1	Prior to the issuance of a grading permit or building permit (whichever occurs first), a Pest Management Plan shall be developed by the project applicant and approved by the County of Imperial Agricultural Commissioner. The project applicant shall maintain a Pest Management Plan until reclamation is complete. The plan shall provide the following: 1. Monitoring, preventative, and management strategies for weed and pest control during construction activities at any portion of the project (e.g., transmission line); 2. Control and management of weeds and pests in areas temporarily disturbed during construction where native seed will aid in site revegetation as follows: • Monitor for all pests including insects, vertebrates, weeds, and pathogens. Promptly control or eradicate pests when found, or when notified by the Agricultural Commissioner's office that a pest problem is present on the project site. The assistance of a licensed pest control advisor is recommended. All treatments must be performed by a qualified applicator or a licensed pest control business. • All treatments must be performed by a qualified applicator or a licensed pest control operator. • "Control" means to reduce the population of common pests below economically damaging levels, and includes attempts to exclude pests before infestation, and effective control methods after infestation. Effective control methods may include physical/mechanical removal, bio control, cultural control, or chemical treatments. • Use of "permanent" soil sterilants to control weeds or other pests is prohibited because this would interfere with reclamation.	The Department of Planning and Development Services shall verify that a Pest Management P an has been reviewed and approved by the Imperial County AgriculTural Commissioner.	Department of Planning and Development Services and Imperial County Agricultural Commissioner	Prior to the issuance of a grading permit or building permit, during construction	Department of Planning and Development Services and Imperial County Agricultural Commissioner			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of Food Agriculture and the U.S. Department of Agriculture. Request a sample be taken by the Agricultural Commissioner's Office of a suspected invasive species. Eradication of exotic pests shall be done under the direction of the Agricultural Commissioner's Office and/or California Department of Food and Agriculture. • Obey all pesticide use laws, regulations, and permit conditions. • Allow access by Agricultural Commissioner staff for routine visual and trap pest surveys, compliance inspections, eradication of exotic pests, and other official duties. • Ensure all project employees that handle pest control issues are appropriately trained and certified, all required records are maintained and made available for inspection, and all required permits and other required legal documents are current. • Maintain records of pests found and treatments or pest management methods used. Records should include the date, location/block, project name (current and previous if changed), and methods used. For pesticides include the chemical(s) used, EPA Registration numbers, application rates, etc. A pesticide use report may be used for this.							

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• Submit a report of monitoring, pest finds, and treatments, or other pest management methods to the Agricultural Commissioner quarterly within 15 days after the end of the previous quarter, and upon request. The report is required even if no pests were found or treatment occurred. It may consist of a copy of all records for the previous quarter, or may be a summary letter/report as long as the original detailed records are available upon request. 3. A long-term strategy for weed and pest control and management during the operation of the proposed project. Such strategies may include, but are not limited to: • Use of specific types of herbicides and pesticides on a scheduled basis. 4. Maintenance and management of project site conditions to reduce the potential for a significant increase in pest-related nuisance conditions on surrounding agricultural lands. 5. The project shall reimburse the Agricultural Commissioner's office for the actual cost of investigations, inspections, or other required non-routine responses to the site that are not funded by other sources.							
Air Quality								
AQ-1	**Fugitive Dust Control.** During construction activities, the constructor contractor shall employ the following PM_{10} reducing measures: • All unpaved roads associated with construction shall be effectively stabilized of dust emissions using Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant before the commencement of construction, and every 30 days thereafter until the end of all construction activities. Unpaved roads associated with construction include: • The 1.65 miles of unpaved road on Weist Road and Flowing Wells Road to the VEGA SES 2 and	Prior to construction, a dust control plan shall be prepared and approved by ICAPCD and ICPDS.	Department of Planning and Development Services and ICAPCD	Prior to and during construction	Department of Planning and Development Services and ICAPCD			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	3 project sites. Monthly application of Imperial County Air Pollution Control District-approved chemical stabilizers/suppressant shall be applied at a rate of 0.1 gallon/square yard of chemical dust suppressant. • Prior to any earthmoving activity, the applicant shall submit a construction dust control plan and obtain Imperial County Air Pollution Control District and Imperial County Planning and Development Services Department (ICPDS) approval. • Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII – Fugitive Dust Control Measures. Whereas these Regulation VIII measures are mandatory and are not considered project environmental mitigation measures, the ICAPCD CEQA Handbook's required additional standard and enhanced mitigation measures listed below shall be implemented prior to and during construction. ICAPCD will verify implementation and compliance with these measures as part of the grading permit review/approval process. ***ICAPCD Standard Measures for Fugitive Dust (PM_{10}) Control*** • All disturbed areas, including bulk material storage, which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material, such as vegetative ground cover. • All on-site and offsite unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering. • All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity							

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering. • The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material. • All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area. • Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line. • The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants, and/or watering. ***ICAPCD "Discretionary" Measures for Fugitive Dust (PM_{10}) Control*** • Water exposed soil only in those areas where active grading and vehicle movement occurs with adequate frequency to control dust. • Replace ground cover in disturbed areas as quickly as possible. • Automatic sprinkler system installed on all soil piles. • Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site. • Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees.							

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• Implement a shuttle service to and from retail services and food establishments during lunch hours. ***Standard Mitigation Measures for Construction Combustion Equipment*** • Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum. • Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use. • Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set). ***Enhanced Mitigation Measures for Construction Equipment*** To help provide a greater degree of reduction of PM emissions from construction combustion equipment, ICAPCD recommends the following enhanced measures. • Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways. • Implement activity management (e.g., rescheduling activities to reduce short-term impacts).							

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
AQ-2	**Construction Equipment.** Construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at the project sites by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit. The equipment list shall be submitted periodically to ICAPCD to perform a NO_x analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds. The Planning and Development Services Department and ICAPCD shall verify implementation of this measure.	Prior to the issuance of a grading permit, ICAPCD shall verify that construction equipment are equipped with an engine designation of EPA Tier 2 or better. The equipment list shall be submitted periodically to ICAPCD to perform a NOx analysis.	Department of Planning and Development Services and ICAPCD	Prior to the issuance of a grading permit and during construction	Department of Planning and Development Services and ICAPCD			
AQ-3	**Dust Suppression.** The project applicant shall employ a method of dust suppression (such as water or chemical stabilization) approved by ICAPCD. The project applicant shall apply chemical stabilization as directed by the product manufacturer to control dust between the panels as approved by ICAPCD, and other non-used areas (exceptions will be the paved entrance and parking area, and Fire Department access/emergency entry/exit points as approved by Fire/ Office of Emergency Services [OES] Department). All chemicals used for stabilization of Flowing Wells Road must be approved by BLM.	During construction, the Department of Planning and Development Services shall verify that the project applicant is employing a method of dust suppression approved by ICAPCD.	Department of Planning and Development Services	During construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
APM AQ-4	**Operational Dust Control Plan.** Prior to issuance of a Certificate of Occupancy, the applicant shall submit an operations dust control plan and obtain ICAPCD and ICPDS approval. ICAPCD Rule 301 Operational Fees apply to any project applying for a building permit. At the time that building permits are submitted for the proposed project, the ICAPCD shall review the project to determine if Rule 310 fees are applicable to the project.	Prior to the issuance of a Certificate of Occupancy, the applicant shall submit an operations dust control plan and obtain ICAPCD and ICPDS approval.	Department of Planning and Development Services	Prior to the issuance of a Certificate of Occupancy	Department of Planning and Development Services and ICAPCD			
Biological Resources								
BIO-1a	**Rare Plant Surveys.** Prior to initiating ground disturbance, rare plant surveys shall be conducted within suitable habitat on the VEGA SES 2 and 3 project sites during the appropriate blooming period for gravel milk-vetch, Wiggins' croton, glandular ditaxis, sand food, and Munz's cholla. The surveys shall be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If project-related impacts to rare plants on the project sites are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements.	Prior to initiating ground disturbance, rare plant surveys shall be conducted.	Department of Planning and Development Services	Prior to construction, during construction, and post-construction	Department of Planning and Development Services			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
BIO-1b	**Rare Plant Surveys.** Prior to initiating ground disturbance, rare plant surveys shall be conducted within suitable habitat on the VEGA SES 5 project site during the appropriate blooming period for Salton milk-vetch, Borrego milk-vetch, gravel milk-vetch, spiny abrojo, glandular ditaxis, Abram's spurge, ribbed cryptantha, slender-spined all thorn, slender cottonheads, sand food, and Mecca-aster. The surveys shall be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If project-related impacts to rare plants on the project sites are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population and additional monitoring requirements.	Prior to initiating ground disturbance, rare plant surveys shall be conducted.	Department of Planning and Development Services	Prior to construction, during construction, and post-construction	Department of Planning and Development Services			
BIO-2	**pact Avoidance and Minimization Measures.** The following measures will be applicable throughout the life of the projects: • To reduce the potential indirect impact on migratory birds, bats and raptors, the project shall comply with the APLIC 2012 Guidelines for overhead utilities, as appropriate, to minimize avian collisions with transmission facilities (APLIC 2012) • All electrical components on the project sites shall be either undergrounded or protected so that there will be no exposure to wildlife and therefore no potential for electrocution.	Prior to and during construction a Project Biologist shall be designated and responsible for overseeing compliance with avoidance and minimization measures	Department of Planning and Development Services	Prior to construction, during construction	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• The project proponent shall designate a Project Biologist who shall be responsible for overseeing compliance with protective measures for biological resources during vegetation clearing and work activities within and adjacent to areas of native habitat. The Project Biologist shall be familiar with the local habitats, plants, and wildlife. The Project Biologist shall also maintain communications with the Contractor to ensure that issues relating to biological resources are appropriately and lawfully managed and shall monitor construction. The Project Biologist shall monitor activities within construction areas during nesting bird season (generally February 1 to September 15), such as vegetation removal, the implementation of Best Management Practices (BMPs), and installation of security fencing to protect native species. The Project Biologist shall ensure that all wildlife and regulatory agency permit requirements, conservation measures, and general avoidance and minimization measures are properly implemented and followed. • The boundaries of all areas to be newly disturbed (including solar facility areas, staging areas, access roads, and sites for temporary placement of construction materials and spoils) shall be delineated with stakes and flagging prior to disturbance. All disturbances, vehicles, and equipment shall be confined to the flagged areas. • No potential wildlife entrapments (e.g., trenches, bores) shall be left uncovered overnight. Any uncovered pitfalls will be excavated to 3:1 slopes at the ends to provide wildlife escape ramps. Alternatively, man-made ramps may be installed. Covered pitfalls will be covered completely to prevent access by small mammals or reptiles. • To avoid wildlife entrapment (including birds), all pipes or other construction materials or supplies shall be covered or capped in storage or laydown areas, and at the end of each work day in construction, quarrying and							

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	processing/handling areas. No pipes or tubing of sizes or inside diameters ranging from 1 to 10 inches shall be left open either temporarily or permanently. • No anticoagulant rodenticides, such as Warfarin and related compounds (indandiones and hydroxycoumarins), shall be used within the project sites, on off-site project facilities and activities, or in support of any other project activities. • Avoid wildlife attractants. All trash and food-related waste shall be placed in self-closing containers and removed regularly from the sites to prevent overflow. Workers shall not feed wildlife. Water applied to dirt roads and construction areas for dust abatement shall use the minimal amount needed to meet safety and air quality standards to prevent the formation of puddles, which could attract wildlife. Pooled rainwater or floodwater within retention basins shall be removed to avoid attracting wildlife to the active work areas. • To minimize the likelihood for vehicle strikes on wildlife, speed limits shall not exceed 15 miles per hour when driving on access roads. All vehicles required for O&M must remain on designated access/maintenance roads. • Avoid nighttime construction lighting or if nighttime construction cannot be avoided, use shielded directional lighting pointed downward and towards the interior of the project sites, thereby avoiding illumination of adjacent natural areas and the night sky. • All construction equipment used for the projects shall be equipped with properly operating and maintained mufflers. • Hazardous materials and equipment stored overnight, including small amounts of fuel to refuel hand-held equipment, shall be stored within secondary containment when within 50 feet of open water to the fullest extent practicable. Secondary containment shall consist of a ring of sand bags around each piece of stored equipment/structure. A plastic							

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	tarp/visqueen lining with no seams shall be placed under the equipment and over the edges of the sandbags, or a plastic hazardous materials secondary containment unit shall be utilized by the Contractor. • The Contractor will be required to conduct vehicle refueling in upland areas where fuel cannot enter waters of the U.S. and in areas that do not have potential to support federally threatened or endangered species. Any fuel containers, repair materials, including creosote-treated wood, and/or stockpiled material that is left on site overnight, shall be secured in secondary containment within the work area and staging/assembly area and covered with plastic at the end of each work day. • In the event that no activity is to occur in the work area for the weekend and/or a period of time greater than 48 hours, the Contractor shall ensure that all portable fuel containers are removed from the project sites. • All equipment shall be maintained in accordance with manufacturer's recommendations and requirements. • Equipment and containers shall be inspected daily for leaks. Should a leak occur, contaminated soils and surfaces will be cleaned up and disposed of following the guidelines identified in the Stormwater Pollution Prevention Plan or equivalent, Materials Safety Data Sheets, and any specifications required by other permits issued for the projects. • The Contractor shall utilize off-site maintenance and repair shops as much as possible for maintenance and repair of equipment. • If maintenance of equipment must occur onsite, fuel/oil pans, absorbent pads, or appropriate containment will be used to capture spills/leaks within all areas. Where feasible, maintenance of equipment shall occur in upland areas where fuel cannot enter waters of the U.S. and in areas that do not							

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	have potential to support federally threatened or endangered species. • Appropriate BMPs shall be used by the Contractor to control erosion and sedimentation and to capture debris and contaminants from construction to prevent their deposition in waterways. • Erosion and sediment control devices used for the proposed projects, including fiber rolls and bonded fiber matrix, shall be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard. • Firearms, open fires, and pets shall be prohibited at all work locations and access roads. Smoking shall be prohibited along the project alignment. • Cross-country vehicle and equipment use outside of approved designated work areas and access roads shall be prohibited to prevent unnecessary ground and vegetation disturbance. • Any injured or dead wildlife encountered during project-related activities shall be reported to the project biologist, biological monitor, CDFW, or a CDFW-approved veterinary facility as soon as possible to report the observation and determine the best course of action. For special-status species, the Project Biologist shall notify the County, USFWS, and/or CDFW, as appropriate, within 24 hours of the discovery. • Stockpiling of material shall only be allowed within established work areas. • The Contractor shall actively manage the spread of noxious weeds by implementing weed control activities. The introduction of exotic, nonnative, weed, and/or invasive plant species will be avoided and controlled wherever possible, and may be achieved through physical or chemical removal and prevention, limiting the size of any vegetation and/or ground disturbance to the absolute minimum, and limiting ingress and egress to							

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	defined routes. Preventing exotic plants from entering the sites via vehicular sources will include measures such as cleaning vehicles coming into and going from the sites. All equipment will be cleaned and inspected prior to transport to the sites. • The ground beneath all parked equipment and vehicles shall be inspected for wildlife before moving.							
BIO-3	**Worker Environmental Awareness Program.** Prior to project construction, a Worker Environmental Awareness Program shall be developed and implemented by a qualified biologist and shall be available in both English and Spanish. Handouts summarizing potential impacts on special-status biological resources and the potential penalties for impacts on these resources shall be provided to all construction personnel. At a minimum, the education program shall including the following: • the purpose for resource protection; • a description of special-status species including representative photographs and general ecology; • occurrences of USACE, RWQCB, and CDFW regulated features in the project study area; • regulatory framework for biological resource protection and consequences if violated • sensitivity of the species to human activities; • avoidance and minimization measures designed to reduce the impacts on special-status biological resources • environmentally responsible construction practices; • reporting requirements; • the protocol to resolve conflicts that may arise at any time during the construction process; and • workers sign acknowledgement form indicating that the Environmental Awareness Training and Education	Prior to construction, the Department of Planning and Development Services shall verify that a Worker Environmental Awareness Program has been implemented by a qualified biologist. The Department of Planning and Development Services shall verify the completion of the Worker Environmental Awareness Program by obtaining signed acknowledgements forms from workers.	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	Program that has been completed, which shall be kept on record.							
BIO-4	**Burrowing Owl Avoidance and Minimization.** Take avoidance (pre-construction) surveys for burrowing owl shall be completed prior to project construction. Surveys shall be conducted as detailed within Appendix D of the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game [CDFG] 2012). If burrowing owl is not detected, construction may proceed. • If burrowing owl is identified during the non-breeding season (September 1 through January 31), then a 50-meter buffer will be established by the biological monitor. Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until a CDFW-approved exclusion plan has been implemented. The buffer distance may be reduced if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities. • If burrowing owl is identified during the breeding season (February 1 through August 31), then an appropriate buffer will be established by the biological monitor in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012). Construction within the buffer will be avoided until a qualified biologist determines that burrowing owl is no longer present or until young have fledged. The buffer distance may be reduced in consultation with CDFW if noise attenuation buffers such as hay bales are placed between the occupied burrow and construction activities.	Prior to construction, the Department of Planning and Development Services shall verify that pre-construction surveys for burrowing owl were conducted. If burrowing owl are present, the measures as listed in Mitigation Measure BIO-4 shall be implemented.	Department of Planning and Development Services	During construction	Department of Planning and Development Services			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
BIO-5	**Pre-Construction Nesting Bird Survey.** If construction or other project activities are scheduled to occur during the bird breeding season (typically February 1 through August 31 for raptors and February 15 through August 31 for the majority of migratory bird species), a pre-construction nesting-bird survey shall be conducted by a qualified avian biologist to ensure that active bird nests, including those for loggerhead shrike, black-tailed gnatcatcher, and burrowing owl, will not be disturbed or destroyed. The survey shall be completed no more than three days prior to initial ground disturbance. The nesting-bird survey shall include the project site and adjacent areas where project activities have the potential to affect active nests, either directly or indirectly, due to construction activity or noise. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist. If construction activities cease for a period of greater than three days during the bird breeding season, a pre-construction nesting bird survey shall be conducted prior to the commencement of activities. Final construction buffers or setback distances shall be determined by the qualified biologist in coordination with USFWS and CDFW on a case-by-case basis, depending on the species, season in which disturbance shall occur, the type of disturbance, and other factors that could influence susceptibility to disturbance (e.g., topography, vegetation, existing disturbance levels, etc.).	Prior to construction, the Department of Planning and Development Services shall verify that a pre-construction nesting bird survey was conducted. If nesting birds are present, the measures as listed in Mitigation Measure BIO-5 shall be implemented.	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
BIO-6a	**Pre-Construction Survey for Special-Status Species.** A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 2 and 3 project sites or that were identified as having a high potential to occur on the sites. These species include, but are not limited to, burrowing owl, loggerhead shrike, California black rail, and black-tailed gnatcatcher. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.	Prior to construction, the Department of Planning and Development Services shall verify that a pre-construction survey for special-status species was conducted. If special status species are present, the measures as listed in Mitigation Measure BIO-6a shall be implemented.	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			
BIO-6b	**Pre-Construction Survey for Special-Status Species.** A pre-construction survey shall be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey shall take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys shall take place regardless of breeding season timing and shall focus on identifying the presence of special-status wildlife species present on the VEGA SES 5 project site or that were identified as having a high potential to occur on the site. These species include, but are not limited to, mountain plover, California black rail, merlin, Yuma hispid cotton rat, burrowing owl, black-tailed gnatcatcher, and loggerhead strike. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.	Prior to construction, the Department of Planning and Development Services shall verify that a pre-construction survey for special-status species was conducted. If special status species are present, the measures as listed in Mitigation Measure BIO-6b shall be implemented.	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
BIO-7a	**Sensitive Habitat Avoidance.** To the greatest extent possible, plans should avoid impacts on blue palo verde-ironwood woodland, bush seepweed scrub, and tamarisk thickets habitats within the VEGA SES 2 and 3 project sites to minimize potential impacts on special-status species. Excluding these habitats from the projects should also minimize mitigation and permitting requirements to meet the less-than-significance threshold.	Prior to construction as part of final engineering plans	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			
BIO-7b	**Sensitive Habitat Avoidance.** To the greatest extent possible, plans should avoid impacts on bush seepweed scrub and tamarisk thicket habitats within the VEGA SES 5 project site to minimize potential impacts to special-status species. Excluding these habitats from the project should also minimize mitigation and permitting requirements to meet the less-than-significance threshold.	Prior to construction as part of final engineering plans	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
BIO-8	**Aquatic Resources Regulatory Permitting.** If project-related impacts occur to the riparian areas that may also fall under the jurisdiction of the USACE, CDFW, or RWQCB a regulatory permit with those agencies will be needed prior to the impact occurring. Refer to the ECORP Jurisdiction Delineation Report (2022) for preliminary determination of regulatory limits of areas that may be regulated by the USACE, CDFW, or RWRCB. Permitting includes preparation and submittal of a Pre-Construction Notification under Section 404 of the federal CWA, an Application for Water Quality Certification under Section 401 of the federal CWA, and a Notification of Lake or Streambed Alteration under Section 1600 of the California Fish and Game Code. A completed CEQA document, and Notice of Determination, will be necessary to submit along with the applications. Other items such as finalized project plans, quantities of fill material, supporting technical studies, etc., are also submitted along with the applications. As a part of this process, the projects must also identify and approve mitigation through the respective agencies. Mitigation can include onsite or offsite options or could include purchase of credits from an existing mitigation or conservation bank or payment of an in-lieu fee to a conservation organization. Types of mitigation can include restoration, creation, rehabilitation, enhancement, or other types of habitat improvement. Typically, the type of mitigation and acreage of mitigation is negotiated with the regulatory agencies during the permitting process.	Prior to construction	Department of Planning and Development Services, USACE, CDFW, RWQCB (as applicable)	Prior to construction	Department of Planning and Development Services, USACE, CDFW, RWQCB (as applicable)			
BIO-9	**Minimization of Impacts to Wetland/Riparian Habitat.** Solar panels, structures, and new access roads should not be placed within 50 feet of wetland and riparian habitat boundaries. A construction buffer of 300 feet shall be established around the wetlands and riparian habitat during the bird breading season (February 1 – August 31). Prior to construction, fencing should be installed approximately 10 feet from the wetland and riparian habitat boundaries within 50 feet of the projects. Fencing should be easily visible to construction. The extensive alluvial fan systems should not be used as access roads between the projects.	Prior to construction as part of final engineering plans	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
Cultural Resources								
CR-1	**Cultural Resources Management Plan.** Project proponent will develop a cultural resources management plan (CRMP) to outline the process for compliance with applicable cultural resources laws, management of resources during operation, and consideration of the effect of decommissioning. The CRMP shall include the following: identification of California Native American tribes, identification of long and short term management goals for cultural resources within the project area, evaluation of eligibility for the CRHR and NRHP for all resources within the project area as identified on EIR Tables 3.6-3, 3.6-4 and 3.6-5, recommendations for eligibility for the CRHR and NRHP, description of measures to avoid, minimize, and reduce significant impacts to cultural resources (including both historical and archaeological resources), unanticipated discovery procedures, monitoring needs, data recovery of significant cultural resources where avoidance is not possible, curation procedures for recovered artifacts, anticipated personnel requirements and qualifications. The CRMP shall specifically address pre-contact fishing village site Resource P-13-147 and all resources identified in EIR Tables 3.6-3, 3.6-4 and 3.6-5. The draft CRMP shall be prepared by a registered professional archaeologist and reviewed and approved by the County of Imperial Planning and Development Services Department.	Prior to construction, approval of the CRMP by the Department of Planning and Development Services.	Department of Planning and Development Services	Prior to construction	Department of Planning and Development Services			
CR-2	**Cultural Resources Training.** Project proponent will provide cultural resources training for all project personnel regarding the laws protecting cultural resources, appropriate conduct in the field, and other project-specific issues identified in the CRMP prepared for each site as required by Mitigation Measure CR-1.	Prior to grading and during any ground-disturbing phases of the project	Department of Planning and Development Services	Prior to grading and during ground-disturbing phases of the project	Department of Planning and Development Services			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
CR-3	**Construction Monitoring.** A qualified Archaeologist shall be present on site for ground disturbing activities within 100-feet of all unevaluated or sites eligible for inclusion to the NRHP or CRHR. Ground disturbing activities include grubbing, trenching, and grading. Monitoring will be limited to natural surfaces and undisturbed sediments. Monitoring is not required for previously disturbed areas or fill. Monitors will complete daily monitoring reports documenting activities and results of the day. After construction activities have finished a comprehensive monitoring report shall be prepared.	During ground disturbing activities including grubbing, trenching, and grading.	Ground disturbing activities include grubbing, trenching, and grading.	During ground disturbing activities including grubbing, trenching, and grading.	Department of Planning and Development Services			
CR-4	**Unanticipated Discovery Procedures.** In the event of the discovery of previously unidentified archaeological materials, the contractor shall immediately cease all work activities within approximately 100 feet of the discovery. After cessation of excavation, the contractor shall immediately contact the Imperial County Department of Planning and Development Services. Except in the case of cultural items that fall within the scope of the Native American Grave Protection and Repatriation Act, the discovery of any cultural resource within the project area shall not be grounds for a "stop work" notice or otherwise interfere with the project's continuation except as set forth in this paragraph. In the event of an unanticipated discovery of archaeological materials during construction, the applicant shall retain the services of a qualified professional archaeologist, meeting the Secretary of the Interior's Standards for a Qualified Archaeologist, to evaluate the significance of the materials prior to resuming any construction related activities in the vicinity of the find. If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA and it cannot be avoided, the applicant shall implement an archaeological data recovery program.	During grading and construction, discovery of human remains shall result in work stoppage in that area until the coroner and the Native American Heritage Commission are contacted.	Department of Planning and Development Services	During grading and construction	Department of Planning and Development Services			

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CR-5	**Discovery of Human Remains.** If subsurface deposits believed to be human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist who meets the Secretary of the Interior's Standards for prehistoric and historic archaeology and is familiar with the resources of the region, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find: • If the find includes human remains, or remains that are potentially human, the professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Imperial County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. • If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC may mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinterment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the Imperial County Planning and Development Services Department, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.	During ground disturbing activities	Department of Planning and Development Services, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.	During ground disturbing activities	Department of Planning and Development Services. County Coroner	
Geology and Soils						

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
GEO-1	**Prepare Geotechnical Report(s) as Part of Final Engineering for the Project and Implement Required Measures.** Facility design for all project components shall comply with the site-specific design recommendations as provided by a licensed geotechnical or civil engineer to be retained by the project applicant. The final geotechnical and/or civil engineering report shall address and make recommendations on the following: • Site preparation • Soil bearing capacity • Appropriate sources and types of fill • Potential need for soil amendments • Structural foundations • Grading practices • Soil corrosion of concrete and steel • Erosion/winterization • Seismic ground shaking • Liquefaction • Expansive/unstable soils In addition to the recommendations for the conditions listed above, the geotechnical investigation shall include subsurface testing of soil and groundwater conditions, and shall determine appropriate foundation designs that are consistent with the version of the CBC that is applicable at the time building and grading permits are applied for. All recommendations contained in the final geotechnical engineering report shall be implemented by the project applicant. The final geotechnical and/or civil engineering report shall be submitted to Imperial County Public Works Department, Engineering Division for review and approval prior to issuance of building permits.	Prior to the issuance of a grading permit, the Imperial County Public Works Department, Engineering Division shall review and approve a Final Geotechnical Report and/or Civil Engineering Report.	Department of Planning and Development Services and Imperial County Public Works Department, Engineering Division	Prior to issuance of a grading permit	Department of Planning and Development Services and Imperial County Public Works Department, Engineering Division			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
GEO-2	**Paleontological Resources.** In the event that unanticipated paleontological resources or unique geologic resources are encountered during ground-disturbing activities, work must cease within 50 feet of the discovery and a paleontologist shall be hired to assess the scientific significance of the find. The consulting paleontologist shall have knowledge of local paleontology and the minimum levels of experience and expertise as defined by the Society of Vertebrate Paleontology's Standard Procedures (2010) for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. If any paleontological resources or unique geologic features are found within the project sites, the consulting paleontologist shall prepare a paleontological Treatment and Monitoring Plan to include the methods that will be used to protect paleontological resources that may exist within the project sites, as well as procedures for monitoring, fossil preparation and identification, curation of specimens into an accredited repository, and preparation of a report at the conclusion of the monitoring program.	If paleontological monitoring is warranted, a mitigation and monitoring report shall be prepared and submitted to the Department of Planning and Development Services for review and approval.	Department of Planning and Development Services	Prior to grading	Department of Planning and Development Services			
Hydrology/Water Quality								
HYD-1	**Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration.** The project applicant or its contractor shall prepare a SWPPP specific to the project and be responsible for securing coverage under SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the appropriate agency, including the County of Imperial Department of Public Works and the Coachella Valley Water District, prior to commencement of work and shall be made conditions of the contract with the contractor selected to build and decommission the project. The SWPPP shall incorporate control measures in the following categories:	Prior to construction and site restoration, the project applicant or its contractor shall prepare a SWPPP with incorporated control measures outlined in Mitigation Measure HYD-1; and implement BMPs. Department of Planning and Development Services to verify.	Department of Planning and Development Services	Prior to issuance of a grading permit and site restoration	Department of Planning and Development Services, Coachella Valley Water District			

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Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	• Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching) • Sediment control practices (e.g., temporary sediment basins, fiber rolls) • Temporary and post-construction on- and off-site runoff controls • Special considerations and BMPs for water crossings and drainages • Monitoring protocols for discharge(s) and receiving waters, with emphasis place on the following water quality objectives: dissolved oxygen, floating material, oil and grease, potential of hydrogen (pH), and turbidity • Waste management, handling, and disposal control practices • Corrective action and spill contingency measures • Agency and responsible party contact information • Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP The SWPPP shall be prepared by a Qualified SWPPP Practitioner and/or Qualified SWPPP Developer with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. BMPs for soil stabilization and erosion control practices and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure.							
HYD-2	**Incorporate Post-Construction Runoff BMPs into Project Drainage Plan.** The project Drainage Plan	Post construction for the project site, the applicant	Department of Planning and Development Services	Post construction	Department of Planning and Development			

Table 0.4-1. Mitigation Measures

MM No.	Mitigation Measure	Monitoring Method	Responsible Monitoring Party	Monitoring Phase	Verification/Approval Party	Date Mitigation Measure Verified or Implemented	Location of Documents (Monitoring Record)	Completion Requirement
	shall adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of stormwater to existing drainage systems. Infiltration basins will be integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary. The Drainage Plan shall be submitted to the County of Imperial Department of Public Works and Coachella Valley Water District for review and approval.	shall implement a Drainage Plan in accordance with the County and Imperial Irrigation District guidelines. Department of Planning and Development Services and IID to confirm.			Services, IID, Coachella Valley Water District			

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Attachment E

Resolutions CUP's #20-0021, # 20-0022, & #20-0023

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RESOLUTION NO.

A RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF IMPERIAL, CALIFORNIA, RECOMMENDING APPROVAL TO THE BOARD OF SUPERVISORS FOR " VEGA SES 2 SOLAR ENERGY STORAGE PROJECT" FOR CONDITIONAL USE PERMIT #20-0021"

WHEREAS, APEX ENERGY SOLUTIONS, LLC has submitted an application for Conditional Use Permit (CUP) #20-0021 to develop a nominal 240-megawatt (MW) solar photovoltaic (PV) energy generation project with an integrated battery storage system not to exceed 480 MW. The project includes solar energy generation facility, battery storage system, switching station and gen-tie line. The project is to be located on approximately 1,483 acres.

WHEREAS, an Environmental Impact Report and CEQA Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State Guidelines, and the County's "Rules and Regulations to Implement CEQA," as Amended;

WHEREAS, the Planning Commission of the County of Imperial has been delegated with the responsibility of approvals, certifications and making recommendations to the Imperial County Board of Supervisors for approvals of conditional use permits;

WHEREAS, public notice of said application has been given, and the Planning Commission has heard, received and considered all oral and written protests, objections and evidence presented by interested parties at a public hearing held with respect to this item on August 23, 2023, and

WHEREAS, the Draft EIR was received by the State Clearinghouse on December 14, 2022 and circulated for a period of 50 days (**SCH #2021050013**) with the commenting period ending February 2, 2023.

NOW, THEREFORE, the Planning Commission of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Planning Commission has considered the proposed Conditional Use Permit #20-0021 prior to recommending approval and the County's consideration of the Project has been noticed in compliance with law.

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SECTION 2. That the Project complies with the requirements of the Imperial County Code and is in accordance with State Planning and Zoning law therefore, the following findings are made pursuant to Imperial County Code § 90203.09 as follows:

A. The proposed use is consistent with goals and policies of the adopted County General Plan. (Imperial County Code § 90203.09.A)

The current General Plan land use designations of the project site and proposed parcels are "Recreation/Open Space" and proposed project parcels are within the Renewable Energy Overlay (RE). Therefore, the proposed uses could be found consistent with the General Plan.

B. The proposed use is consistent with the purpose of the zone or sub-zone within which the use will be used. (Imperial County Code § 90203.09.B)

The proposed project parcels are zoned S-2-RE. (Open Space Preservation) with Renewable Energy Overlay). The proposed uses are consistent with the zone since they are listed as allowed uses under the S-2 RE zone with requirements for an approved Conditional Use Permit.

C. The proposed use is listed as a use within the zone or sub-zone or is found to be similar to a listed conditional use according to the procedures of Section 90203.00. (Imperial County Code § 90203.09.C)

The proposed use is consistent with the zone: S-2-RE (General Agriculture with Renewable Energy Overlay).

D. The proposed use meets the minimum requirements of this Title applicable to the use and complies with all applicable laws, ordinances and regulation of the County of Imperial and the State of California. (Imperial County Code § 90203.09.D)

The Project complies with the minimum requirements of this Title by, among other things, obtaining a CUP, complying with the California Environmental Quality Act, and participating in the public review and hearing process. Development standards have been established for the Project pursuant to these processes, and will be enforced via imposition and enforcement of the Mitigation Monitoring and Reporting Program recommended for approval by separate Resolution, as well as the conditions of approval imposed on this CUP. The Conditions of Approval will further insure that the project complies with all applicable regulations of the County

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of Imperial and the State of California. Therefore, the proposed project meets the minimum requirements of the Land Use Ordinance, Section 90203.00.

E. The proposed use will not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity. (Imperial County Code § 90203.09.E)

The Environmental Impact Report (EIR) prepared for the Project analyzed the Project's potential effects on the health, safety, and welfare of the public and property and found that, with mitigation, the Project would have less than significant effects and impacts in all resources areas.

In addition, the project site is not near a residential community and is mostly surrounded by farmland and or open space/recreational land.

F. The proposed use does not violate any other law or ordinance. (Imperial County Code § 90203.09.F)

The proposed project will be subject to the Conditional Use Permit and current Federal, State and Local regulations. State Planning and Zoning Law (Cal. Govt. Code §§ 65000-66035) establishes minimum statewide standards for the regulation of local land use through planning and zoning. The County regulates local land use via Title 9 of the Imperial County Code. As found above, the proposed project is conditioned to be consistent with Imperial County, Title 9, Land Use Ordinance and CEQA mitigation measures and therefore complies with both State and local laws and ordinance.

Pursuant to CEQA, the County has prepared an EIR for the Project, which analyzes the proposed Project's compliance and consistency with other federal, state, and local laws and ordinances regulating the environment. Substantial evidence supports the conclusions in the EIR that the Project complies with said environmental laws, and thus the finds that the proposed use does not violate any other law or ordinance.

G. The proposed use is not granting a special privilege. (Imperial County Code § 90203.09.G)

The proposed solar generating and storage facility is a permitted use subject to approval of the proposed Conditional Use Permit. No special privileges are being offered or will be granted.

PC ORIGINAL PKG

SECTION 3. Approval of the Project is conditioned upon the terms and conditions set forth in the Agreement for Conditional Use Permit #20-0021 attached hereto and incorporated herein by this reference.

NOW, THEREFORE, based on the above findings, the Imperial County Planning Commission **DOES HEREBY RECOMMEND APPROVAL** of Conditional Use Permit #20-0021 to the Board of Supervisors, subject to the attached Conditions of Approval.

_____

Rudy Schaffner, Chairperson
Imperial County Planning Commission

I hereby certify that the Planning Commission at a meeting conducted on August 23, 2023 by the following vote approved the preceding resolution:

AYES:
NOES:
ABSENT:
ABSTAIN:

ATTEST:

_____

Jim Minnick, Director of Planning & Development Services
Secretary to the Planning Commission

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PC ORIGINAL PKG

RESOLUTION NO.

A RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF IMPERIAL, CALIFORNIA, RECOMMENDING APPROVAL TO THE BOARD OF SUPERVISORS FOR " VEGA SES 3 SOLAR ENERGY STORAGE PROJECT" FOR CONDITIONAL USE PERMIT #20-0022"

WHEREAS, APEX ENERGY SOLUTIONS, LLC has submitted an application for Conditional Use Permit (CUP) #20-0022 to develop a nominal 60-megawatt (MW) solar photovoltaic (PV) energy generation project with an integrated battery storage system not to exceed 120 MW. The project includes solar energy generation facility, battery storage system, switching station and gen-tie line. The project is to be located on approximately 230 acres.

WHEREAS, an Environmental Impact Report and CEQA Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State Guidelines, and the County's "Rules and Regulations to Implement CEQA," as Amended;

WHEREAS, the Planning Commission of the County of Imperial has been delegated with the responsibility of approvals, certifications and making recommendations to the Imperial County Board of Supervisors for approvals of conditional use permits;

WHEREAS, public notice of said application has been given, and the Planning Commission has heard, received and considered all oral and written protests, objections and evidence presented by interested parties at a public hearing held with respect to this item on August 23, 2023, and

WHEREAS, the Draft EIR was received by the State Clearinghouse on December 14, 2022 and circulated for a period of 50 days (**SCH #2021050013**) with the commenting period ending February 2, 2023.

NOW, THEREFORE, the Planning Commission of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Planning Commission has considered the proposed Conditional Use Permit #20-0022 prior to recommending approval and the County's consideration of the Project has been noticed in compliance with law.

PC ORIGINAL PKG

SECTION 2. That the Project complies with the requirements of the Imperial County Code and is in accordance with State Planning and Zoning law therefore, the following findings are made pursuant to Imperial County Code § 90203.09 as follows:

A. The proposed use is consistent with goals and policies of the adopted County General Plan. (Imperial County Code § 90203.09.A)

The current General Plan land use designations of the project site and proposed parcels are "Recreation/Open Space" and proposed project parcels are within the Renewable Energy Overlay (RE). Therefore, the proposed uses could be found consistent with the General Plan.

B. The proposed use is consistent with the purpose of the zone or sub-zone within which the use will be used. (Imperial County Code § 90203.09.B)

The proposed project parcels are zoned S-2-RE. (Open Space Preservation) with Renewable Energy Overlay). The proposed uses are consistent with the zone since they are listed as allowed uses under the S-2 RE zone with requirements for an approved Conditional Use Permit.

C. The proposed use is listed as a use within the zone or sub-zone or is found to be similar to a listed conditional use according to the procedures of Section 90203.00. (Imperial County Code § 90203.09.C)

The proposed use is consistent with the zone: S-2-RE (General Agriculture with Renewable Energy Overlay).

D. The proposed use meets the minimum requirements of this Title applicable to the use and complies with all applicable laws, ordinances and regulation of the County of Imperial and the State of California. (Imperial County Code § 90203.09.D)

The Project complies with the minimum requirements of this Title by, among other things, obtaining a CUP, complying with the California Environmental Quality Act, and participating in the public review and hearing process. Development standards have been established for the Project pursuant to these processes, and will be enforced via imposition and enforcement of the Mitigation Monitoring and Reporting Program recommended for approval by separate Resolution, as well as the conditions of approval imposed on this CUP. The Conditions of Approval will further insure that the project complies with all applicable regulations of the County

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of Imperial and the State of California. Therefore, the proposed project meets the minimum requirements of the Land Use Ordinance, Section 90203.00.

E. The proposed use will not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity. (Imperial County Code § 90203.09.E)

The Environmental Impact Report (EIR) prepared for the Project analyzed the Project's potential effects on the health, safety, and welfare of the public and property and found that, with mitigation, the Project would have less than significant effects and impacts in all resources areas.

In addition, the project site is not near a residential community and is mostly surrounded by farmland and or open space/recreational land.

F. The proposed use does not violate any other law or ordinance. (Imperial County Code § 90203.09.F)

The proposed project will be subject to the Conditional Use Permit and current Federal, State and Local regulations. State Planning and Zoning Law (Cal. Govt. Code §§ 65000-66035) establishes minimum statewide standards for the regulation of local land use through planning and zoning. The County regulates local land use via Title 9 of the Imperial County Code. As found above, the proposed project is conditioned to be consistent with Imperial County, Title 9, Land Use Ordinance and CEQA mitigation measures and therefore complies with both State and local laws and ordinance.

Pursuant to CEQA, the County has prepared an EIR for the Project, which analyzes the proposed Project's compliance and consistency with other federal, state, and local laws and ordinances regulating the environment. Substantial evidence supports the conclusions in the EIR that the Project complies with said environmental laws, and thus the finds that the proposed use does not violate any other law or ordinance.

G. The proposed use is not granting a special privilege. (Imperial County Code § 90203.09.G)

The proposed solar generating and storage facility is a permitted use subject to approval of the proposed Conditional Use Permit. No special privileges are being offered or will be granted.

PC ORIGINAL PKG

SECTION 3. Approval of the Project is conditioned upon the terms and conditions set forth in the Agreement for Conditional Use Permit #20-0022 attached hereto and incorporated herein by this reference.

NOW, THEREFORE, based on the above findings, the Imperial County Planning Commission **DOES HEREBY RECOMMEND APPROVAL** of Conditional Use Permit #20-0022 to the Board of Supervisors, subject to the attached Conditions of Approval.

_____

Rudy Schaffner, Chairperson
Imperial County Planning Commission

I hereby certify that the Planning Commission at a meeting conducted on August 23**, 2023** by the following vote approved the preceding resolution:

AYES:
NOES:
ABSENT:
ABSTAIN:

ATTEST:

_____

Jim Minnick, Director of Planning & Development Services
Secretary to the Planning Commission

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PC ORIGINAL PKG

RESOLUTION NO.

A RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF IMPERIAL, CALIFORNIA, RECOMMENDING APPROVAL TO THE BOARD OF SUPERVISORS FOR " VEGA SES 5 SOLAR ENERGY STORAGE PROJECT" FOR CONDITIONAL USE PERMIT #20-0023"

WHEREAS, APEX ENERGY SOLUTIONS, LLC has submitted an application for Conditional Use Permit (CUP) #20-0023 to develop a nominal 50-megawatt (MW) solar photovoltaic (PV) energy generation project with an integrated battery storage system not to exceed 100 MW. The project includes solar energy generation facility, battery storage system, switching station and gen-tie line. The project is to be located on approximately 250 acres.

WHEREAS, an Environmental Impact Report and CEQA Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State Guidelines, and the County's "Rules and Regulations to Implement CEQA," as Amended;

WHEREAS, the Planning Commission of the County of Imperial has been delegated with the responsibility of approvals, certifications and making recommendations to the Imperial County Board of Supervisors for approvals of conditional use permits;

WHEREAS, public notice of said application has been given, and the Planning Commission has heard, received and considered all oral and written protests, objections and evidence presented by interested parties at a public hearing held with respect to this item on August 23, 2023, and

WHEREAS, the Draft EIR was received by the State Clearinghouse on December 14, 2022 and circulated for a period of 50 days (**SCH #2021050013**) with the commenting period ending February 2, 2023.

NOW, THEREFORE, the Planning Commission of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Planning Commission has considered the proposed Conditional Use Permit #20-0023 prior to recommending approval and the County's consideration of the Project has been noticed in compliance with law.

PC ORIGINAL PKG

SECTION 2. That the Project complies with the requirements of the Imperial County Code and is in accordance with State Planning and Zoning law therefore, the following findings are made pursuant to Imperial County Code § 90203.09 as follows:

A. The proposed use is consistent with goals and policies of the adopted County General Plan. (Imperial County Code § 90203.09.A)

The current General Plan land use designations of the project site and proposed parcels are "Recreation/Open Space" and proposed project parcels are within the Renewable Energy Overlay (RE). Therefore, the proposed uses could be found consistent with the General Plan.

B. The proposed use is consistent with the purpose of the zone or sub-zone within which the use will be used. (Imperial County Code § 90203.09.B)

The proposed project parcels are zoned S-2-RE, A-2 & A-3 RE. (Open Space Preservation & General and Heavy Agriculture) with Renewable Energy Overlay). The proposed uses are consistent with the zone since they are listed as allowed uses under the S-2, A-2 & A-3 RE zones with requirements for an approved Conditional Use Permit.

C. The proposed use is listed as a use within the zone or sub-zone or is found to be similar to a listed conditional use according to the procedures of Section 90203.00. (Imperial County Code § 90203.09.C)

The proposed use is consistent with the zone: S-2-RE Open Space Preservation with Renewable Energy Overlay).

D. The proposed use meets the minimum requirements of this Title applicable to the use and complies with all applicable laws, ordinances and regulation of the County of Imperial and the State of California. (Imperial County Code § 90203.09.D)

The Project complies with the minimum requirements of this Title by, among other things, obtaining a CUP, complying with the California Environmental Quality Act, and participating in the public review and hearing process. Development standards have been established for the Project pursuant to these processes, and will be enforced via imposition and enforcement of the Mitigation Monitoring and Reporting Program recommended for approval by separate Resolution, as well as the conditions of approval imposed on this CUP. The Conditions of Approval will

PC ORIGINAL PKG

further insure that the project complies with all applicable regulations of the County of Imperial and the State of California. Therefore, the proposed project meets the minimum requirements of the Land Use Ordinance, Section 90203.00.

E. The proposed use will not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity. (Imperial County Code § 90203.09.E)

The Environmental Impact Report (EIR) prepared for the Project analyzed the Project's potential effects on the health, safety, and welfare of the public and property and found that, with mitigation, the Project would have less than significant effects and impacts in all resources areas.

In addition, the project site is not near a residential community and is mostly surrounded by farmland and or open space/recreational land.

F. The proposed use does not violate any other law or ordinance. (Imperial County Code § 90203.09.F)

The proposed project will be subject to the Conditional Use Permit and current Federal, State and Local regulations. State Planning and Zoning Law (Cal. Govt. Code §§ 65000-66035) establishes minimum statewide standards for the regulation of local land use through planning and zoning. The County regulates local land use via Title 9 of the Imperial County Code. As found above, the proposed project is conditioned to be consistent with Imperial County, Title 9, Land Use Ordinance and CEQA mitigation measures and therefore complies with both State and local laws and ordinance.

Pursuant to CEQA, the County has prepared an EIR for the Project, which analyzes the proposed Project's compliance and consistency with other federal, state, and local laws and ordinances regulating the environment. Substantial evidence supports the conclusions in the EIR that the Project complies with said environmental laws, and thus the finds that the proposed use does not violate any other law or ordinance.

G. The proposed use is not granting a special privilege. (Imperial County Code § 90203.09.G)

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The proposed solar generating and storage facility is a permitted use subject to approval of the proposed Conditional Use Permit. No special privileges are being offered or will be granted.

SECTION 3. Approval of the Project is conditioned upon the terms and conditions set forth in the Agreement for Conditional Use Permit #20-0023 attached hereto and incorporated herein by this reference.

NOW, THEREFORE, based on the above findings, the Imperial County Planning Commission **DOES HEREBY RECOMMEND APPROVAL** of Conditional Use Permit #20-0023 to the Board of Supervisors, subject to the attached Conditions of Approval.

_____

Rudy Schaffner, Chairperson
Imperial County Planning Commission

I hereby certify that the Planning Commission at a meeting conducted on August 23**, 2023** by the following vote approved the preceding resolution:

AYES:
NOES:
ABSENT:
ABSTAIN:

ATTEST:

_____

Jim Minnick, Director of Planning & Development Services
Secretary to the Planning Commission

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When Recorded Return To:

Imperial County
Planning & Development Services
801 Main Street
El Centro, California 92243

AGREEMENT FOR CONDITIONAL USE PERMIT #20-0021
VEGA SES 2 SOLAR ENERGY STORAGE PROJECT
APN's 025-010-006-000, 025-260-011, 025-270-023-000

This Agreement is made and entered into on this ___day of _____, 2023, by and between APEX ENERGY SOLUTIONS, LLC hereinafter referred to as the Permittee (Permittee), and the COUNTY OF IMPERIAL, a political subdivision of the State of California (County or Imperial County), related to the VEGA SES 2 SOLAR ENERGY STORAGE PROJECT (CUP #20-0021) project area.

RECITALS

WHEREAS, Permittee is the lessee or successor-in-interest of certain land in Imperial County to be improved with the proposed utility-scale solar and battery storage facility. The project, Conditional Use Permit (CUP or Permit) #20-0021, consists of a proposed 240-megawatt (MW) photovoltaic solar energy facility, energy (battery) storage facility (up to 480 MW and not to exceed a 2 to 1 solar/battery ratio) and associated infrastructure, including but not limited to, electrical switch station, substation, on-site operations and maintenance (O&M), a gen-tie line and internal solar development transmission lines, on approximately 1,472 acres within Imperial County (the "Project"). The proposed facility is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The Coachella and East Highline Canals and the Union Pacific Railway transect the project area. The project area is located entirely within the County's Renewable Energy Overlay Zone. .

WHEREAS, Permittee has applied to the County of Imperial for CUP #20-0021 for constructing and operating a new 240 MW solar energy facility, energy (battery) storage facility (up to 480 MW and not to exceed a 2 to 1 solar/battery ratio) with ancillary support facilities, including electrical interconnections. The Project will connect to the existing IID "P" line located immediately north of the project site north of the All American Canal.

WHEREAS, the Project is located on portion of APN 025-010-006, 025-260-011, 025-270-023. Additionally, the legal description includes SEC 9, 15, and 17, Township 11

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South, Range 15 East on a portion of 1,472 acres. The project site is located entirely within the Imperial County Renewable Energy Overlay zone.

WHERAS, The Permittee for the VEGA SES 2 Solar Energy Project (CUP #20-0021) shall fully comply with all of the terms and conditions of the Project as specified hereinafter within this CUP.

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GENERAL CONDITIONS:

The "GENERAL CONDITIONS" are shown by the letter "G". These conditions are conditions that are either routinely and commonly included in all Conditional Use Permits as "standardized conditions" and/or are conditions that the Imperial County Planning Commission has established as a requirement on all CUP's for consistent application and enforcement. The Permittee is hereby advised that the General Conditions are as applicable as the SITE SPECIFIC conditions. The General Conditions are in addition to the MMRP and any and all other requirements for the project.

G-1 GENERAL LAWS:

The Permittee shall obtain, comply with and maintain all applicable County, State, and federal laws, rules, regulations, ordinances, and/or standards as they may pertain to this project whether specified herein or not.

G-2 EFFECTIVE DATE:

The approved Conditional Use Permit shall not become effective until ten (10) calendar days after the decision of the Planning Director or Commission. Further the Conditional Use Permit shall not be effective until applicable conditions have been met, and the Conditional Use Permit is recorded with the County Recorder, with payment of recording fees being paid by applicant. In the case of a decision by the Board of Supervisors there is no 10-day appeal.

G-3 RECORDATION:

CUP #20-0021 shall **not be effective** until it is recorded at the Imperial County Recorder's Office and if no appeal has been made after approval from the hearing body. Payment of the recordation fee shall be the responsibility of the Permittee. If this CUP is not recorded within one hundred eighty (180) days from the date of approval the CUP shall be deemed null and void, without notice having to be provided to Permittee. Permittee may submit a written request for a recordation extension for this CUP by filing such a request with the Planning Director at least sixty (60) days prior to the one hundred eighty 180-day expiration. The Director may approve one (1) extension for a period not to exceed one hundred eighty (180) days. An extension may not be granted if the request for an extension is filed after the expiration date. Failure to record this CUP within one (1) year including the granted extension period shall deem this CUP null and void.

G-4 COMMENCEMENT OF WORK:

If the project for which a CUP has been approved has not commenced, or permits for said project have not been issued, within one (1) year from effective date, the CUP shall be null and void. If an applicant cannot initiate or obtain permits for the approved use during the one (1) year, applicant may request a one (1) year extension from the Department. The request for an extension shall be in writing and be submitted with explanation to the Planning & Development Services Department at least sixty days prior to the end of the extended one (1) year period. The Director shall have the authority to extend the initial start-up period, or commencement of work, of a CUP up to two (2) times for a maximum of two (2) years. Should the

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Permittee desire to continue with the project, a new application shall be submitted and the entire process would have to begin anew.

G-5 TIME LIMIT:

Unless otherwise specified within the Site Specific Conditions, this Permit shall be limited to a maximum of thirty (30) years from the recordation of the CUP. The CUP may be extended for an additional ten (10) year period by the appropriate County entity (either the Planning Director, the Planning Commission or the Board of Supervisors as set forth in the applicable Imperial County Ordinances) upon a finding that the Project is in compliance with all conditions of the CUP as stated herein and any applicable Land Use regulation of the County of Imperial. In order to obtain an extension, the Permittee shall file a written extension request with the Planning Director at least sixty (60) days prior to the expiration date of the permit. Such an extension request shall include the appropriate extension fee. Nothing stated or implied within this Permit shall constitute a guarantee that an extension will be granted. An extension may or may not be granted if the Project is in violation of any one or all of the conditions or if there is a history of non-compliance with the Permit conditions.

G-6 ABANDONMENT:

If a CUP has been unused, abandoned, discontinued, or ceased for one (1) year, the CUP shall be null and void, and be of no effect. Notice to applicant/permittee under this division will not be required or provided by Department.

G-7 PERMIT/LICENSE:

Permittee shall obtain and comply with any and all required permits, licenses, and/or approvals, for the construction and/or operation of this project. This shall include, but shall NOT be limited to, permits from the County Division of Environmental Health Services (EHS), Planning & Development Services Department, Office of Emergency Services (OES), Imperial County Air Pollution Control District (ICAPCD) and Public Works Department. Permittee shall likewise comply with all such permit requirements for the life of the project. **Additionally, Permittee shall submit a copy of such additional permit(s) and/or license(s) to the Planning & Development Services Department within 60-days of receipt, including amendments or alternatives thereto.**

G-8 APPROVALS AND CONDITIONS SUBSEQUENT TO GRANTING PERMIT:

Permittee acceptance of this CUP shall be deemed to constitute agreement with the terms and conditions contained herein. Where a requirement is imposed in this CUP that Permittee conduct a monitoring program, and where the County has reserved the right to impose or modify conditions with which the Permittee must comply based on data obtained therefrom, or where the Permittee is required to prepare specific plans for County approval and disagreement arises, the Permittee, operator and/or agent, the Planning and Development Services Director or other affected party, to be determined by the Planning and Development Services

PC ORIGINAL PKG

Director, may request that a hearing be conducted before the Imperial County Planning Commission whereby they may state the requirements which will implement the applicable conditions as intended herein. Upon receipt of a request, the Planning Commission shall conduct a hearing and make a written determination. The Planning Commission may request support and advice from a technical advisory committee. Failure to take any action shall constitute endorsement of staff's determination with respect to implementation.

G-9 CONDITION PRIORITY:

This project shall be constructed/operated as described in the CUP application, the environmental documents, the project description, and as specified in these conditions. Where a conflict occurs, the CUP conditions shall govern.

G-10 INDEMNIFICATION:

As part of this application, applicant and real party in interest, if different, agree to defend, indemnify, hold harmless, and release the County of Imperial ("County"), its agents, officers, attorneys, and employees (including consultants) from any claim, action, or proceeding brought against any of them, the purpose of which is to attack, set aside, void, or annul the approval of this application or adoption of the environmental document which accompanies it. This indemnification obligation shall include, but not be limited to, damages, costs, expenses, attorney fees, or expert witness fees that may be asserted by any person or entity, including the applicant, arising out of or in connection with the approval of this application, whether or not there is concurrent negligence on the part of the County, its agents, officers, attorneys, or employees (including consultants).

If any claim, action, or proceeding is brought against the County, its agents, officers, attorneys, or employees (including consultants), to attack, set aside, void, or annul the approval of the application or adoption of the environmental document which accompanies it, then the following procedures shall apply: The Planning Director shall promptly notify the County Board of Supervisors of any claim, action or proceeding brought by an applicant challenging the County's action. The County, its agents, attorneys and employees (including consultants) shall fully cooperate in the defense of that action. The County shall have the final determination on how to best defend the case and will consult with applicant regularly regarding status and the plan for defense. The County will also consult and discuss with applicant the counsel to be used by County to defend it, either with in-house counsel, or by retaining outside counsel provided that the County shall have the final decision on the counsel retained to defend it. Applicant shall be fully responsible for all costs incurred. Applicant shell be entitled to provide his or her own counsel to defend the case, and said independent counsel shall work with County Counsel to provide a joint defense.

G-11 INSURANCE:

The Permittee shall take out and maintain workers compensation insurance as required by the State of California. The Permittee shall also secure liability

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insurance and such other insurance as required by state and/or federal law. A Certificate of Insurance is to be provided to the Planning and Development Services Department by the insurance carrier, and said insurance and certificate shall be kept current for the life of the project. Certificates of Insurance shall be sent directly to the Planning and Development Services Department by the insurance carrier and shall name the Department as a recipient of both renewal and cancellation notices.

G-12 RIGHT OF ENTRY:

The County reserves the right to enter the premises at any time, announced or unannounced, in order to make the appropriate inspection(s) and to determine if the condition(s) of this CUP are complied with. Access by authorized enforcement agency personnel shall not be denied.

G-13 SEVERABILITY:

Should any condition(s) of this CUP be determined by a Court or other agency with proper jurisdiction to be invalid for any reason, such determination shall not invalidate the remaining provision(s) of this CUP.

G-14 PROVISION TO RUN WITH LAND:

The provisions of this CUP are to run with the land/project and shall bind the current and future owner(s) successor(s) of interest; assignee(s) and/or transferee(s) of said CUP. **Permittee shall not without prior notification to the Planning & Development Services Department assign, sell, or transfer, or grant control of CUP or any right or privilege therein.** The Permittee shall provide a minimum of 60 days written notice prior to such proposed transfer becoming effective. The permitted use identified herein is limited for use upon this parcel described herein and may not be transferred to another parcel.

G-15 COMPLIANCE/REVOCATION:

Upon the determination by the Planning & Development Services Department that the project is or may not be in full compliance with any one or all of the conditions of this CUP, or upon the finding that the project is creating a nuisance as defined by law, the issue shall be brought immediately to the appropriate enforcement agency or to the Planning Commission for hearing to consider appropriate response including but not limited to the revocation of the CUP or to consider possible amendments to the CUP. The hearing shall be held upon due notice having been provided to the Permittee and to the public in accordance with established ordinance/policy.

G-16 NON-COMPLIANCE (ENFORCEMENT & TERMINATION):

Should the Permittee violate any condition herein, the County shall give written notice of such violation and actions required of Permittee to correct such violation. If Permittee does not act to correct the identified violation within forty-five (45) days

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after written notice, County may revoke the CUP. If Permittee pursues correction of such violation with reasonable diligence, the County may extend the cure period. Upon such revocation, County may, at its sole discretion, cease processing, defending any lawsuit or paying for costs associated with the Project.

G-17 COSTS:

Permittee shall pay any and all amounts determined by the County to defray any and all cost(s) for the review of reports, field investigations, monitoring, and other activities directly related to the enforcement/monitoring for compliance of this CUP, County Ordinance or any other applicable law. Any billing against this project, now or in the future, by the Planning & Development Services Department or any County Department for costs incurred as a result of this CUP, shall be billed through the Planning & Development Services Department.

G-18 REPORT(S)

Permittee shall file an annual report with the Planning and Development Services Department to show that Permittee is in full compliance with this CUP. The report shall be filed at least fifteen (15) days prior to the anniversary (recordation date) of this CUP. It shall be the responsibility of the Permittee to provide all reports and to include the information about other users. The County may request information at any time from the Permittee or other users if applicable; however, it shall be the responsibility of the Permittee to assure that the County receives such information in a timely manner.

G-19 RESPONSIBLE AGENT

Permittee shall maintain on file with the Planning and Development Services Department the name and phone number of the responsible agent for the site. A back-up name shall also be provided, and a phone number for twenty-four (24) hour emergency contact shall also be on file. If there are other users, the same information (as applicable) required from the Permittee shall also be made available to the County from such other users.

G-20 WATER AND SEWER:

Permittee shall provide water and sewer to Federal, State and County standards. Water and sewer systems shall be approved by the Environmental Health Services and the Planning & Development Services Department. Permittee shall hook up to a public water system or supplier if and when available.

G-21 DEFINITIONS:

In the event of a dispute, the meaning(s) or the intent of any word(s) phrase(s) and/or conditions or sections herein shall be determined by the Planning Commission of the County of Imperial. Their determination shall be final unless an appeal is made to the Board of Supervisors ten (10) days from the date of their decision.

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G-22 SPECIFICITY:

The issuance of this CUP does not authorize the Permittee to construct or operate this project in violation of any state, federal, local law nor beyond the specified boundaries of the project as shown in the application/project description/ CUP, nor shall this CUP allow any accessory or ancillary use not specified herein. This CUP does not provide any prescriptive right or use to the Permittee for future addition and/or modification to this project.

G-23 HEALTH HAZARD:

If the County Health Officer determines that a significant health hazard exists to the public, the County Health Officer may require appropriate measures and the Permittee shall implement such measures to mitigate the health hazard. If the hazard to the public is determined to be imminent, such measures may be imposed immediately and may include temporary suspension of the subject operations. However, within forty five (45) days of any such suspension of operations, the measures imposed by the County Health Officer must be submitted to the Planning Commission for review and approval. Nothing shall prohibit Permittee from requesting a special Planning Commission meeting provided Permittee bears all costs.

G-24 CHANGE OF OWNER/OPERATOR:

In the event the ownership of the site or the operation of the site transfers from the current Permittee to a new successor Permittee, the successor Permittee shall be bound by all terms and conditions of this CUP as if said successor was the original Permittee. Current Permittee shall inform the County Planning & Development Services Department in writing at least sixty (60) days prior to any such transfer. Failure of a notice of change of ownership or change of operator shall be grounds for the immediate revocation of the CUP. In the event of a change, the new Owner/Operator shall file with the Department, via certified mail, a letter stating that they are fully aware of all conditions and acknowledge that they will adhere to all.

G-25 PERMITS OF OTHER AGENCIES INCORPORATED:

Permits granted by other governmental agencies in connection with the Project are incorporated herein by reference. The County reserves the right to apply conditions of those permits, as the County deems appropriate; provided, however, that enforcement of a permit granted by another governmental agency shall require concurrence by the respective agency. Permittee shall provide to the County, upon request, copies and amendments of all such permits.

G-26 MINOR AMENDMENTS:

The Planning Director may approve minor changes or administrative extensions, as requested in writing by the Permittee, provided it does not result in additional

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environmental impacts and/or are generally procedural or technical and/or which may be necessary to comply with other government permit compliance requirements.

(TOTAL "G" CONDITIONS are 26)

SITE SPECIFIC CONDITIONS:

S-1 AUTHORIZED SCOPE OF ACTIVITIES:

(A) Permittee shall be responsible as for all improvements, septic, sewer, approved potable water system(s), pipelines, roads and other improvements discussed in the CUP Application and Conditions of Approval, FEIR, and MMRP. If Permittee sells all or part of this Project, an approved agreement shall be in place for new Project owner to build and maintain as agreed to by the conditions set forth in this CUP. Additionally, the County Assessor's Office shall be notified of any ownership change.

(B) Permittee shall develop this Project per approved CUP as a separate solar energy and energy (battery) storage facility. Any development with a combination of parcels will require the owner(s) to have a recorded deed restriction to "hold the parcel as one parcel" that runs with the land, or at Permittee's option merge the parcels. This deed restriction shall be for a minimum of thirty (30) years and shall only be released upon the expiration of the thirty (30) years, the expiration or termination of the CUP, or upon approval of the Imperial County Planning and Development Director that the restriction is no longer needed based on a change in the development or regulation.

(C) The Permittee shall construct and operate the solar energy and energy (battery) storage facility in compliance with the CUP, the County's General Plan's Land Use Element, Land Use Ordinance and all other applicable local, state, and federal LORS, to include any other permits which are incorporated herein by reference.

(D) Construction, operation, maintenance, replacement and removal of a solar energy facility & energy (battery) storage system shall be as described in Permittee's CUP Application and previously approved FEIR for the Vega SES 2 Solar Energy project (CUP #20-0021), to include photovoltaic (PV) modules, mounting structures, electrical wiring, inverters, transformers and alternating current (AC) electric collector system, project electric substation and ancillary facilities. Ancillary facilities include safety and security equipment, retention basins, perimeter fencing, access gates, lighting systems, access roads, and may include temporary construction trailers, equipment

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enclosures, water treatment system and building, septic system, parking, and fire protection. The Project's PV arrays shall be comprised of solar PV panels organized into electrical groups referred to as "blocks." The panels shall be oriented from east to west for maximum sun exposure and the foundation shall be designed based on soil conditions. The PV panels are made of a poly-crystalline silicon semiconductor material encapsulated in glass. Installation of the PV arrays includes installation of mounting posts, module rail assemblies, PV modules, inverters, transformers and buried electrical conductors. Concrete is required for the footings, foundations and pads for the transformers and substation work. Tracker foundations shall be comprised of either driven or vibrated steel posts/pipes, and/or concrete in some places (depending on soil and underground conditions).

(E) The Project's energy (battery) storage (BESS) component will be located on a concrete pad at the northeastern edge of the project site, unless final engineering design and/or IID requirements require a different location.

The BESS will consist of banks of batteries and will be supported by a DC Combiner, control panel, and inverter/transformer skid. Each enclosure will include built-in fire suppression systems. The batteries will be lithium-ion based and capable of storing up to 480 MW in total (not to exceed 480 MW. These racks would be integrated into containers or be self-contained in engineered systems such as for example the Tesla Mega Pack. The Project design would meet minimum spacing required by code and manufacturers specifications.

S-2 AESTHETICS:

(A) The Permittee shall design and maintain all buildings and equipment enclosures to have exterior surfaces with neutral, non-reflective colors.

(B) The Permittee shall design and install lighting at construction storage yards and staging areas, such that light bulbs and reflectors are not visible from public viewing areas; lighting does not create reflected glare; and illumination of the Project facilities, vicinity, and nighttime sky is minimized.

(C) Lighting shall be designed so exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light source is shielded to minimize light trespass outside the Project boundary.

(D) All lighting shall be of minimum necessary brightness consistent with worker safety and OSHA requirements.

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(E) High illumination areas not occupied on a continuous basis shall have switches or motion detectors to light the area only when occupied.

S-3 AGRICULTURE:

MITIGATION FOR THE TEMPORARY CONVERSION OF PRIME FARMLAND, FARMLAND OF STATEWIDE IMPORTANCE AND LOCAL IMPORTANCE

Developer shall implement a Mitigation Measure for the loss of Farmland.

One of the following options included below shall be implemented prior to the issuance of a grading permit or building permit (whichever is issued first) for the proposed Project:

For Prime Farmland:

Option 1: The Permittee shall procure Agricultural Conservation Easements on a "2 to 1" basis on land of equal size, of equal quality farmland, outside of the path of development. The Conservation Easements shall meet the State Department of Conservation's regulations and shall be recorded prior to issuance of any grading or building permits; or

Option 2: The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 30 percent of the fair market value per acre for the total acres of the proposed site based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Imperial County Agricultural Commissioner's office and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County; or

Option 3: The Permittee and the County voluntarily enter into an enforceable Public Service Agreement that includes a Agricultural Mitigation payment that is consistent with Board Resolution 2012-05; or

Option 4: The Permittee shall revise their CUP Application/Site Plan to avoid Prime Farmland.

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For Non-Prime Farmland:

Option 1: The Permittee shall procure Agricultural Conservation Easements on a 1 to 1 basis on land of equal size, of equal quality of farmland, outside the path of development. The Conservation Easement shall meet the State Department of Conservation's regulations and shall be recorded prior to issuance of any grading or building permits; or

Option 2: The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 20% of the fair market value per acre for the total acres of proposed site based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Imperial County Agricultural Commissioner's office and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County; or

Option 3: The Permittee and the County voluntarily enter into an enforceable Public Service Agreement that includes a Agricultural Mitigation payment that is consistent with Board Resolution 2012-05; or

Option 4: The Permittee shall revise their CUP Application/Site Plan to avoid Non-Prime Farmland.

For Local Importance Farmland:

Option 1: The Permittee shall procure Agricultural Conservation Easements on a 1 to 1 basis on land of equal size, of equal quality of farmland, outside the path of development. The Conservation Easement shall meet the State Department of Conservation's regulations and shall be recorded prior to issuance of any grading or building permits; or

Option 2: The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 10% of the fair market value per acre for the total acres of proposed site based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust

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account administered by the Imperial County Agricultural Commissioner's office and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County; or

Option 3: The Permittee and the County voluntarily enter into an enforceable Public Service Agreement that includes a Agricultural Mitigation payment that is consistent with Board Resolution 2012-05; or

Option 4: The Permittee shall revise their CUP Application/Site Plan to avoid Local Importance Farmland.

(A) Permittee shall minimize paving and ground disturbing activities to the maximum extent practical within agricultural fields to retain soil characteristics.

(B) Pest Management Plan. Prior to the issuance of a grading permit or building permit (whichever occurs first), a Pest Management Plan shall be developed by the Permittee and approved by the County of Imperial Agriculture Commissioner. The Permittee shall maintain a Pest Management Plan until reclamation is complete. The Plan shall provide the following:

1. Monitoring, preventative, and management strategies for weed and pest control during construction activities at any portion of the project (e.g., transmission line);
2. Control and management of weeds and pests in areas temporarily disturbed during construction where native seed will aid in site revegetation as follows:

- Monitor for all pests including insects, vertebrates, weeds, and pathogens. Promptly control or eradicate pests when found, or when notified by the Agricultural Commissioner's office that a pest problem is present on the project site. The assistance of a licensed pest control advisor is recommended.
- All treatments must be performed by a qualified applicator or a licensed pest control operator;
- "Control" means to reduce the population of common pests below economically damaging levels, and includes attempts to exclude pests before infestation, and effective control methods after infestation. Effective control methods may include physical/mechanical removal, bio control, cultural control, or chemical treatments;
- Use of "permanent" soil sterilants to control weeds or other pests is prohibited because this would interfere with reclamation;
- Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of Food Agriculture and the U.S. Department of Agriculture. Request a sample be taken by the Agricultural Commissioner's Office of a suspected invasive species. Eradication of exotic pests shall be done under

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the direction of the Agricultural Commissioner's Office and/or California Department of Food and Agriculture.

S-4 AIR QUALITY:

(A) The Permittee shall comply at all times with the ICAPCD Regulation VIII, Fugitive Dust Control. Please use MMRP for guidance.

(B) Prior to commencing construction, the Permittee shall submit a Dust Control Plan to the ICAPCD for approval identifying all sources of PM_{10} emissions and associated mitigation measures during the construction and operational phases of the Project. The Project Proponent shall submit a "Construction Notification Form" to the ICAPCD ten (10) days prior to the commencement of any earthmoving activity. The Dust Control Plan submitted to the ICAPCD shall meet all applicable requirements for control of fugitive dust emissions, including the following measures designed to achieve the no greater than 20% opacity performance standard for dust control:

(1) All on-site and off-site unpaved roads shall be effectively stabilized, and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.

(2) All unpaved traffic areas one acre or more in size with seventy-five (75) or more average vehicle trips per day, shall be effectively stabilized, and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.

(3) The transport of bulk materials shall be completely covered, unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks shall be cleaned and/or washed at the delivery site after removal of bulk material.

(4) All track-out or carry-out, which includes bulk materials that adhere to the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto the pavement, shall be cleaned at the end of each workday, or immediately when mud or dirt extends a cumulative distance of fifty (50) linear feet or more onto a paved road within an urban area.

(5) Movement of bulk material handling or transfer shall be stabilized prior to handling, or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.

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(6) The construction of new unpaved roads is prohibited within any area with a population of five hundred (500) or more, unless the road meets ICAPCD's definition of a "temporary unpaved road." Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

(7) Shall comply with the MMRP's and its applicable mitigations.

(C) The Permittee shall implement all applicable standard mitigation measures for construction combustion equipment for the reduction of excess NOx emissions as contained in the Imperial County CEQA Air Quality Handbook and associated regulations. These measures include:

(1) Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment.

(2) Minimize idling time, either by shutting equipment off when not in use or reducing the time of idling to five minutes at a maximum.

(3) Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.

(4) Replace fossil-fueled equipment with electrically driven equivalents (assuming powered by a portable generator set and are available, cost effective, and capable of performing the task in an effective, timely manner).

(5) Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing construction activity during the peak hour of vehicular traffic on adjacent roadways.

(6) Implement activity management (e.g. rescheduling activities to avoid overlap of construction phases, which would reduce short-term impacts).

S-5 GEOLOGY/SOILS and MINERAL RESOURCES:

(A) Prior to approval of final engineering and grading plans for the Project, the County shall verify that all recommendations contained in the Geotechnical Report for this Solar Facility and have been incorporated into all final engineering and grading plans. The County's soil engineer and engineering geologist shall review grading plans prior to finalization to verify compliance with the recommendations of the report.

S-6 CULTURAL RESOURCES:

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(A) Compliance and Monitors shall insure all mitigations set forth in the MMRP are followed.

S-7 HEALTH, SAFETY AND HAZARDOUS MATERIAL/FIRE AND FUELS MANAGEMENT:

(A) All trash and debris within the Project site shall be disposed of off-site, in accordance with current, local, state, and federal disposal regulations. Compliance with this measure shall be verified by the Planning and Development Services Department.

(B) If it is determined that hazardous wastes are, or will be generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5).

(C) If it is determined that hazardous wastes will be generated, the Permittee should also obtain a United States Environmental Protection Agency, Identification Number by contacting (800) 618-6942. Certain hazardous waste treatment processes or hazardous material, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting the local CUPA.

(D) Firearms shall be prohibited in all Project areas except for those used by licensed security personnel.

(E) The recognized environmental concerns shall be cleaned up and properly disposed of in accordance with all federal, state and local regulations.

(F) Any hazardous materials storage areas shall be designed with curbs or other containment measures, e.g., double-walled storage tanks, to contain spills and leaks. If on-site hazardous materials exceed fifty-five (55) gallons, a "Hazardous Material Management Plan" shall be prepared and approved by the County Local Enforcement Agency (LEA) and the Imperial County CUPA. A copy of the approved plan shall be submitted to ICPDSD prior to the issuance of the grading/building permit (Source: Imperial County Renewable Energy Ordinance, Title 9, Division 17, § 91702.00).

(G) The Permittee shall present to the Department an Emergency Response/Action Plan that has been approved by the ICFD/OES Department, and the LEA and any other agencies with jurisdiction (Source: Imperial County Renewable Energy Ordinance, Title 9, Division 17, § 91702.00).

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The Emergency Response/Action Plan shall cover all possible foreseeable emergencies, e.g., major fluid spills, earthquakes, fires, floods or other emergencies. At all times, there shall be at least one employee either on the facility premises or on-call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility to coordinate all emergency response measures. This Emergency Coordinator shall be thoroughly familiar with all aspects of the Project's Emergency Response/Action Plan, all operations and activities at the facility, location of all records within the facility and the facility's layout. This Emergency Coordinator shall have the authority to commit the resources needed to carry out the contingency plan. Adequate personnel and equipment shall be available to respond to emergencies and to ensure compliance with the conditions of the Permit.

The Emergency Response/Action Plan shall be prepared in consultation with, but not be limited to, the ICFD/OES, County EHS/Health Department, County Sheriff/Coroner's office, County Department of Public Works, ICPDSD, and other appropriate state and county agencies. The plan shall include a notification list of response agencies which shall be notified immediately upon the discovery of a reportable unauthorized discharge and the list shall include:

- ICFD/OES;
- ICPDSD;
- County EHS/Health Department;
- County Department of Public Works; and
- California Highway Patrol, as applicable.

All employees shall be trained by classroom and hands-on training on safety procedures, maintenance programs and emergency response protocols to ensure safety and reliability in the event of an unforeseen emergency situation.

The Permittee shall provide adequate safety devices to protect against the hazard of fire and explosion for activities that involve the use and storage of flammable, explosive or highly corrosive or reactive materials as well as provide adequate firefighting and fire suppression equipment and using devices standard within the industry in compliance with all applicable state and local laws as determined by the ICFD/OES.
The Permittee shall implement all State and County-approved worker safety and fire protection plans and programs.

Any gates on-site shall have a "Knox" lock rapidly accessible by the ICFD/OES.

Appropriate first aid provisions for facility operations shall be made for emergency response during Project construction, operation, and

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maintenance activities with appropriate first aid training for Project employees.

During construction, a member of each working crew shall be trained in basic first aid and supplied with necessary medical equipment to respond to emergencies as provided for in the Emergency Response/Action Plan required above.

Permittee shall identify a responsible agent for emergency purposes, whose name, title, e-mail address and telephone number shall be provided to the County Department of Public Works, ICFD/OES, County Environmental Health Services/Health Department, County Sheriff/Coroner's office, IID, and ICPDSD.

S-8 HYDROLOGY AND WATER QUALITY:

Adhere to measures set forth in the MMRP.

S-9 BIOLOGICAL RESOURCES:

Adhere to all Biological measures in the MMRP

S-10 PUBLIC SERVICES:

(A) The Permittee shall widely publicize to County residents the availability of job opportunities associated with the Project (whether or not those job opportunities are within Imperial County or are regional). Postings at City Halls, newspaper and television advertisements, local job centers, and dedicated website shall offer sufficient avenues of communication. The Imperial County Office of Employment and Training in addition to the Imperial Valley College presents viable sources for community awareness. The information shall provide available positions, details of positions including qualifications, number of openings, indicated the anticipated start date for each, and application process. In order to maintain oversight of the process, the application process can be completed both on a dedicated website and at dedicated computers at the County which would afford those without Internet connection the ability to apply. The Permittee's information shall be forwarded to the Permittee or their contractor and copies of applications files are maintained at the County.

(B) During the development phase of the Project, the Permittee shall provide a roster of employees to include their position and place of residence.

(C) Unless prohibited by local, state or federal law or regulation, Permittee shall make good faith efforts to hire qualified residents of the Imperial County with the objective that a majority of the total work force is comprised of the Imperial County residents.

(D) The Permittee shall install and implement security measures which may include, but not limited to, secured perimeter fencing with barbed wire, sensors, controlled

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access points, security alarms, security camera systems, and security guard vehicle patrols to deter trespass or unauthorized activities that would interfere with operation of the Project.

(E) Permittee shall compensate the County pursuant to the Department of Environmental Health Fee Schedule for any costs of calls related to bees and mosquitoes.

(F) The Permittee shall reimburse the Sheriff's Department for any investigations regarding theft on the Project site and related law enforcement.

(G) All construction supervisors and foremen shall be provided with communication devices, cell phones or walkie-talkies, in the event of an emergency situation on-site.

(H) All construction-related activities shall take place within the development footprint of the Project as defined by the final engineering plans. The anticipated impact areas, including staging areas, equipment access, and disposal or temporary placement of spoils, shall be delineated with staking and/or orange construction fencing prior to construction to avoid natural resources where possible. No construction-related activities shall occur outside of the designated impact area. All construction materials, staging, storage, dispensing, fueling, and maintenance activities shall be designated on construction maps and shall be situated a minimum of fifty (50) feet from all drainages. Staging and temporary access shall occur on existing roadways whenever possible.

(I) **Emergency Operations Plan** - The Applicant shall develop an Emergency Operation Plan in conjunction with local fire service personnel and the AHJ and hold a comprehensive understanding of the hazards associated with lithium-ion battery technology. Lithium-ion battery energy storage systems must incorporate adequate explosion prevention protection as required in NFPA 855 or International Fire Code Chapter 12, where applicable.

(J) **Signage** - The Applicant shall provide signage that identifies the contents of an energy storage system on all energy storage system installations to alert first responders to the potential hazards associated with the installation.

S-11 TRANSPORATION AND TRAFFIC:

A. Permittee shall prepare and submit a Construction Traffic Control Plan to Imperial County Department of Public Works-Development Review and Caltrans District 11, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues:

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1. Timing of deliveries of heavy equipment and building materials;
2. Directing construction traffic with a flag person;
3. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;
4. Ensuring access for emergency vehicles to the Project site;
5. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
6. Maintaining access to adjacent property;
7. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hours, distributing construction traffic flow across alternative routes to access the Project site, and avoiding residential neighborhoods to the maximum extent feasible.

B. Permittee shall Institute construction work hours as necessary, such that the arrival and/or departure times of workers would be staggered as necessary.

C. Permittee shall identify vehicle safety procedure for entering and exiting site access roads.

D. Permittee shall submit documentation that identifies the roads to be used during construction.

E. The Permittee shall be responsible for repairing any damage to non-County maintained roads that may result from construction activities. The Permittee shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Imperial County Department of Public Works Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to the County. This information shall be submitted in electronic format. The County, in consultation with the Permittee's engineer, shall determine the extent of remediation required, if any.

S-12 COMMENCEMENT OF WORK:

(A) If the Project has not commenced, or permits for the Project have not been issued, within one (1) year from approval date this CUP shall be null and void. If this CUP has been unused, abandoned, discontinued, or ceased for one (1) year, it shall be null and void and of no effect.

(B) If Permittee cannot initiate or obtain permits for the approved use during the one (1) year period following approve of this CUP, Permittee may request a one (1) year extension from the ICPDSD. The request for an extension shall be in writing and be submitted with explanation to the

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ICPDSD at least sixty (60) days prior to the end of the one (1) year period. The Director shall have the authority to extend the initial startup period of a CUP two times for a maximum of one (1) year each. No extension under this section shall be extended for more than two (2) years.

S-13 CONSTRUCTION STANDARDS:

(A) The solar energy and energy (battery) storage facility structures shall be built in accordance with the California Building Code requirements applicable to "Seismic Category D". All structures and facilities shall be designed in accordance with the publication entitled "Recommended Lateral Force Requirements and Commentary by the Structural Engineers Association of California". The structural components of the permitted facilities shall be reviewed by the Building Official/Planning and Development Services Director. Applicable building permits shall be procured from the County for facilities prior to commencement of construction of such facilities.

S-14 LAND USE IMPROVEMENTS:

(A) The Permittee shall prepare an appropriate parking plan for review and approval by the ICPDSD and County Public Works Department for any and/or all proposed Operation & Maintenance buildings.

(B) The Permittee shall surface with a material of higher quality all access drives, parking areas, and vehicular maneuvering areas from primary access to any constructed operation and maintenance buildings.

S-15 NOISE STANDARDS:

(A) During the construction period, heavy truck traffic shall be limited to the hours between 6:00 AM and 7:00 PM.

(B) During construction, in accordance with Imperial County Noise Element of the General Plan, the noise level shall not exceed 75 dBA_{Leq} at the property boundary when averaged over an 8-hour period.

(C) During operation of the facility, the maximum permitted continuous sound level shall be not more than 45 dBA_{Leq}, as measured at the nearest residence using the "A" scale and measured with a sound level meter and associated octave band analyzer. The level may be exceeded by ten percent (10%) if the noise is intermittent and during daylight hours.

(D) Haul trucks and other engine-powered equipment shall be muffled and operated with engine exhaust brake use limited to emergencies.

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S-16 ODOR CONTROL:

The Permittee shall control all odor-causing, harmful, noxious emissions to ensure that quantities or air contaminants released as a result of the permitted facilities do not exceed County, State or Federal standards, nor constitute a public nuisance, per the Imperial County Land Use Ordinance, Division 13, Enforcement, Chapter 2, Abatement of Nuisances, Sections 91302.00 through 91301.02.

S-17 PLAN APPROVALS:

Permittee shall submit to the ICPDSD, architectural, landscaping and lighting plans prior to construction of those facilities, to include painting of structures, planting of trees and/or vegetation, and shall receive all approvals prior to commencing construction of the applicable permitted facilities. Approval shall not be unreasonably withheld so long as the plans are consistent with applicable Imperial County Land Use Ordinance requirements.

S-18 PROJECT DESIGN:

(A) All facility access and parking areas shall be constructed to the standards of the Imperial County Land Use Ordinance.

(B) All permitted activities shall provide for the minimum feasible surface land disturbance for compatibility with the existing uses wherever possible.

(C) All equipment and electrical interconnection facilities used at the solar plant facilities shall be maintained in a manner that prevents breaking, cracking, and leaking, e.g. operator staffing and training, including appropriate quality assurance procedures, with the operation of back-up or auxiliary facilities when necessary.

(D) All on-site basins shall be designed and constructed under the supervision of a California-licensed Civil Engineer meeting sound engineering standards, with all applicable regulations and all requirements of the County EHS/Health Department and Public Works Departments are complied with.

(E) Permittee shall obtain encroachment permits for any construction or operation on IID existing rights of way or easements.

S-19 REPORTING AND MONITORING:

(A) The Permittee shall furnish to the County, at its sole cost within a reasonable time, any relevant reports/information which the County requires for monitoring purposes to determine whether cause exists for revoking this Permit, or to determine compliance with this Permit. The

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Permittee shall submit all required reports to the Planning Director, County Planning and Development Services Department, 801 Main Street, El Centro, CA 92243.

(B) Permittee and ICPDSD Director shall agree upon an environmental consultant for overseeing all the required mitigation, conditional use Permit conditions and public benefit agreement (if any) requirements during the construction of the Project.

(C) Permittee shall pay for third-party environmental consultant monitoring and compliance.

(D) The ICPDSD, in consultation with the third-party Environmental Consultant and the County Executive Office, will require that all mitigation measures be satisfied, all MMRP requirements have been satisfied, all Conditions of Approval in the CUP are in full compliance and all conditions of the Development Agreement (if any) have been satisfied before the Final Certificate of Occupancy Certificate is issued.

(E) During the operation of solar facility, an Annual Compliance Report shall be submitted to the ICPDS, documenting the implementation of the conditions and general measures as well as any resource-specific measures.

(F) The Permittee shall reimburse the ICPDS for County as well as monitoring and investigations related to the construction and operation of the Project. Permittee shall compensate the County pursuant to the ICPDSD Fee Schedule for any costs incurred.

(G) Permittee shall pay for all costs as required to comply with the Conditions of Approval and MMRP.

(H) All County staff time will be billed on a time and materials basis. Failure by Permittee to provide any payment required of Permittee to the County in the CUP shall cause Permittee to be in non-compliance of the CUP. Upon notice of such noncompliance, County may, at its sole discretion, cease processing, defending any lawsuit or paying for costs associated with the Project.

S-20 SPILLS AND RUNOFF:

The Permittee shall design and construct the permitted facilities to prevent spills from endangering adjacent properties and to prevent runoff from any source being channeled or directed in an unnatural way so as to cause erosion, siltation, or other detriments pursuant to the construction Storm Water Pollution Prevention Plan approved by the Regional Water Quality Control Board.

S-21 FACILITIES CLOSURE AND SITE RESTORATION:

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(A) Permittee shall implement the site restoration plan at the earlier of when the operation of the permitted facilities herein authorized has ceased or the term of the CUP has expired. At such time, all facilities shall be dismantled, and the lands involved restored to their pre-construction condition and available for agricultural production uses as agreed to by the Imperial County Planning and Development Services Director.

(B) Prior to the issuance of a grading Permit, a decommissioning and restoration plan (the Reclamation Plan) shall be submitted and approved by the Imperial County Planning and Development Services Director. The Reclamation Plan shall documents the procedures by which the Project site will be returned to its current conditions.

(C) Within thirty (30) days prior to ground disturbance, a Bond, or other acceptable surety, in the amount of the estimated site restoration financial calculations/bond, for the developed project area, or other forms of security acceptable to County Counsel's office, shall be filed with the County that guarantees restoration of the land to its condition prior to the permitted solar plant development.

(D) Upon completion of such site restoration, and demonstration that the land has been restored to the agriculturally productive/farmable condition prior to the permitted solar plant development the Bond or other surety shall be released by the County.

(E) The above financial calculations/bond shall be reviewed every five (5) years in December and adjusted on January 1st to add a Consumer Price Index (CPI) (Los Angeles) increase by the Planning and Development Services Director. This readjustment can be made in the County's sole discretion and must be funded by the Permittee within ninety (90) calendars after notice of the additional amount of such adjustment.

S-22 PUBLIC WORKS:

1. The Applicant shall acquire proper easements from adjacent property owners for the installation of any proposed transmission lines.

2. All survey monuments, including those within the interior of the project, shall be protected, and their locations shall remain accessible to any surveyor throughout the duration of the project. Section 8774 of the Business and Professions Code, and Section 846.5 of the Civil Code, each provide the right of entry to utilize boundary evidence and perform surveys, without undue delay, to any person authorized to practice land surveying. The right of entry is not contingent upon prior notice.

3. The Applicant shall furnish a Drainage and Grading Plan/Study to provide for property grading and drainage control, which shall also include prevention of

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sedimentation of damage to off-site properties. The Study/Plan shall be submitted to the Department of Public Works for review and approval. The applicant shall implement the approved plan. Employment of the appropriate Best Management Practices (BMP's) shall be included (Per Imperial County Code of Ordinances, Chapter 12.10.020 B).

4. Based from the information provided on the project documents, it is assumed that County roads will not be used for site access during or after construction activities have been completed. In the event that County roads are required for site access, the Applicant shall consult with this Department in advance for review and approval.

   Access to sites shall be completed from public roads.

5. Any unimproved access roads/routes between public roads and access gates shall be improved for all-weather access. Such all-weather improvements shall be completed as recommended by a Geotechnical Engineer licensed to practice in the State of California.

6. Each site shall have, as a minimum, one (1) primary Class 2 Base aggregate material driveway and one (1) emergency access Class 2 Base aggregate material driveway, if they are tied to a County Road only.

7. Access to project sites during and after construction is expected to be completed through private unpaved roads or private property.

The Applicant shall mitigate generation of dust caused by construction traffic as per Rule 805 – Paved and Unpaved Roads of the Imperial County Air Pollution Control District.

- All solid and hazardous waste shall be disposed of in approved solid waste disposal sites in accordance with existing County, State and Federal regulations (Per Imperial County Code of Ordinances, Chapter 8.72).

- All on-site traffic areas shall be hard surfaced to provide all weather access for emergency vehicles. The surfacing shall meet the Department of Public Works and Fire/Office of Emergency Services (EOS) Standards as well as those of the Air Pollution Control District (APCD).

- The project may require a National Pollutant Discharge Elimination System (NPDES) permit and Notice of Intent (NOI) from the Regional Water Quality Control Board (RWQCB) prior to County approval of onsite grading plan (40 CFR 122.28).

- A Transportation Permit may be required from road agency(s) having jurisdiction over the haul route(s) for any hauls of heavy equipment and/or large vehicles which impose greater than legal loads on riding surfaces, including bridges. (Per Imperial County Code of Ordinances, Chapter 10.12 - OVERWEIGHT VEHICLES AND LOADS).

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- Effective September 15, 2020, the State's Mandatory Organic Waste Recycling Law (AB 1826 or Chapter 727, Statutes of 2014) decreased the threshold requiring all businesses and multi-dwelling facilitates of 5 units or more generating two (2) cubic yards or more of solid waste per week to recycle their organic waste including landscape waste, wood waste, and food waste. Information about possible organics waste recycling services can be found at the CalRecycle site at: https://www.calrecycle.ca.gov/Recycle/Commercial/Organics/

S-23 WASTE DISPOSAL

(A) The Permittee shall insure that all solar plant facilities waste, liquid, gas or solid, which are generated on-site shall be disposed of in compliance with appropriate local, state, and federal regulations, in effect or as subsequently duly-enacted. All solid waste debris and/or any hazardous wastes located on the Project site must be satisfactorily removed to a permitted facility prior to the commencement of grading earthen material at the site.

(B) Littering shall not be allowed. Project personnel shall not deposit or leave any food or waste in the Project area, and no biodegradable or non-biodegradable debris shall remain in the right-of-way or on the Project site following completion of construction.

S-24 CALTRANS:

(A) An encroachment permit shall be required for any work performed within any Caltrans right-of-way. If required, any traffic control will need to be addressed as part of Caltrans permit approval in accordance with the Caltrans Standard Plans and the California Manual on Uniform Traffic Control Devices (MUTCD).

(B) Any application for a permit for work performed within a Caltrans right-of-way must include an approved final environmental document including the California Environmental Quality Act (CEQA) determination addressing any environmental impacts within the Caltrans right-of-way and any corresponding technical studies, if required. If these materials are not included with the encroachment permit application, the Permittee will be required to acquire and provide these to Caltrans before the permit application will be accepted. Identification of avoidance and/or mitigation measures will be a condition of encroachment permit approval as well as procurement of any necessary regulatory and resource agency permits.

(C) Any work performed within Caltrans' Right of Way (R/W) will require discretionary review and approval by Caltrans. As part of the encroachment permit process, the applicant must provide an approved

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final environmental document, corresponding technical studies, and necessary regulatory and resource agency permits, specifically, any CEQA determinations or exemptions.

S-25 IID Condition requirements

(A) The Project may impact IID drains with project site runoff flows draining into IID drains. To mitigate impacts, IID may require a comprehensive IID hydraulic drainage system analysis. IID's hydraulic drainage system analysis includes an associated drain impact fee.

(B) An IID encroachment permit is necessary to utilize existing surface-water drainpipe connections to drains and receive drainage service from IID. Surface-water drainpipe connections are to be modified in accordance with IID standards. A construction storm-water permit from the California Regional Water Quality Control Board is required before commencing construction and an industrial storm water permit from CRWQCB is needed for the operation of the proposed facility. Copies of these permits as well as the project's Storm Water Pollution Prevention Plan are to be submitted to IID.

S-26 FIRE PROTECTION:

Energy storage facilities create extreme hazards for firefighters and emergency responders with possibility of explosions, flammable gases, toxic fumes, water-reactive materials, electrical shock, corrosives, chemical burns. The hazards listed can create a potential significant impact on Imperial County Fire Department due personnel staffing to safely perform firefighting operations and Hazardous Material Response for a utility-scale energy storage facility. The location of the project will lead to longer response times. These longer response times can create incidents that can create difficulties in incident stabilization; therefor requiring additional personnel to safety manage the incident. Utility-scale energy storage will require specialized and reliable equipment to perform firefighting operations safely and effectively to NFPA, OSHA and ICFD standards and requirements.

Standards and requirements for energy storage system includes but not limited to:

NFPA:

1 Fire Code
70 National Electrical Code
855 Standard for the installation of Energy Storage System
111 Stored Electrical Energy Emergency and Standby Power System
1710 Standard for Organization and Deployment of Fire Suppression Operations, Emergency Medial Operations, and Special Operations to the Public by Career Fire Departments.

OSHA:

29 CFR 1910.134(g)(4)

CFC:

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Chapter 12 section 1206 Electrical Energy Storage System
Chapter 9 Fire Protection and Life Safety System.

1) Vega Solar Energy and Storage Project reviews for plans and inspections will be done by a third-party consultant determined by the Fire Department at the applicant's expense as per California Fire Code Chapter 1 [A] 104.7.2 Technical Assistance. This will be at the discretion of the Fire Department.

2) Project will provide adequate Fire water. Fire Department will determine number of gallons to be placed strategically once site plan is reviewed.

3) This payment shall be made before issuance of the first building permit for the Project, or for each phase of the Project, whichever is applicable.

4) Signage that identifies the contents of an ESS is required on all ESS installations to alert first responders to the potential hazards associated with the installation.

5) An approved water supply capable of supplying the required fire flow determined by appendix B in the California Fire Code shall be installed and maintained. Private fire service mains and appurtenance shall be installed in accordance with NFPA 24.

6) An approved automatic fire suppression system shall be installed on all structures as per the California Fire Code. All fire suppression systems will be installed and maintained to the current adapted fire code and regulations.

7) An approved automatic fire detection system shall be installed on all structures as per the California Fire Code. All fire detection systems will be installed and maintained to the current adapted fire code and regulations.

8) Fire department access roads and gates will be in accordance with the current adapted fire code and the facility will maintain a Knox Box for access on site.

9) Compliance with all required sections of the fire code.

10) Applicant shall provide product containment areas(s) for both product and water run-off in case of fire applications and retained for removal.

11) All hazardous material and wastes shall be handled, store, and disposed as per the approved Hazardous Waste Materials Plan. All spills shall be documented and reported to Imperial County Fire Department and CUPA as required by the Hazardous Waste Material Plan.

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S-27 COUNTY EXECUTIVE OFFICE:

1. Fiscal and Economic Impact Analysis. The Permittee will be invoiced by the Executive Office for expenses related to the procurement of a consultant to produce a Fiscal and Economic Impact Analysis (FEIA) and will be responsible for the cost of any subsequent updates as a result of modifications to the data and project by the developer.

2. Public Service Agreement ("Agreement" or "PSA"). Pursuant to the Guidelines for the Public Service Program for Solar Power Plants in Imperial County amended and adopted by the Board of Supervisors on May 9, 2023, PSA will be entered into by and between the County of Imperial and Developer to provide for a concerted and coordinated effort to maximize the benefits of the Project to the County of Imperial community.
   Sales Tax Benefit Solar Farm:

(a) Developer will require that all qualifying contractors and subcontractors exercise their option to obtain a California Department of Tax and Fee Administration (CDTFA) sub-permit for the jobsite and allocate all eligible use tax payments to Imperial County and LTA. Prior to commencement of any construction activity on-site the developer will require that the contractor or subcontractor provide County of Imperial with either a copy of their CDTFA account number and sub-permit.

(b) To accomplish this, Permittee shall either cause its construction contractor to treat the project in accordance with California Regulation 1521(b)(2)(B), California Regulation 1521(c)(13)(B), and California Regulation 1826(b) for sales and use tax purposes or form a "Buying Company" as defined in the CDTFA 1699(h). Permittee can adopt an alternate methodology to accomplish this goal if such methodology is approved by the County Executive Officer prior to issuance of building permits. Not later than forty five (45) days after the due date for filing sales and use tax returns for each calendar quarter, occurring after the commencement of any construction activity on-site through and including the first anniversary of COD (as defined below),

(c) Developer shall report, or cause its general contractor to report to County, the total amount of sales and use taxes related to the Project that are allocated to the County, and reported on Developer's, general contractor's, and subcontractors' applicable California sales and use tax returns. The obligations of Developer under this Section III.A are hereinafter referred to as the "Developer Sales and Use Tax Responsibilities."

(d) Guarantee Amounts. In the event that Developer shall fail to perform the Developer Sales and Use Tax Responsibilities and as a result of such failure, with respect to the Project, (i) County receives less than the amount of such sales and use taxes it would have received under existing applicable sales and use tax laws had such responsibilities been fully performed subject to adjustment as set forth in Section IV.C below) or (ii) Local Transportation Authority (LTA) receives less than the amount of such sales and use taxes it would have received under existing applicable sales and use tax laws had such responsibilities been fully-performed, then

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Developer shall pay, as and when provided below, to County or LTA as applicable, the amount of the applicable shortfall.

(e) Adjustments to Guarantee Amounts.

(f) Developer's sales tax guarantee set out in Section III.B above shall be adjusted to be eighty-five percent (85%) of the projected sales and use taxes for the Project. At least ten (10) days prior to the issuance of the first (1st) grading permit, Developer shall provide County with evidence of such projected sales and use taxes, including but not limited to sales taxes receipts, engineering contracts, procurement contracts, construction contracts. County shall meet with Developer to confirm that amount.

(g) The amount of sales and use tax anticipated to be generated is based on the projected construction of a two hundred-forty (240) megawatt alternating current solar generation facility. Construction of any additional output capacity beyond the 240 MW output now projected will require the sales tax guarantee be adjusted based on the actual output from solar generation facilities of the Project as evidenced by any Power Purchase Agreement subsequently entered into by Developer related to this Project.

(h) To the extent of any reduction in the size of the Project as the result of any final ruling, stipulated judgment, or settlement, in accordance with Section V.C below, the not-to-exceed amounts set forth in Section III.B shall be reduced pro rata based on the size of such reduction.

(i) The complete amount due to County for the Project must be received within one (1) year after Commercial Operation Date ("COD") for this Project. If, within one (1) year after issuance of the final Certificate of Occupancy, the sales and use taxes received by the County are less than the amount guaranteed for that portion of the project, Developer shall pay the difference to the County.

(j) Payments to County and LTA as a result of a shortfall shall be due within thirty days of Developer's receipt of written notice of shortfall from the County. Payments received by County after the ninetieth (90th) day following Developer's receipt of notice shall be deemed late. Developer hereby agrees to pay interest at the rate of six percent (6%) per annum of the payment due for any payment received by County beyond the due date. Said interest shall be included with the late payment. The obligation to pay interest shall be stayed when such amounts are disputed in good faith, so long as Developer submits the payments "under written protest." Upon determination of dispute, such interest may be assessed if it is determined that the dispute was not made in good faith.

(k) In the event that Developer repowers or replaces the equipment onsite, each Site shall be designated as the "Point of Sale" so as to create an additional local tax-funding source for the County of Imperial.

I. Battery Storage Sales Tax Benefit

1.1.1. To the extent permitted by applicable local, state, and Federal law, Developer will require that all qualifying contractors and subcontractors exercise their option to obtain a California Department of Tax and Fee Administration ("CDTFA") sub-permit for the jobsite and allocate all

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eligible sales and use tax payments to County and the Local Transit Authority ("LTA").

1.1.2. Prior to commencement of any construction activity onsite exclusive of grading, Developer shall require that the contractor or subcontractor provide County with a copy of their CDTFA account number and sub-permit. Developer shall either cause its construction contractor to treat the Project in accordance with California Sales and Use Tax Regulation 1521(b)(2)(B), California Sales and Use Tax Regulation 1521(c)(13)(B), and California Sales and Use Tax Regulation 1826(b) for sales and use tax purposes, or form a "Buying Company," as defined in the California Sales and Use Tax Regulation 1699(h). Developer may adopt an alternate methodology to accomplish this goal if such methodology is approved by the County's Executive Officer prior to issuance of any building permit.

1.1.3. No later than forty-five (45) days after the due date for filing sales and use tax returns for each calendar quarter, occurring after the commencement of any construction activity on-site through and including the first anniversary of commercial operating date ("COD"), Developer shall report, or cause its general contractor to report to County, the total amount of sales and use taxes related to the Project that are allocated to the County, and reported on Developer's, general contractor's and subcontractors' applicable California sales and use tax returns.

1.1.4. *Guarantee Amounts*. Prior to the issuance of any building permit for the Project, Developer shall provide County with a guarantee of the minimum sales and use that will be received by County and LTA under existing applicable sales and use tax laws. The guarantee amount shall be based on the total storage capacity of the Project in megawatts, which is projected to be four hundred-eighty megawatts (480 MW) Should Developer choose to develop the Project in phases, and receives the required approvals from County to do so, then Developer shall provide a separate guarantee amount for each phase of the project based on the total storage capacity in megawatts for the applicable phase.

(a) Developer warrants that the sales/use tax guarantee amounts to be provided to County as mandated in this Subparagraph 9.2.4 shall be true and accurate estimates of the projected sales and use taxes that will be generated for this Project. Developer shall provide County with evidence of the projected sales/use taxes for the Project, including but not limited to sales tax receipts, and executed or anticipated engineering contracts, procurement contracts, and construction contracts. If the Parties are unable to agree upon a guarantee amount, then the dispute shall be referred to an independent accountant mutually acceptable to both Parties. The costs for such nonbinding mediation shall be borne by Developer.

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(b) Developer warrants that the sales/use tax guarantee amounts to be provided to County as mandated in this Subparagraph 9.2.4 will incorporate any and all sales/use tax exemptions that Developer and/or its contractors and subcontractors intend to utilize, and that such exemptions will be disclosed to County fully and in good faith prior to the issuance of any building permit for this Project.

(c) Developer understands and acknowledges that the sales/use tax guarantee amounts to be provided to County as mandated by this Subparagraph 9.2.4 are a part of the consideration to be received by County in return for entering into this Agreement, and further understands and acknowledges that County would not enter into this Agreement but for said guarantee from Developer.

1.1.5. In the event that County and / or LTA receives less than the amount of sales/use taxes guaranteed pursuant to Subparagraph 9.2.4, then Developer shall pay, as and when provided below, to County or LTA as applicable, the amount of the applicable shortfall.

1.1.6. *Adjustments to Guarantee Amounts.*

(a) The amount of sales and use tax anticipated to be generated is based on the projected construction of a 480 MW utility-scale energy storage complex incorporating lithium ion batteries and/or flow battery technologies throughout the Project site. Construction of any additional storage capacity beyond the 480 MW storage capacity now projected will require the sales/use tax guarantee amounts to be adjusted based on the actual storage facilities of the Project as evidenced by any power purchase agreement or power storage agreement subsequently entered into by Developer related to this Project.

(b) To the extent of any reduction in the size of the Project as the result of any final ruling, stipulated judgment, or settlement, the sales/use tax guarantee amounts mandated under Subparagraph 9.2.4 shall be reduced pro rata based on the size of such reduction.

(c) Should Developer become of aware of a change in circumstances that would materially affect the sales/use tax guarantee amount, then Developer shall, within thirty (30) days of learning of such change in circumstances, inform the County in writing of the change in circumstances. If the County determines that such change in circumstances warrants an adjustment to the sales/use tax guarantee amount, then County shall negotiate in good faith with Developer in revising the sales/use tax guarantee amount. If the Parties are unable to agree upon a revised guarantee amount, then the dispute shall be referred to an independent accountant mutually acceptable to both Parties. The costs for such nonbinding mediation shall be borne by Developer. Failure of the Developer to inform the County of the change in circumstances shall constitute a waiver of Developer's ability to seek any adjustment to the sales/use tax guarantee based on such change in circumstances.

1.1.7. The complete sales/use tax guarantee amount due to County and LTA for the Project must be received within one (1) year after COD for this Project, or such later date as any applicable sales/use tax is due or is transmitted from the CDTFA, unless it is delayed due to causes beyond

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Developer's control or for which Developer is not responsible. If, within one (1) year after issuance of the final certificate of occupancy, or such later date as any applicable sales/use tax is due or is transmitted from the CDTFA, the sales/use taxes received by the County are less than the sales use tax guarantee amounts mandated under Subparagraph 9.2.4, then Developer shall pay the difference to the County.

1.1.8. Payments to County and LTA as a result of a shortfall shall be due within thirty days of Developer's receipt of written notice of shortfall from the County. Payments received by County after the ninetieth (90th) day following Developer's receipt of notice shall be deemed late. Developer hereby agrees to pay interest at the rate of six percent (6%) per annum of the payment due for any payment received by County beyond the due date. Said interest shall be included with the late payment. The obligation to pay interest shall be stayed when such amounts are disputed in good faith, so long as Developer submits the payments "under written protest." Upon determination of dispute, such interest may be assessed if it is determined that the dispute was not made in good faith.

In the event that Developer repowers or replaces the equipment onsite, each Site shall be designated as the "Point of Sale" so as to create an additional local tax-funding source for the County of Imperial

S-28 Additional Conditions

1. Because oversize vehicles may utilize this facility (i.e., SR 111), as a condition of the Conditional Use Permit, the project applicant will be required to obtain all applicable Caltrans permits required for construction of the project, including special transportation permits (if applicable) for oversize construction vehicles.
2. As a condition of the Conditional Use Permit, the applicant will be required to prepare and submit for approval a traffic management plan to Caltrans as specified in this comment.
3. As currently proposed, the project would not require an encroachment permit as no work or improvements are proposed within Caltrans right-of-way. However, as a condition of the Conditional Use Permit, the applicant will be required to obtain necessary permits from Caltrans. This includes encroachment permits if applicable.
4. **Coachella Valley Water District –** Review for requirements on elevated concrete foundations and appropriate spacing shall be evaluated, including with respect to existing training dikes and addressed as part of the final site plan engineering design.
5. **Bureau of Reclamation.** modifications to training dikes will require appropriate authorization from Bureau of Reclamation.

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6. Condition of approval that the County and Developer will coordinate with the U.S. Marine Corps to notify them of the project development and to determine any potential impacts to their operations, if any.

S-29 ACCEPTANCE:

Acceptance of this permit shall be deemed to constitute agreement by Permittee with all terms and conditions herein contained.

The rest of this page is intentionally left blank.

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NOW THEREFORE, County hereby issues the Conditional Use Permit #20-0021, and Permittee hereby accepts such permit upon the terms and conditions set forth herein.

IN WITNESS THEREOF, the parties hereto have executed this Agreement the day and year first written.

PERMITTEE:

_____ _____

Date

COUNTY OF IMPERIAL, a political subdivision of the STATE OF CALIFORNIA

_____ _____

Jim Minnick,
Director, Planning & Development Services Department

Date

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PERMITTEE NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA

COUNTY OF _____} S.S.

On_____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document._____

Title or Type of Document_____
Number of Pages_____ Date of Document_____
Signer(s) Other Than Named Above_____

Dated_____

PC ORIGINAL PKG

COUNTY NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF IMPERIAL} S.S.

On_____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document.

Title or Type of Document_____

Number of Pages_____ Date of Document_____

Signer(s) Other Than Named Above_____

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RESOLUTION NO.

A RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF IMPERIAL, CALIFORNIA, RECOMMENDING APPROVAL TO THE BOARD OF SUPERVISORS FOR " VEGA SES 3 SOLAR ENERGY STORAGE PROJECT" FOR CONDITIONAL USE PERMIT #20-0022"

WHEREAS, APEX ENERGY SOLUTIONS, LLC has submitted an application for Conditional Use Permit (CUP) #20-0022 to develop a nominal 60-megawatt (MW) solar photovoltaic (PV) energy generation project with an integrated battery storage system not to exceed 120 MW. The project includes solar energy generation facility, battery storage system, switching station and gen-tie line. The project is to be located on approximately 230 acres; and,

WHEREAS, an Environmental Impact Report and CEQA Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State Guidelines, and the County's "Rules and Regulations to Implement CEQA," as Amended; and,

WHEREAS, the Planning Commission of the County of Imperial has been delegated with the responsibility of approvals, certifications and making recommendations to the Imperial County Board of Supervisors for approvals of conditional use permits; and,

WHEREAS, public notice of said application has been given, and the Planning Commission has heard, received and considered all oral and written protests, objections and evidence presented by interested parties at a public hearing held with respect to this item on August 23, 2023; and,

WHEREAS, the Draft EIR was received by the State Clearinghouse on December 14, 2022 and circulated for a period of 50 days (**SCH #2021050013**) with the commenting period ending February 2, 2023; and,

NOW, THEREFORE, the Planning Commission of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Planning Commission has considered the proposed Conditional Use Permit #20-0022 prior to recommending approval and the County's consideration of the Project has been noticed in compliance with law.

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SECTION 2. That the Project complies with the requirements of the Imperial County Code and is in accordance with State Planning and Zoning law therefore, the following findings are made pursuant to Imperial County Code § 90203.09 as follows:

A. The proposed use is consistent with goals and policies of the adopted County General Plan. (Imperial County Code § 90203.09.A)

The current General Plan land use designations of the project site and proposed parcels are "Recreation/Open Space" and proposed project parcels are within the Renewable Energy Overlay (RE). Therefore, the proposed uses could be found consistent with the General Plan.

B. The proposed use is consistent with the purpose of the zone or sub-zone within which the use will be used. (Imperial County Code § 90203.09.B)

The proposed project parcels are zoned S-2-RE. (Open Space Preservation) with Renewable Energy Overlay). The proposed uses are consistent with the zone since they are listed as allowed uses under the S-2-RE zone with requirements for an approved Conditional Use Permit.

C. The proposed use is listed as a use within the zone or sub-zone or is found to be similar to a listed conditional use according to the procedures of Section 90203.00. (Imperial County Code § 90203.09.C)

The proposed use is consistent with the zone: S-2-RE (General Agriculture with Renewable Energy Overlay).

D. The proposed use meets the minimum requirements of this Title applicable to the use and complies with all applicable laws, ordinances and regulation of the County of Imperial and the State of California. (Imperial County Code § 90203.09.D)

The Project complies with the minimum requirements of this Title by, among other things, obtaining a CUP, complying with the California Environmental Quality Act, and participating in the public review and hearing process. Development standards have been established for the Project pursuant to these processes, and will be enforced via imposition and enforcement of the Mitigation Monitoring and Reporting Program recommended for approval by separate Resolution, as well as the conditions of approval imposed on this CUP. The Conditions of Approval will further insure that the project complies with all applicable regulations of the County

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of Imperial and the State of California. Therefore, the proposed project meets the minimum requirements of the Land Use Ordinance, Section 90203.00.

E. The proposed use will not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity. (Imperial County Code § 90203.09.E)

The Environmental Impact Report (EIR) prepared for the Project analyzed the Project's potential effects on the health, safety, and welfare of the public and property and found that, with mitigation, the Project would have less than significant effects and impacts in all resources areas.

In addition, the project site is not near a residential community and is mostly surrounded by farmland and or open space/recreational land.

F. The proposed use does not violate any other law or ordinance. (Imperial County Code § 90203.09.F)

The proposed project will be subject to the Conditional Use Permit and current Federal, State and Local regulations. State Planning and Zoning Law (Cal. Govt. Code §§ 65000-66035) establishes minimum statewide standards for the regulation of local land use through planning and zoning. The County regulates local land use via Title 9 of the Imperial County Code. As found above, the proposed project is conditioned to be consistent with Imperial County, Title 9, Land Use Ordinance and CEQA mitigation measures and therefore complies with both State and local laws and ordinance.

Pursuant to CEQA, the County has prepared an EIR for the Project, which analyzes the proposed Project's compliance and consistency with other federal, state, and local laws and ordinances regulating the environment. Substantial evidence supports the conclusions in the EIR that the Project complies with said environmental laws, and thus the finds that the proposed use does not violate any other law or ordinance.

G. The proposed use is not granting a special privilege. (Imperial County Code § 90203.09.G)

The proposed solar generating and storage facility is a permitted use subject to approval of the proposed Conditional Use Permit. No special privileges are being offered or will be granted.

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SECTION 3. Approval of the Project is conditioned upon the terms and conditions set forth in the Agreement for Conditional Use Permit #20-0022 attached hereto and incorporated herein by this reference.

NOW, THEREFORE, based on the above findings, the Imperial County Planning Commission **DOES HEREBY RECOMMEND APPROVAL** of Conditional Use Permit #20-0022 to the Board of Supervisors, subject to the attached Conditions of Approval.

_____

Rudy Schaffner, Chairperson
Imperial County Planning Commission

I hereby certify that the Planning Commission at a meeting conducted on **August 23, 2023** by the following vote approved the preceding resolution:

AYES:
NOES:
ABSENT:
ABSTAIN:

ATTEST:

_____

Jim Minnick, Director of Planning & Development Services
Secretary to the Planning Commission

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When Recorded Return To:

Imperial County
Planning & Development Services
801 Main Street
El Centro, California 92243

AGREEMENT FOR CONDITIONAL USE PERMIT #20-0022
VEGA SES 3 SOLAR ENERGY STORAGE PROJECT
APN's 025-010-006-000-000

This Agreement is made and entered into on this ___day of _____, 2023, by and between APEX ENERGY SOLUTIONS, LLC hereinafter referred to as the Permittee (Permittee), and the COUNTY OF IMPERIAL, a political subdivision of the State of California (County or Imperial County), related to the VEGA SES 3 SOLAR ENERGY STORAGE PROJECT (CUP #20-0022) project area.

RECITALS

WHEREAS, Permittee is the lessee or successor-in-interest of certain land in Imperial County to be improved with the proposed utility-scale solar and battery storage facility. The project, Conditional Use Permit (CUP or Permit) #20-0022, consists of a proposed 60-megawatt (MW) photovoltaic solar energy facility, energy (battery) storage facility **(up to 120 MW and not to exceed a 2 to 1 solar/battery ratio)** and associated infrastructure, including but not limited to, electrical switch station, substation, on-site operations and maintenance (O&M), a gen-tie line and internal solar development transmission lines, on approximately 240 acres within Imperial County (the "Project"). The proposed facility is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The Coachella and East Highline Canals and the Union Pacific Railway transect the project area. The project area is located entirely within the County's Renewable Energy Overlay Zone. .

WHEREAS, Permittee has applied to the County of Imperial for CUP #20-0022 for constructing and operating a new 60 MW solar energy facility, energy (battery) storage facility (up to 120 MW and not to exceed a 2 to 1 solar/battery ratio) with ancillary support facilities, including electrical interconnections. The Project will connect to the existing IID "P" line located immediately north of the project site north of the All American Canal.

WHEREAS, the Project is located on portion of APN 025-010-006. Additionally, the legal description includes SEC 9 Township 11 South, Range 15 East on a portion of 640

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acre parcel. The project site is located entirely within the Imperial County Renewable Energy Overlay zone.

WHERAS, The Permittee for the VEGA SES 3 Solar Energy Project (CUP #20-0022) shall fully comply with all of the terms and conditions of the Project as specified hereinafter within this CUP.

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GENERAL CONDITIONS:

The "GENERAL CONDITIONS" are shown by the letter "G". These conditions are conditions that are either routinely and commonly included in all Conditional Use Permits as "standardized conditions" and/or are conditions that the Imperial County Planning Commission has established as a requirement on all CUP's for consistent application and enforcement. The Permittee is hereby advised that the General Conditions are as applicable as the SITE SPECIFIC conditions. The General Conditions are in addition to the MMRP and any and all other requirements for the project.

G-1 GENERAL LAWS:

The Permittee shall obtain, comply with and maintain all applicable County, State, and federal laws, rules, regulations, ordinances, and/or standards as they may pertain to this project whether specified herein or not.

G-2 EFFECTIVE DATE:

The approved Conditional Use Permit shall not become effective until ten (10) calendar days after the decision of the Planning Director or Commission. Further the Conditional Use Permit shall not be effective until applicable conditions have been met, and the Conditional Use Permit is recorded with the County Recorder, with payment of recording fees being paid by applicant. In the case of a decision by the Board of Supervisors there is no 10-day appeal.

G-3 RECORDATION:

CUP #20-0022 shall **not be effective** until it is recorded at the Imperial County Recorder's Office and if no appeal has been made after approval from the hearing body. Payment of the recordation fee shall be the responsibility of the Permittee. If this CUP is not recorded within one hundred eighty (180) days from the date of approval the CUP shall be deemed null and void, without notice having to be provided to Permittee. Permittee may submit a written request for a recordation extension for this CUP by filing such a request with the Planning Director at least sixty (60) days prior to the one hundred eighty 180-day expiration. The Director may approve one (1) extension for a period not to exceed one hundred eighty (180) days. An extension may not be granted if the request for an extension is filed after the expiration date. Failure to record this CUP within one (1) year including the granted extension period shall deem this CUP null and void.

G-4 COMMENCEMENT OF WORK:

If the project for which a CUP has been approved has not commenced, or permits for said project have not been issued, within one (1) year from effective date, the CUP shall be null and void. If an applicant cannot initiate or obtain permits for the approved use during the one (1) year, applicant may request a one (1) year extension from the Department. The request for an extension shall be in writing and be submitted with explanation to the Planning & Development Services Department at least sixty days prior to the end of the extended one (1) year period. The Director shall have the authority to extend the initial start-up period, or commencement of work, of a CUP up to two (2) times for a maximum of two (2) years. Should the

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Permittee desire to continue with the project, a new application shall be submitted and the entire process would have to begin anew.

G-5 TIME LIMIT:

Unless otherwise specified within the Site Specific Conditions, this Permit shall be limited to a maximum of thirty (30) years from the recordation of the CUP. The CUP may be extended for an additional ten (10) year period by the appropriate County entity (either the Planning Director, the Planning Commission or the Board of Supervisors as set forth in the applicable Imperial County Ordinances) upon a finding that the Project is in compliance with all conditions of the CUP as stated herein and any applicable Land Use regulation of the County of Imperial. In order to obtain an extension, the Permittee shall file a written extension request with the Planning Director at least sixty (60) days prior to the expiration date of the permit. Such an extension request shall include the appropriate extension fee. Nothing stated or implied within this Permit shall constitute a guarantee that an extension will be granted. An extension may or may not be granted if the Project is in violation of any one or all of the conditions or if there is a history of non-compliance with the Permit conditions.

G-6 ABANDONMENT:

If a CUP has been unused, abandoned, discontinued, or ceased for one (1) year, the CUP shall be null and void, and be of no effect. Notice to applicant/permittee under this division will not be required or provided by Department.

G-7 PERMIT/LICENSE:

Permittee shall obtain and comply with any and all required permits, licenses, and/or approvals, for the construction and/or operation of this project. This shall include, but shall NOT be limited to, permits from the County Division of Environmental Health Services (EHS), Planning & Development Services Department, Office of Emergency Services (OES), Imperial County Air Pollution Control District (ICAPCD) and Public Works Department. Permittee shall likewise comply with all such permit requirements for the life of the project. **Additionally, Permittee shall submit a copy of such additional permit(s) and/or license(s) to the Planning & Development Services Department within 60-days of receipt, including amendments or alternatives thereto.**

G-8 APPROVALS AND CONDITIONS SUBSEQUENT TO GRANTING PERMIT:

Permittee acceptance of this CUP shall be deemed to constitute agreement with the terms and conditions contained herein. Where a requirement is imposed in this CUP that Permittee conduct a monitoring program, and where the County has reserved the right to impose or modify conditions with which the Permittee must comply based on data obtained therefrom, or where the Permittee is required to prepare specific plans for County approval and disagreement arises, the Permittee, operator and/or agent, the Planning and Development Services Director or other affected party, to be determined by the Planning and Development Services

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Director, may request that a hearing be conducted before the Imperial County Planning Commission whereby they may state the requirements which will implement the applicable conditions as intended herein. Upon receipt of a request, the Planning Commission shall conduct a hearing and make a written determination. The Planning Commission may request support and advice from a technical advisory committee. Failure to take any action shall constitute endorsement of staff's determination with respect to implementation.

G-9 CONDITION PRIORITY:

This project shall be constructed/operated as described in the CUP application, the environmental documents, the project description, and as specified in these conditions. Where a conflict occurs, the CUP conditions shall govern.

G-10 INDEMNIFICATION:

As part of this application, applicant and real party in interest, if different, agree to defend, indemnify, hold harmless, and release the County of Imperial ("County"), its agents, officers, attorneys, and employees (including consultants) from any claim, action, or proceeding brought against any of them, the purpose of which is to attack, set aside, void, or annul the approval of this application or adoption of the environmental document which accompanies it. This indemnification obligation shall include, but not be limited to, damages, costs, expenses, attorney fees, or expert witness fees that may be asserted by any person or entity, including the applicant, arising out of or in connection with the approval of this application, whether or not there is concurrent negligence on the part of the County, its agents, officers, attorneys, or employees (including consultants).

If any claim, action, or proceeding is brought against the County, its agents, officers, attorneys, or employees (including consultants), to attack, set aside, void, or annul the approval of the application or adoption of the environmental document which accompanies it, then the following procedures shall apply: The Planning Director shall promptly notify the County Board of Supervisors of any claim, action or proceeding brought by an applicant challenging the County's action. The County, its agents, attorneys and employees (including consultants) shall fully cooperate in the defense of that action. The County shall have the final determination on how to best defend the case and will consult with applicant regularly regarding status and the plan for defense. The County will also consult and discuss with applicant the counsel to be used by County to defend it, either with in-house counsel, or by retaining outside counsel provided that the County shall have the final decision on the counsel retained to defend it. Applicant shall be fully responsible for all costs incurred. Applicant shell be entitled to provide his or her own counsel to defend the case, and said independent counsel shall work with County Counsel to provide a joint defense.

G-11 INSURANCE:

The Permittee shall take out and maintain workers compensation insurance as required by the State of California. The Permittee shall also secure liability

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insurance and such other insurance as required by state and/or federal law. A Certificate of Insurance is to be provided to the Planning and Development Services Department by the insurance carrier, and said insurance and certificate shall be kept current for the life of the project. Certificates of Insurance shall be sent directly to the Planning and Development Services Department by the insurance carrier and shall name the Department as a recipient of both renewal and cancellation notices.

G-12 RIGHT OF ENTRY:

The County reserves the right to enter the premises at any time, announced or unannounced, in order to make the appropriate inspection(s) and to determine if the condition(s) of this CUP are complied with. Access by authorized enforcement agency personnel shall not be denied.

G-13 SEVERABILITY:

Should any condition(s) of this CUP be determined by a Court or other agency with proper jurisdiction to be invalid for any reason, such determination shall not invalidate the remaining provision(s) of this CUP.

G-14 PROVISION TO RUN WITH LAND:

The provisions of this CUP are to run with the land/project and shall bind the current and future owner(s) successor(s) of interest; assignee(s) and/or transferee(s) of said CUP. **Permittee shall not without prior notification to the Planning & Development Services Department assign, sell, or transfer, or grant control of CUP or any right or privilege therein.** The Permittee shall provide a minimum of 60 days written notice prior to such proposed transfer becoming effective. The permitted use identified herein is limited for use upon this parcel described herein and may not be transferred to another parcel.

G-15 COMPLIANCE/REVOCATION:

Upon the determination by the Planning & Development Services Department that the project is or may not be in full compliance with any one or all of the conditions of this CUP, or upon the finding that the project is creating a nuisance as defined by law, the issue shall be brought immediately to the appropriate enforcement agency or to the Planning Commission for hearing to consider appropriate response including but not limited to the revocation of the CUP or to consider possible amendments to the CUP. The hearing shall be held upon due notice having been provided to the Permittee and to the public in accordance with established ordinance/policy.

G-16 NON-COMPLIANCE (ENFORCEMENT & TERMINATION):

Should the Permittee violate any condition herein, the County shall give written notice of such violation and actions required of Permittee to correct such violation. If Permittee does not act to correct the identified violation within forty-five (45) days

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after written notice, County may revoke the CUP. If Permittee pursues correction of such violation with reasonable diligence, the County may extend the cure period. Upon such revocation, County may, at its sole discretion, cease processing, defending any lawsuit or paying for costs associated with the Project.

G-17 COSTS:

Permittee shall pay any and all amounts determined by the County to defray any and all cost(s) for the review of reports, field investigations, monitoring, and other activities directly related to the enforcement/monitoring for compliance of this CUP, County Ordinance or any other applicable law. Any billing against this project, now or in the future, by the Planning & Development Services Department or any County Department for costs incurred as a result of this CUP, shall be billed through the Planning & Development Services Department.

G-18 REPORT(S)

Permittee shall file an annual report with the Planning and Development Services Department to show that Permittee is in full compliance with this CUP. The report shall be filed at least fifteen (15) days prior to the anniversary (recordation date) of this CUP. It shall be the responsibility of the Permittee to provide all reports and to include the information about other users. The County may request information at any time from the Permittee or other users if applicable; however, it shall be the responsibility of the Permittee to assure that the County receives such information in a timely manner.

G-19 RESPONSIBLE AGENT

Permittee shall maintain on file with the Planning and Development Services Department the name and phone number of the responsible agent for the site. A back-up name shall also be provided, and a phone number for twenty-four (24) hour emergency contact shall also be on file. If there are other users, the same information (as applicable) required from the Permittee shall also be made available to the County from such other users.

G-20 WATER AND SEWER:

Permittee shall provide water and sewer to Federal, State and County standards. Water and sewer systems shall be approved by the Environmental Health Services and the Planning & Development Services Department. Permittee shall hook up to a public water system or supplier if and when available.

G-21 DEFINITIONS:

In the event of a dispute, the meaning(s) or the intent of any word(s) phrase(s) and/or conditions or sections herein shall be determined by the Planning Commission of the County of Imperial. Their determination shall be final unless an appeal is made to the Board of Supervisors ten (10) days from the date of their decision.

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G-22 SPECIFICITY:

The issuance of this CUP does not authorize the Permittee to construct or operate this project in violation of any state, federal, local law nor beyond the specified boundaries of the project as shown in the application/project description/ CUP, nor shall this CUP allow any accessory or ancillary use not specified herein. This CUP does not provide any prescriptive right or use to the Permittee for future addition and/or modification to this project.

G-23 HEALTH HAZARD:

If the County Health Officer determines that a significant health hazard exists to the public, the County Health Officer may require appropriate measures and the Permittee shall implement such measures to mitigate the health hazard. If the hazard to the public is determined to be imminent, such measures may be imposed immediately and may include temporary suspension of the subject operations. However, within forty five (45) days of any such suspension of operations, the measures imposed by the County Health Officer must be submitted to the Planning Commission for review and approval. Nothing shall prohibit Permittee from requesting a special Planning Commission meeting provided Permittee bears all costs.

G-24 CHANGE OF OWNER/OPERATOR:

In the event the ownership of the site or the operation of the site transfers from the current Permittee to a new successor Permittee, the successor Permittee shall be bound by all terms and conditions of this CUP as if said successor was the original Permittee. Current Permittee shall inform the County Planning & Development Services Department in writing at least sixty (60) days prior to any such transfer. Failure of a notice of change of ownership or change of operator shall be grounds for the immediate revocation of the CUP. In the event of a change, the new Owner/Operator shall file with the Department, via certified mail, a letter stating that they are fully aware of all conditions and acknowledge that they will adhere to all.

G-25 PERMITS OF OTHER AGENCIES INCORPORATED:

Permits granted by other governmental agencies in connection with the Project are incorporated herein by reference. The County reserves the right to apply conditions of those permits, as the County deems appropriate; provided, however, that enforcement of a permit granted by another governmental agency shall require concurrence by the respective agency. Permittee shall provide to the County, upon request, copies and amendments of all such permits.

G-26 MINOR AMENDMENTS:

The Planning Director may approve minor changes or administrative extensions, as requested in writing by the Permittee, provided it does not result in additional

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environmental impacts and/or are generally procedural or technical and/or which may be necessary to comply with other government permit compliance requirements.

(TOTAL "G" CONDITIONS are 26)

SITE SPECIFIC CONDITIONS:

S-1 AUTHORIZED SCOPE OF ACTIVITIES:

(A) Permittee shall be responsible as for all improvements, septic, sewer, approved potable water system(s), pipelines, roads and other improvements discussed in the CUP Application and Conditions of Approval, FEIR, and MMRP. If Permittee sells all or part of this Project, an approved agreement shall be in place for new Project owner to build and maintain as agreed to by the conditions set forth in this CUP. Additionally, the County Assessor's Office shall be notified of any ownership change.

(B) Permittee shall develop this Project per approved CUP as a separate solar energy and energy (battery) storage facility. Any development with a combination of parcels will require the owner(s) to have a recorded deed restriction to "hold the parcel as one parcel" that runs with the land, or at Permmittee's option merge the parcels. This deed restriction shall be for a minimum of thirty (30) years and shall only be released upon the expiration of the thirty (30) years, the expiration or termination of the CUP, or upon approval of the Imperial County Planning and Development Director that the restriction is no longer needed based on a change in the development or regulation.

(C) The Permittee shall construct and operate the solar energy and energy (battery) storage facility in compliance with the CUP, the County's General Plan's Land Use Element, Land Use Ordinance and all other applicable local, state, and federal LORS, to include any other permits which are incorporated herein by reference.

(D) Construction, operation, maintenance, replacement and removal of a solar energy facility & energy (battery) storage system shall be as described in Permittee's CUP Application and previously approved FEIR for the Vega SES 3 Solar Energy project (CUP #20-0022), to include photovoltaic (PV) modules, mounting structures, electrical wiring, inverters, transformers and alternating current (AC) electric collector system, project electric substation and ancillary facilities. Ancillary facilities include safety and security equipment, retention basins, perimeter fencing, access gates, lighting systems, access roads, and may include temporary construction trailers, equipment

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enclosures, water treatment system and building, septic system, parking, and fire protection. The Project's PV arrays shall be comprised of solar PV panels organized into electrical groups referred to as "blocks." The panels shall be oriented from east to west for maximum sun exposure and the foundation shall be designed based on soil conditions. The PV panels are made of a poly-crystalline silicon semiconductor material encapsulated in glass. Installation of the PV arrays includes installation of mounting posts, module rail assemblies, PV modules, inverters, transformers and buried electrical conductors. Concrete is required for the footings, foundations and pads for the transformers and substation work. Tracker foundations shall be comprised of either driven or vibrated steel posts/pipes, and/or concrete in some places (depending on soil and underground conditions).

(E) The Project's energy (battery) storage (BESS) component will be located on a concrete pad at the northeastern edge of the project site, unless final engineering design and/or IID requirements require a different location.

The BESS will consist banks of batteries and will be supported by a DC Combiner, control panel, and inverter/transformer skid. Each enclosure will include built-in fire suppression systems. The batteries will be lithium-ion based and capable of storing up to 120 MW in total (not to exceed 120 MW. These racks would be integrated into containers or be self-contained in engineered systems such as for example the Tesla Mega Pack. The Project design would meet minimum spacing required by code and manufacturers specifications.

S-2 AESTHETICS:

(A) The Permittee shall design and maintain all buildings and equipment enclosures to have exterior surfaces with neutral, non-reflective colors.

(B) The Permittee shall design and install lighting at construction storage yards and staging areas, such that light bulbs and reflectors are not visible from public viewing areas; lighting does not create reflected glare; and illumination of the Project facilities, vicinity, and nighttime sky is minimized.

(C) Lighting shall be designed so exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light source is shielded to minimize light trespass outside the Project boundary.

(D) All lighting shall be of minimum necessary brightness consistent with worker safety and OSHA requirements.

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(E) High illumination areas not occupied on a continuous basis shall have switches or motion detectors to light the area only when occupied.

S-3 AGRICULTURE:

MITIGATION FOR THE TEMPORARY CONVERSION OF PRIME FARMLAND, FARMLAND OF STATEWIDE IMPORTANCE AND LOCAL IMPORTANCE

Developer shall implement a Mitigation Measure for the loss of Farmland.

One of the following options included below shall be implemented prior to the issuance of a grading permit or building permit (whichever is issued first) for the proposed Project:

For Prime Farmland:

Option 1: The Permittee shall procure Agricultural Conservation Easements on a "2 to 1" basis on land of equal size, of equal quality farmland, outside of the path of development. The Conservation Easements shall meet the State Department of Conservation's regulations and shall be recorded prior to issuance of any grading or building permits; or

Option 2: The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 30 percent of the fair market value per acre for the total acres of the proposed site based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Imperial County Agricultural Commissioner's office and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County; or

Option 3: The Permittee and the County voluntarily enter into an enforceable Public Service Agreement that includes a Agricultural Mitigation payment that is consistent with Board Resolution 2012-05; or

Option 4: The Permittee shall revise their CUP Application/Site Plan to avoid Prime Farmland.

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For Non-Prime Farmland:

Option 1: The Permittee shall procure Agricultural Conservation Easements on a 1 to 1 basis on land of equal size, of equal quality of farmland, outside the path of development. The Conservation Easement shall meet the State Department of Conservation's regulations and shall be recorded prior to issuance of any grading or building permits; or

Option 2: The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 20% of the fair market value per acre for the total acres of proposed site based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Imperial County Agricultural Commissioner's office and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County; or

Option 3: The Permittee and the County voluntarily enter into an enforceable Public Service Agreement that includes a Agricultural Mitigation payment that is consistent with Board Resolution 2012-05; or

Option 4: The Permittee shall revise their CUP Application/Site Plan to avoid Non-Prime Farmland.

For Local Importance Farmland:

Option 1: The Permittee shall procure Agricultural Conservation Easements on a 1 to 1 basis on land of equal size, of equal quality of farmland, outside the path of development. The Conservation Easement shall meet the State Department of Conservation's regulations and shall be recorded prior to issuance of any grading or building permits; or

Option 2: The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 10% of the fair market value per acre for the total acres of proposed site based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust

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account administered by the Imperial County Agricultural Commissioner's office and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County; or

Option 3: The Permittee and the County voluntarily enter into an enforceable Public Service Agreement that includes a Agricultural Mitigation payment that is consistent with Board Resolution 2012-05; or

Option 4: The Permittee shall revise their CUP Application/Site Plan to avoid Local Importance Farmland.

(A) Permittee shall minimize paving and ground disturbing activities to the maximum extent practical within agricultural fields to retain soil characteristics.

(B) Pest Management Plan. Prior to the issuance of a grading permit or building permit (whichever occurs first), a Pest Management Plan shall be developed by the Permittee and approved by the County of Imperial Agriculture Commissioner. The Permittee shall maintain a Pest Management Plan until reclamation is complete. The Plan shall provide the following:

1. Monitoring, preventative, and management strategies for weed and pest control during construction activities at any portion of the project (e.g., transmission line);
2. Control and management of weeds and pests in areas temporarily disturbed during construction where native seed will aid in site revegetation as follows:

- Monitor for all pests including insects, vertebrates, weeds, and pathogens. Promptly control or eradicate pests when found, or when notified by the Agricultural Commissioner's office that a pest problem is present on the project site. The assistance of a licensed pest control advisor is recommended.
- All treatments must be performed by a qualified applicator or a licensed pest control operator;
- "Control" means to reduce the population of common pests below economically damaging levels, and includes attempts to exclude pests before infestation, and effective control methods after infestation. Effective control methods may include physical/mechanical removal, bio control, cultural control, or chemical treatments;
- Use of "permanent" soil sterilants to control weeds or other pests is prohibited because this would interfere with reclamation;
- Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of Food Agriculture and the U.S. Department of Agriculture. Request a sample be taken by the Agricultural Commissioner's Office of a suspected invasive species. Eradication of exotic pests shall be done under

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the direction of the Agricultural Commissioner's Office and/or California Department of Food and Agriculture.

S-4 AIR QUALITY:

(A) The Permittee shall comply at all times with the ICAPCD Regulation VIII, Fugitive Dust Control. Please use MMRP for guidance.

(B) Prior to commencing construction, the Permittee shall submit a Dust Control Plan to the ICAPCD for approval identifying all sources of PM_{10} emissions and associated mitigation measures during the construction and operational phases of the Project. The Project Proponent shall submit a "Construction Notification Form" to the ICAPCD ten (10) days prior to the commencement of any earthmoving activity. The Dust Control Plan submitted to the ICAPCD shall meet all applicable requirements for control of fugitive dust emissions, including the following measures designed to achieve the no greater than 20% opacity performance standard for dust control:

(1) All on-site and off-site unpaved roads shall be effectively stabilized, and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.

(2) All unpaved traffic areas one acre or more in size with seventy-five (75) or more average vehicle trips per day, shall be effectively stabilized, and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.

(3) The transport of bulk materials shall be completely covered, unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks shall be cleaned and/or washed at the delivery site after removal of bulk material.

(4) All track-out or carry-out, which includes bulk materials that adhere to the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto the pavement, shall be cleaned at the end of each workday, or immediately when mud or dirt extends a cumulative distance of fifty (50) linear feet or more onto a paved road within an urban area.

(5) Movement of bulk material handling or transfer shall be stabilized prior to handling, or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.

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(6) The construction of new unpaved roads is prohibited within any area with a population of five hundred (500) or more, unless the road meets ICAPCD's definition of a "temporary unpaved road." Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

(7) Shall comply with the MMRP's and its applicable mitigations.

(C) The Permittee shall implement all applicable standard mitigation measures for construction combustion equipment for the reduction of excess NOx emissions as contained in the Imperial County CEQA Air Quality Handbook and associated regulations. These measures include:

(1) Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment.

(2) Minimize idling time, either by shutting equipment off when not in use or reducing the time of idling to five minutes at a maximum.

(3) Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.

(4) Replace fossil-fueled equipment with electrically driven equivalents (assuming powered by a portable generator set and are available, cost effective, and capable of performing the task in an effective, timely manner).

(5) Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing construction activity during the peak hour of vehicular traffic on adjacent roadways.

(6) Implement activity management (e.g. rescheduling activities to avoid overlap of construction phases, which would reduce short-term impacts).

S-5 GEOLOGY/SOILS and MINERAL RESOURCES:

(A) Prior to approval of final engineering and grading plans for the Project, the County shall verify that all recommendations contained in the Geotechnical Report for this Solar Facility and have been incorporated into all final engineering and grading plans. The County's soil engineer and engineering geologist shall review grading plans prior to finalization to verify compliance with the recommendations of the report.

S-6 CULTURAL RESOURCES:

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(A) Compliance and Monitors shall insure all mitigations set forth in the MMRP are followed.

S-7 HEALTH, SAFETY AND HAZARDOUS MATERIAL/FIRE AND FUELS MANAGEMENT:

(A) All trash and debris within the Project site shall be disposed of off-site, in accordance with current, local, state, and federal disposal regulations. Compliance with this measure shall be verified by the Planning and Development Services Department.

(B) If it is determined that hazardous wastes are, or will be generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5).

(C) If it is determined that hazardous wastes will be generated, the Permittee should also obtain a United States Environmental Protection Agency, Identification Number by contacting (800) 618-6942. Certain hazardous waste treatment processes or hazardous material, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting the local CUPA.

(D) Firearms shall be prohibited in all Project areas except for those used by licensed security personnel.

(E) The recognized environmental concerns shall be cleaned up and properly disposed of in accordance with all federal, state and local regulations.

(F) Any hazardous materials storage areas shall be designed with curbs or other containment measures, e.g., double-walled storage tanks, to contain spills and leaks. If on-site hazardous materials exceed fifty-five (55) gallons, a "Hazardous Material Management Plan" shall be prepared and approved by the County Local Enforcement Agency (LEA) and the Imperial County CUPA. A copy of the approved plan shall be submitted to ICPDSD prior to the issuance of the grading/building permit (Source: Imperial County Renewable Energy Ordinance, Title 9, Division 17, § 91702.00).

(G) The Permittee shall present to the Department an Emergency Response/Action Plan that has been approved by the ICFD/OES Department, and the LEA and any other agencies with jurisdiction (Source: Imperial County Renewable Energy Ordinance, Title 9, Division 17, § 91702.00).

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The Emergency Response/Action Plan shall cover all possible foreseeable emergencies, e.g., major fluid spills, earthquakes, fires, floods or other emergencies. At all times, there shall be at least one employee either on the facility premises or on-call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility to coordinate all emergency response measures. This Emergency Coordinator shall be thoroughly familiar with all aspects of the Project's Emergency Response/Action Plan, all operations and activities at the facility, location of all records within the facility and the facility's layout. This Emergency Coordinator shall have the authority to commit the resources needed to carry out the contingency plan. Adequate personnel and equipment shall be available to respond to emergencies and to ensure compliance with the conditions of the Permit.

The Emergency Response/Action Plan shall be prepared in consultation with, but not be limited to, the ICFD/OES, County EHS/Health Department, County Sheriff/Coroner's office, County Department of Public Works, ICPDSD, and other appropriate state and county agencies. The plan shall include a notification list of response agencies which shall be notified immediately upon the discovery of a reportable unauthorized discharge and the list shall include:

- ICFD/OES;
- ICPDSD;
- County EHS/Health Department;
- County Department of Public Works; and
- California Highway Patrol, as applicable.

All employees shall be trained by classroom and hands-on training on safety procedures, maintenance programs and emergency response protocols to ensure safety and reliability in the event of an unforeseen emergency situation.

The Permittee shall provide adequate safety devices to protect against the hazard of fire and explosion for activities that involve the use and storage of flammable, explosive or highly corrosive or reactive materials as well as provide adequate firefighting and fire suppression equipment and using devices standard within the industry in compliance with all applicable state and local laws as determined by the ICFD/OES.
The Permittee shall implement all State and County-approved worker safety and fire protection plans and programs.

Any gates on-site shall have a "Knox" lock rapidly accessible by the ICFD/OES.

Appropriate first aid provisions for facility operations shall be made for emergency response during Project construction, operation, and

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maintenance activities with appropriate first aid training for Project employees.

During construction, a member of each working crew shall be trained in basic first aid and supplied with necessary medical equipment to respond to emergencies as provided for in the Emergency Response/Action Plan required above.

Permittee shall identify a responsible agent for emergency purposes, whose name, title, e-mail address and telephone number shall be provided to the County Department of Public Works, ICFD/OES, County Environmental Health Services/Health Department, County Sheriff/Coroner's office, IID, and ICPDSD.

S-8 HYDROLOGY AND WATER QUALITY:

Adhere to measures set forth in the MMRP.

S-9 BIOLOGICAL RESOURCES:

Adhere to all Biological measures in the MMRP

S-10 PUBLIC SERVICES:

(A) The Permittee shall widely publicize to County residents the availability of job opportunities associated with the Project (whether or not those job opportunities are within Imperial County or are regional). Postings at City Halls, newspaper and television advertisements, local job centers, and dedicated website shall offer sufficient avenues of communication. The Imperial County Office of Employment and Training in addition to the Imperial Valley College presents viable sources for community awareness. The information shall provide available positions, details of positions including qualifications, number of openings, indicated the anticipated start date for each, and application process. In order to maintain oversight of the process, the application process can be completed both on a dedicated website and at dedicated computers at the County which would afford those without Internet connection the ability to apply. The Permittee's information shall be forwarded to the Permittee or their contractor and copies of applications files are maintained at the County.

(B) During the development phase of the Project, the Permittee shall provide a roster of employees to include their position and place of residence.

(C) Unless prohibited by local, state or federal law or regulation, Permittee shall make good faith efforts to hire qualified residents of the Imperial County with the objective that a majority of the total work force is comprised of the Imperial County residents.

(D) The Permittee shall install and implement security measures which may include, but not limited to, secured perimeter fencing with barbed wire, sensors, controlled

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access points, security alarms, security camera systems, and security guard vehicle patrols to deter trespass or unauthorized activities that would interfere with operation of the Project.

(E) Permittee shall compensate the County pursuant to the Department of Environmental Health Fee Schedule for any costs of calls related to bees and mosquitoes.

(F) The Permittee shall reimburse the Sheriff's Department for any investigations regarding theft on the Project site and related law enforcement.

(G) All construction supervisors and foremen shall be provided with communication devices, cell phones or walkie-talkies, in the event of an emergency situation on-site.

(H) All construction-related activities shall take place within the development footprint of the Project as defined by the final engineering plans. The anticipated impact areas, including staging areas, equipment access, and disposal or temporary placement of spoils, shall be delineated with staking and/or orange construction fencing prior to construction to avoid natural resources where possible. No construction-related activities shall occur outside of the designated impact area. All construction materials, staging, storage, dispensing, fueling, and maintenance activities shall be designated on construction maps and shall be situated a minimum of fifty (50) feet from all drainages. Staging and temporary access shall occur on existing roadways whenever possible.

(I) **Emergency Operations Plan** - The Applicant shall develop an Emergency Operation Plan in conjunction with local fire service personnel and the AHJ and hold a comprehensive understanding of the hazards associated with lithium-ion battery technology. Lithium-ion battery energy storage systems must incorporate adequate explosion prevention protection as required in NFPA 855 or International Fire Code Chapter 12, where applicable.

(J) **Signage** - The Applicant shall provide signage that identifies the contents of an energy storage system on all energy storage system installations to alert first responders to the potential hazards associated with the installation.

S-11 TRANSPORATION AND TRAFFIC:

A. Permittee shall prepare and submit a Construction Traffic Control Plan to Imperial County Department of Public Works-Development Review and Caltrans District 11, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues:

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1. Timing of deliveries of heavy equipment and building materials;
2. Directing construction traffic with a flag person;
3. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;
4. Ensuring access for emergency vehicles to the Project site;
5. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
6. Maintaining access to adjacent property;
7. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hours, distributing construction traffic flow across alternative routes to access the Project site, and avoiding residential neighborhoods to the maximum extent feasible.

B. Permittee shall Institute construction work hours as necessary, such that the arrival and/or departure times of workers would be staggered as necessary.

C. Permittee shall identify vehicle safety procedure for entering and exiting site access roads.

D. Permittee shall submit documentation that identifies the roads to be used during construction.

E. The Permittee shall be responsible for repairing any damage to non-County maintained roads that may result from construction activities. The Permittee shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Imperial County Department of Public Works Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to the County. This information shall be submitted in electronic format. The County, in consultation with the Permittee's engineer, shall determine the extent of remediation required, if any.

S-12 COMMENCEMENT OF WORK:

(A) If the Project has not commenced, or permits for the Project have not been issued, within one (1) year from approval date this CUP shall be null and void. If this CUP has been unused, abandoned, discontinued, or ceased for one (1) year, it shall be null and void and of no effect.

(B) If Permittee cannot initiate or obtain permits for the approved use during the one (1) year period following approve of this CUP, Permittee may request a one (1) year extension from the ICPDSD. The request for an extension shall be in writing and be submitted with explanation to the

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ICPDSD at least sixty (60) days prior to the end of the one (1) year period. The Director shall have the authority to extend the initial startup period of a CUP two times for a maximum of one (1) year each. No extension under this section shall be extended for more than two (2) years.

S-13 CONSTRUCTION STANDARDS:

(A) The solar energy and energy (battery) storage facility structures shall be built in accordance with the California Building Code requirements applicable to "Seismic Category D". All structures and facilities shall be designed in accordance with the publication entitled "Recommended Lateral Force Requirements and Commentary by the Structural Engineers Association of California". The structural components of the permitted facilities shall be reviewed by the Building Official/Planning and Development Services Director. Applicable building permits shall be procured from the County for facilities prior to commencement of construction of such facilities.

S-14 LAND USE IMPROVEMENTS:

(A) The Permittee shall prepare an appropriate parking plan for review and approval by the ICPDSD and County Public Works Department for any and/or all proposed Operation & Maintenance buildings.

(B) The Permittee shall surface with a material of higher quality all access drives, parking areas, and vehicular maneuvering areas from primary access to any constructed operation and maintenance buildings.

S-15 NOISE STANDARDS:

(A) During the construction period, heavy truck traffic shall be limited to the hours between 6:00 AM and 7:00 PM.

(B) During construction, in accordance with Imperial County Noise Element of the General Plan, the noise level shall not exceed 75 dBA_{Leq} at the property boundary when averaged over an 8-hour period.

(C) During operation of the facility, the maximum permitted continuous sound level shall be not more than 45 dBA_{Leq}, as measured at the nearest residence using the "A" scale and measured with a sound level meter and associated octave band analyzer. The level may be exceeded by ten percent (10%) if the noise is intermittent and during daylight hours.

(D) Haul trucks and other engine-powered equipment shall be muffled and operated with engine exhaust brake use limited to emergencies.

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S-16 ODOR CONTROL:

The Permittee shall control all odor-causing, harmful, noxious emissions to ensure that quantities or air contaminants released as a result of the permitted facilities do not exceed County, State or Federal standards, nor constitute a public nuisance, per the Imperial County Land Use Ordinance, Division 13, Enforcement, Chapter 2, Abatement of Nuisances, Sections 91302.00 through 91301.02.

S-17 PLAN APPROVALS:

Permittee shall submit to the ICPDSD, architectural, landscaping and lighting plans prior to construction of those facilities, to include painting of structures, planting of trees and/or vegetation, and shall receive all approvals prior to commencing construction of the applicable permitted facilities. Approval shall not be unreasonably withheld so long as the plans are consistent with applicable Imperial County Land Use Ordinance requirements.

S-18 PROJECT DESIGN:

(A) All facility access and parking areas shall be constructed to the standards of the Imperial County Land Use Ordinance.

(B) All permitted activities shall provide for the minimum feasible surface land disturbance for compatibility with the existing uses wherever possible.

(C) All equipment and electrical interconnection facilities used at the solar plant facilities shall be maintained in a manner that prevents breaking, cracking, and leaking, e.g. operator staffing and training, including appropriate quality assurance procedures, with the operation of back-up or auxiliary facilities when necessary.

(D) All on-site basins shall be designed and constructed under the supervision of a California-licensed Civil Engineer meeting sound engineering standards, with all applicable regulations and all requirements of the County EHS/Health Department and Public Works Departments are complied with.

(E) Permittee shall obtain encroachment permits for any construction or operation on IID existing rights of way or easements.

S-19 REPORTING AND MONITORING:

(A) The Permittee shall furnish to the County, at its sole cost within a reasonable time, any relevant reports/information which the County requires for monitoring purposes to determine whether cause exists for revoking this Permit, or to determine compliance with this Permit. The

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Permittee shall submit all required reports to the Planning Director, County Planning and Development Services Department, 801 Main Street, El Centro, CA 92243.

(B) Permittee and ICPDSD Director shall agree upon an environmental consultant for overseeing all the required mitigation, conditional use Permit conditions and public benefit agreement (if any) requirements during the construction of the Project.

(C) Permittee shall pay for third-party environmental consultant monitoring and compliance.

(D) The ICPDSD, in consultation with the third-party Environmental Consultant and the County Executive Office, will require that all mitigation measures be satisfied, all MMRP requirements have been satisfied, all Conditions of Approval in the CUP are in full compliance and all conditions of the Development Agreement (if any) have been satisfied before the Final Certificate of Occupancy Certificate is issued.

(E) During the operation of solar facility, an Annual Compliance Report shall be submitted to the ICPDS, documenting the implementation of the conditions and general measures as well as any resource-specific measures.

(F) The Permittee shall reimburse the ICPDS for County as well as monitoring and investigations related to the construction and operation of the Project. Permittee shall compensate the County pursuant to the ICPDSD Fee Schedule for any costs incurred.

(G) Permittee shall pay for all costs as required to comply with the Conditions of Approval and MMRP.

(H) All County staff time will be billed on a time and materials basis. Failure by Permittee to provide any payment required of Permittee to the County in the CUP shall cause Permittee to be in non-compliance of the CUP. Upon notice of such noncompliance, County may, at its sole discretion, cease processing, defending any lawsuit or paying for costs associated with the Project.

S-20 SPILLS AND RUNOFF:

The Permittee shall design and construct the permitted facilities to prevent spills from endangering adjacent properties and to prevent runoff from any source being channeled or directed in an unnatural way so as to cause erosion, siltation, or other detriments pursuant to the construction Storm Water Pollution Prevention Plan approved by the Regional Water Quality Control Board.

S-21 FACILITIES CLOSURE AND SITE RESTORATION:

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(A) Permittee shall implement the site restoration plan at the earlier of when the operation of the permitted facilities herein authorized has ceased or the term of the CUP has expired. At such time, all facilities shall be dismantled, and the lands involved restored to their pre-construction condition and available for agricultural production uses as agreed to by the Imperial County Planning and Development Services Director.

(B) Prior to the issuance of a grading Permit, a decommissioning and restoration plan (the Reclamation Plan) shall be submitted and approved by the Imperial County Planning and Development Services Director. The Reclamation Plan shall documents the procedures by which the Project site will be returned to its current conditions.

(C) Within thirty (30) days prior to ground disturbance, a Bond, or other acceptable surety, in the amount of the estimated site restoration financial calculations/bond, for the developed project area, or other forms of security acceptable to County Counsel's office, shall be filed with the County that guarantees restoration of the land to its condition prior to the permitted solar plant development.

(D) Upon completion of such site restoration, and demonstration that the land has been restored to the agriculturally productive/farmable condition prior to the permitted solar plant development the Bond or other surety shall be released by the County.

(E) The above financial calculations/bond shall be reviewed every five (5) years in December and adjusted on January 1st to add a Consumer Price Index (CPI) (Los Angeles) increase by the Planning and Development Services Director. This readjustment can be made in the County's sole discretion and must be funded by the Permittee within ninety (90) calendars after notice of the additional amount of such adjustment.

S-22 PUBLIC WORKS:

1. The Applicant shall acquire proper easements from adjacent property owners for the installation of any proposed transmission lines.

2. All survey monuments, including those within the interior of the project, shall be protected, and their locations shall remain accessible to any surveyor throughout the duration of the project. Section 8774 of the Business and Professions Code, and Section 846.5 of the Civil Code, each provide the right of entry to utilize boundary evidence and perform surveys, without undue delay, to any person authorized to practice land surveying. The right of entry is not contingent upon prior notice.

3. The Applicant shall furnish a Drainage and Grading Plan/Study to provide for property grading and drainage control, which shall also include prevention of

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sedimentation of damage to off-site properties. The Study/Plan shall be submitted to the Department of Public Works for review and approval. The applicant shall implement the approved plan. Employment of the appropriate Best Management Practices (BMP's) shall be included (Per Imperial County Code of Ordinances, Chapter 12.10.020 B).

4. Based from the information provided on the project documents, it is assumed that County roads will not be used for site access during or after construction activities have been completed. In the event that County roads are required for site access, the Applicant shall consult with this Department in advance for review and approval.

   Access to sites shall be completed from public roads.

5. Any unimproved access roads/routes between public roads and access gates shall be improved for all-weather access. Such all-weather improvements shall be completed as recommended by a Geotechnical Engineer licensed to practice in the State of California.

6. Each site shall have, as a minimum, one (1) primary Class 2 Base aggregate material driveway and one (1) emergency access Class 2 Base aggregate material driveway, if they are tied to a County Road only.

7. Access to project sites during and after construction is expected to be completed through private unpaved roads or private property.

The Applicant shall mitigate generation of dust caused by construction traffic as per Rule 805 – Paved and Unpaved Roads of the Imperial County Air Pollution Control District.

- All solid and hazardous waste shall be disposed of in approved solid waste disposal sites in accordance with existing County, State and Federal regulations (Per Imperial County Code of Ordinances, Chapter 8.72).

- All on-site traffic areas shall be hard surfaced to provide all weather access for emergency vehicles. The surfacing shall meet the Department of Public Works and Fire/Office of Emergency Services (EOS) Standards as well as those of the Air Pollution Control District (APCD).

- The project may require a National Pollutant Discharge Elimination System (NPDES) permit and Notice of Intent (NOI) from the Regional Water Quality Control Board (RWQCB) prior to County approval of onsite grading plan (40 CFR 122.28).

- A Transportation Permit may be required from road agency(s) having jurisdiction over the haul route(s) for any hauls of heavy equipment and/or large vehicles which impose greater than legal loads on riding surfaces, including bridges. (Per Imperial County Code of Ordinances, Chapter 10.12 - OVERWEIGHT VEHICLES AND LOADS).

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- Effective September 15, 2020, the State's Mandatory Organic Waste Recycling Law (AB 1826 or Chapter 727, Statutes of 2014) decreased the threshold requiring all businesses and multi-dwelling facilitates of 5 units or more generating two (2) cubic yards or more of solid waste per week to recycle their organic waste including landscape waste, wood waste, and food waste. Information about possible organics waste recycling services can be found at the CalRecycle site at: https://www.calrecycle.ca.gov/Recycle/Commercial/Organics/

S-23 WASTE DISPOSAL

(A) The Permittee shall insure that all solar plant facilities waste, liquid, gas or solid, which are generated on-site shall be disposed of in compliance with appropriate local, state, and federal regulations, in effect or as subsequently duly-enacted. All solid waste debris and/or any hazardous wastes located on the Project site must be satisfactorily removed to a permitted facility prior to the commencement of grading earthen material at the site.

(B) Littering shall not be allowed. Project personnel shall not deposit or leave any food or waste in the Project area, and no biodegradable or non-biodegradable debris shall remain in the right-of-way or on the Project site following completion of construction.

S-24 CALTRANS:

(A) An encroachment permit shall be required for any work performed within any Caltrans right-of-way. If required, any traffic control will need to be addressed as part of Caltrans permit approval in accordance with the Caltrans Standard Plans and the California Manual on Uniform Traffic Control Devices (MUTCD).

(B) Any application for a permit for work performed within a Caltrans right-of-way must include an approved final environmental document including the California Environmental Quality Act (CEQA) determination addressing any environmental impacts within the Caltrans right-of-way and any corresponding technical studies, if required. If these materials are not included with the encroachment permit application, the Permittee will be required to acquire and provide these to Caltrans before the permit application will be accepted. Identification of avoidance and/or mitigation measures will be a condition of encroachment permit approval as well as procurement of any necessary regulatory and resource agency permits.

(C) Any work performed within Caltrans' Right of Way (R/W) will require discretionary review and approval by Caltrans. As part of the encroachment permit process, the applicant must provide an approved

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final environmental document, corresponding technical studies, and necessary regulatory and resource agency permits, specifically, any CEQA determinations or exemptions.

S-25 IID Condition requirements

(A) The Project may impact IID drains with project site runoff flows draining into IID drains. To mitigate impacts, IID may require a comprehensive IID hydraulic drainage system analysis. IID's hydraulic drainage system analysis includes an associated drain impact fee.

(B) An IID encroachment permit is necessary to utilize existing surface-water drainpipe connections to drains and receive drainage service from IID. Surface-water drainpipe connections are to be modified in accordance with IID standards. A construction storm-water permit from the California Regional Water Quality Control Board is required before commencing construction and an industrial storm water permit from CRWQCB is needed for the operation of the proposed facility. Copies of these permits as well as the project's Storm Water Pollution Prevention Plan are to be submitted to IID.

S-26 FIRE PROTECTION:

Energy storage facilities create extreme hazards for firefighters and emergency responders with possibility of explosions, flammable gases, toxic fumes, water-reactive materials, electrical shock, corrosives, chemical burns. The hazards listed can create a potential significant impact on Imperial County Fire Department due personnel staffing to safely perform firefighting operations and Hazardous Material Response for a utility-scale energy storage facility. The location of the project will lead to longer response times. These longer response times can create incidents that can create difficulties in incident stabilization; therefor requiring additional personnel to safety manage the incident. Utility-scale energy storage will require specialized and reliable equipment to perform firefighting operations safely and effectively to NFPA, OSHA and ICFD standards and requirements.
Standards and requirements for energy storage system includes but not limited to:
NFPA:

1 Fire Code
70 National Electrical Code
855 Standard for the installation of Energy Storage System
111 Stored Electrical Energy Emergency and Standby Power System
1710 Standard for Organization and Deployment of Fire Suppression Operations, Emergency Medial Operations, and Special Operations to the Public by Career Fire Departments.

OSHA:

29 CFR 1910.134(g)(4)

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CFC:

Chapter 12 section 1206 Electrical Energy Storage System
Chapter 9 Fire Protection and Life Safety System.

1) Vega Solar Energy and Storage Project reviews for plans and inspections will be done by a third-party consultant determined by the Fire Department at the applicant's expense as per California Fire Code Chapter 1 [A] 104.7.2 Technical Assistance. This will be at the discretion of the Fire Department.

2) Project will provide adequate Fire water. Fire Department will determine number of gallons to be placed strategically once site plan is reviewed.

3) Signage that identifies the contents of an ESS is required on all ESS installations to alert first responders to the potential hazards associated with the installation.

4) An approved water supply capable of supplying the required fire flow determined by appendix B in the California Fire Code shall be installed and maintained. Private fire service mains and appurtenance shall be installed in accordance with NFPA 24.

5) An approved automatic fire suppression system shall be installed on all structures as per the California Fire Code. All fire suppression systems will be installed and maintained to the current adapted fire code and regulations.

6) An approved automatic fire detection system shall be installed on all structures as per the California Fire Code. All fire detection systems will be installed and maintained to the current adapted fire code and regulations.

7) Fire department access roads and gates will be in accordance with the current adapted fire code and the facility will maintain a Knox Box for access on site.

8) Compliance with all required sections of the fire code.

9) Applicant shall provide product containment areas(s) for both product and water run-off in case of fire applications and retained for removal.

10) All hazardous material and wastes shall be handled, store, and disposed as per the approved Hazardous Waste Materials Plan. All spills shall be documented and reported to Imperial County Fire Department and CUPA as required by the Hazardous Waste Material Plan.

S-27 COUNTY EXECUTIVE OFFICE:

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1. Fiscal and Economic Impact Analysis. The Permittee will be invoiced by the Executive Office for expenses related to the procurement of a consultant to produce a Fiscal and Economic Impact Analysis (FEIA) and will be responsible for the cost of any subsequent updates as a result of modifications to the data and project by the developer.

2. Public Service Agreement ("Agreement" or "PSA"). Pursuant to the Guidelines for the Public Service Program for Solar Power Plants in Imperial County amended and adopted by the Board of Supervisors on May 9, 2023, PSA will be entered into by and between the County of Imperial and Developer to provide for a concerted and coordinated effort to maximize the benefits of the Project to the County of Imperial community.

Sales Tax Benefit Solar Farm:

(a) Developer will require that all qualifying contractors and subcontractors exercise their option to obtain a California Department of Tax and Fee Administration (CDTFA) sub-permit for the jobsite and allocate all eligible use tax payments to Imperial County and LTA. Prior to commencement of any construction activity on-site the developer will require that the contractor or subcontractor provide County of Imperial with either a copy of their CDTFA account number and sub-permit.

(b) To accomplish this, Permittee shall either cause its construction contractor to treat the project in accordance with California Regulation 1521(b)(2)(B), California Regulation 1521(c)(13)(B), and California Regulation 1826(b) for sales and use tax purposes or form a "Buying Company" as defined in the CDTFA 1699(h). Permittee can adopt an alternate methodology to accomplish this goal if such methodology is approved by the County Executive Officer prior to issuance of building permits. Not later than forty five (45) days after the due date for filing sales and use tax returns for each calendar quarter, occurring after the commencement of any construction activity on-site through and including the first anniversary of COD (as defined below),

(c) Developer shall report, or cause its general contractor to report to County, the total amount of sales and use taxes related to the Project that are allocated to the County, and reported on Developer's, general contractor's, and subcontractors' applicable California sales and use tax returns. The obligations of Developer under this Section III.A are hereinafter referred to as the "Developer Sales and Use Tax Responsibilities."

(d) Guarantee Amounts. In the event that Developer shall fail to perform the Developer Sales and Use Tax Responsibilities and as a result of such failure, with respect to the Project, (i) County receives less than the amount of such sales and use taxes it would have received under existing applicable sales and use tax laws had such responsibilities been fully performed subject to adjustment as set forth in Section IV.C below) or (ii) Local Transportation Authority (LTA) receives less than the amount of such sales and use taxes it would have received under existing applicable sales and use tax laws had such responsibilities been fully-performed, then

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Developer shall pay, as and when provided below, to County or LTA as applicable, the amount of the applicable shortfall.

(e) Adjustments to Guarantee Amounts.

(f) Developer's sales tax guarantee set out in Section III.B above shall be adjusted to be eighty-five percent (85%) of the projected sales and use taxes for the Project. At least ten (10) days prior to the issuance of the first (1st) grading permit, Developer shall provide County with evidence of such projected sales and use taxes, including but not limited to sales taxes receipts, engineering contracts, procurement contracts, construction contracts. County shall meet with Developer to confirm that amount.

(g) The amount of sales and use tax anticipated to be generated is based on the projected construction of a sixty megawatt alternating current 60 MW AC solar generation facility. Construction of any additional output capacity beyond the 60 MW output now projected will require the sales tax guarantee be adjusted based on the actual output from solar generation facilities of the Project as evidenced by any Power Purchase Agreement subsequently entered into by Developer related to this Project.

(h) To the extent of any reduction in the size of the Project as the result of any final ruling, stipulated judgment, or settlement, in accordance with Section V.C below, the not-to-exceed amounts set forth in Section III.B shall be reduced pro rata based on the size of such reduction.

(i) The complete amount due to County for the Project must be received within one (1) year after Commercial Operation Date ("COD") for this Project. If, within one (1) year after issuance of the final Certificate of Occupancy, the sales and use taxes received by the County are less than the amount guaranteed for that portion of the project, Developer shall pay the difference to the County.

(j) Payments to County and LTA as a result of a shortfall shall be due within thirty days of Developer's receipt of written notice of shortfall from the County. Payments received by County after the ninetieth (90th) day following Developer's receipt of notice shall be deemed late. Developer hereby agrees to pay interest at the rate of six percent (6%) per annum of the payment due for any payment received by County beyond the due date. Said interest shall be included with the late payment. The obligation to pay interest shall be stayed when such amounts are disputed in good faith, so long as Developer submits the payments "under written protest." Upon determination of dispute, such interest may be assessed if it is determined that the dispute was not made in good faith.

(k) In the event that Developer repowers or replaces the equipment onsite, each Site shall be designated as the "Point of Sale" so as to create an additional local tax-funding source for the County of Imperial.

Battery Storage Sales Tax Benefit

1.1.1. To the extent permitted by applicable local, state, and Federal law, Developer will require that all qualifying contractors and subcontractors exercise their option to obtain a California Department of Tax and Fee Administration ("CDTFA") sub-permit for the jobsite and allocate all

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eligible sales and use tax payments to County and the Local Transit Authority ("LTA").

1.1.2. Prior to commencement of any construction activity onsite exclusive of grading, , Developer shall require that the contractor or subcontractor provide County with a copy of their CDTFA account number and sub-permit. Developer shall either cause its construction contractor to treat the Project in accordance with California Sales and Use Tax Regulation 1521(b)(2)(B), California Sales and Use Tax Regulation 1521(c)(13)(B), and California Sales and Use Tax Regulation 1826(b) for sales and use tax purposes, or form a "Buying Company," as defined in the California Sales and Use Tax Regulation 1699(h). Developer may adopt an alternate methodology to accomplish this goal if such methodology is approved by the County's Executive Officer prior to issuance of any building permit.

1.1.3. No later than forty-five (45) days after the due date for filing sales and use tax returns for each calendar quarter, occurring after the commencement of any construction activity on-site through and including the first anniversary of commercial operating date ("COD"), Developer shall report, or cause its general contractor to report to County, the total amount of sales and use taxes related to the Project that are allocated to the County, and reported on Developer's, general contractor's and subcontractors' applicable California sales and use tax returns.

1.1.4. *Guarantee Amounts*. Prior to the issuance of any building permit for the Project, Developer shall provide County with a guarantee of the minimum sales and use that will be received by County and LTA under existing applicable sales and use tax laws. The guarantee amount shall be based on the total storage capacity of the Project in megawatts, which is projected to be one hundred twenty megawatts (120 Mws) Should Developer choose to develop the Project in phases, and receives the required approvals from County to do so, then Developer shall provide a separate guarantee amount for each phase of the project based on the total storage capacity in megawatts for the applicable phase.

(a) Developer warrants that the sales/use tax guarantee amounts to be provided to County as mandated in this Subparagraph 9.2.4 shall be true and accurate estimates of the projected sales and use taxes that will be generated for this Project. Developer shall provide County with evidence of the projected sales/use taxes for the Project, including but not limited to sales tax receipts, and executed or anticipated engineering contracts, procurement contracts, and construction contracts. If the Parties are unable to agree upon a guarantee amount, then the dispute shall be referred to an independent accountant mutually acceptable to both Parties. The costs for such nonbinding mediation shall be borne by Developer.

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(b) Developer warrants that the sales/use tax guarantee amounts to be provided to County as mandated in this Subparagraph 9.2.4 will incorporate any and all sales/use tax exemptions that Developer and/or its contractors and subcontractors intend to utilize, and that such exemptions will be disclosed to County fully and in good faith prior to the issuance of any building permit for this Project.

(c) Developer understands and acknowledges that the sales/use tax guarantee amounts to be provided to County as mandated by this Subparagraph 9.2.4 are a part of the consideration to be received by County in return for entering into this Agreement, and further understands and acknowledges that County would not enter into this Agreement but for said guarantee from Developer.

1.1.5. In the event that County and / or LTA receives less than the amount of sales/use taxes guaranteed pursuant to Subparagraph 9.2.4, then Developer shall pay, as and when provided below, to County or LTA as applicable, the amount of the applicable shortfall.

1.1.6. *Adjustments to Guarantee Amounts.*

(a) The amount of sales and use tax anticipated to be generated is based on the projected construction of a 120 MW utility-scale energy storage complex incorporating lithium ion batteries and/or flow battery technologies throughout the Project site. Construction of any additional storage capacity beyond the 120 MW storage capacity now projected will require the sales/use tax guarantee amounts to be adjusted based on the actual storage facilities of the Project as evidenced by any power purchase agreement or power storage agreement subsequently entered into by Developer related to this Project.

(b) To the extent of any reduction in the size of the Project as the result of any final ruling, stipulated judgment, or settlement, the sales/use tax guarantee amounts mandated under Subparagraph 9.2.4 shall be reduced pro rata based on the size of such reduction.

(c) Should Developer become of aware of a change in circumstances that would materially affect the sales/use tax guarantee amount, then Developer shall, within thirty (30) days of learning of such change in circumstances, inform the County in writing of the change in circumstances. If the County determines that such change in circumstances warrants an adjustment to the sales/use tax guarantee amount, then County shall negotiate in good faith with Developer in revising the sales/use tax guarantee amount. If the Parties are unable to agree upon a revised guarantee amount, then the dispute shall be referred to an independent accountant mutually acceptable to both Parties. The costs for such nonbinding mediation shall be borne by Developer. Failure of the Developer to inform the County of the change in circumstances shall constitute a waiver of Developer's ability to seek any adjustment to the sales/use tax guarantee based on such change in circumstances.

1.1.7. The complete sales/use tax guarantee amount due to County and LTA for the Project must be received within one (1) year after COD for this Project, or such later date as any applicable sales/use tax is due or is transmitted from the CDTFA, unless it is delayed due to causes beyond

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Developer's control or for which Developer is not responsible. If, within one (1) year after issuance of the final certificate of occupancy, or such later date as any applicable sales/use tax is due or is transmitted from the CDTFA, the sales/use taxes received by the County are less than the sales use tax guarantee amounts mandated under Subparagraph 9.2.4, then Developer shall pay the difference to the County.

1.1.8. Payments to County and LTA as a result of a shortfall shall be due within thirty days of Developer's receipt of written notice of shortfall from the County. Payments received by County after the ninetieth (90th) day following Developer's receipt of notice shall be deemed late. Developer hereby agrees to pay interest at the rate of six percent (6%) per annum of the payment due for any payment received by County beyond the due date. Said interest shall be included with the late payment. The obligation to pay interest shall be stayed when such amounts are disputed in good faith, so long as Developer submits the payments "under written protest." Upon determination of dispute, such interest may be assessed if it is determined that the dispute was not made in good faith.

In the event that Developer repowers or replaces the equipment onsite, each Site shall be designated as the "Point of Sale" so as to create an additional local tax-funding source for the County of Imperial.

S-28 Additional Conditions

1. Because oversize vehicles may utilize this facility (i.e., SR 111), as a condition of the Conditional Use Permit, the project applicant will be required to obtain all applicable Caltrans permits required for construction of the project, including special transportation permits (if applicable) for oversize construction vehicles.
2. As a condition of the Conditional Use Permit, the applicant will be required to prepare and submit for approval a traffic management plan to Caltrans as specified in this comment.
3. As currently proposed, the project would not require an encroachment permit as no work or improvements are proposed within Caltrans right-of-way. However, as a condition of the Conditional Use Permit, the applicant will be required to obtain necessary permits from Caltrans. This includes encroachment permits if applicable.
4. **Coachella Valley Water District** – Review for requirements on elevated concrete foundations and appropriate spacing shall be evaluated, including with respect to existing training dikes and addressed as part of the final site plan engineering design.
5. **Bureau of Reclamation.** modifications to training dikes will require appropriate authorization from Bureau of Reclamation.

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6. Condition of approval that the County and Developer will coordinate with the U.S. Marine Corps to notify them of the project development and to determine any potential impacts to their operations, if any.

S-29 ACCEPTANCE:

Acceptance of this permit shall be deemed to constitute agreement by Permittee with all terms and conditions herein contained.

The rest of this page is intentionally left blank.

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NOW THEREFORE, County hereby issues the Conditional Use Permit #20-0022, and Permittee hereby accepts such permit upon the terms and conditions set forth herein.

IN WITNESS THEREOF, the parties hereto have executed this Agreement the day and year first written.

PERMITTEE:

_____ _____

Date

COUNTY OF IMPERIAL, a political subdivision of the STATE OF CALIFORNIA

_____ _____

Jim Minnick, Director, Planning & Development Services Department

Date

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PERMITTEE NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA

COUNTY OF _____} S.S.

On_____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document._____

Title or Type of Document_____
Number of Pages_____ Date of Document_____
Signer(s) Other Than Named Above_____

Dated_____

PC ORIGINAL PKG

COUNTY NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF IMPERIAL} S.S.

On_____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document.

Title or Type of Document_____
Number of Pages_____ Date of Document_____
Signer(s) Other Than Named Above_____

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RESOLUTION NO.

A RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF IMPERIAL, CALIFORNIA, RECOMMENDING APPROVAL TO THE BOARD OF SUPERVISORS FOR " VEGA SES 5 SOLAR ENERGY STORAGE PROJECT" FOR CONDITIONAL USE PERMIT #20-0023"

WHEREAS, APEX ENERGY SOLUTIONS, LLC has submitted an application for Conditional Use Permit (CUP) #20-0023 to develop a nominal 50-megawatt (MW) solar photovoltaic (PV) energy generation project with an integrated battery storage system not to exceed 100 MW. The project includes solar energy generation facility, battery storage system, switching station and gen-tie line. The project is to be located on approximately 250 acres; and,

WHEREAS, an Environmental Impact Report and CEQA Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State Guidelines, and the County's "Rules and Regulations to Implement CEQA," as Amended; and,

WHEREAS, the Planning Commission of the County of Imperial has been delegated with the responsibility of approvals, certifications and making recommendations to the Imperial County Board of Supervisors for approvals of conditional use permits; and,

WHEREAS, public notice of said application has been given, and the Planning Commission has heard, received and considered all oral and written protests, objections and evidence presented by interested parties at a public hearing held with respect to this item on August 23, 2023; and,

WHEREAS, the Draft EIR was received by the State Clearinghouse on December 14, 2022 and circulated for a period of 50 days (**SCH #2021050013**) with the commenting period ending February 2, 2023; and,

NOW, THEREFORE, the Planning Commission of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Planning Commission has considered the proposed Conditional Use Permit #20-0023 prior to recommending approval and the County's consideration of the Project has been noticed in compliance with law.

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SECTION 2. That the Project complies with the requirements of the Imperial County Code and is in accordance with State Planning and Zoning law therefore, the following findings are made pursuant to Imperial County Code § 90203.09 as follows:

A. The proposed use is consistent with goals and policies of the adopted County General Plan. (Imperial County Code § 90203.09.A)

The current General Plan land use designations of the project site and proposed parcels are "Recreation/Open Space" and proposed project parcels are within the Renewable Energy Overlay (RE). Therefore, the proposed uses could be found consistent with the General Plan.

B. The proposed use is consistent with the purpose of the zone or sub-zone within which the use will be used. (Imperial County Code § 90203.09.B)

The proposed project parcels are zoned S-2-RE, A-2 & A-3 RE. (Open Space Preservation & General and Heavy Agriculture) with Renewable Energy Overlay). The proposed uses are consistent with the zone since they are listed as allowed uses under the S-2, A-2 & A-3 RE zones with requirements for an approved Conditional Use Permit.

C. The proposed use is listed as a use within the zone or sub-zone or is found to be similar to a listed conditional use according to the procedures of Section 90203.00. (Imperial County Code § 90203.09.C)

The proposed use is consistent with the zone: S-2-RE Open Space Preservation with Renewable Energy Overlay).

D. The proposed use meets the minimum requirements of this Title applicable to the use and complies with all applicable laws, ordinances and regulation of the County of Imperial and the State of California. (Imperial County Code § 90203.09.D)

The Project complies with the minimum requirements of this Title by, among other things, obtaining a CUP, complying with the California Environmental Quality Act, and participating in the public review and hearing process. Development standards have been established for the Project pursuant to these processes, and will be enforced via imposition and enforcement of the Mitigation Monitoring and Reporting Program recommended for approval by separate Resolution, as well as the conditions of approval imposed on this CUP. The Conditions of Approval will

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further insure that the project complies with all applicable regulations of the County of Imperial and the State of California. Therefore, the proposed project meets the minimum requirements of the Land Use Ordinance, Section 90203.00.

E. The proposed use will not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity. (Imperial County Code § 90203.09.E)

The Environmental Impact Report (EIR) prepared for the Project analyzed the Project's potential effects on the health, safety, and welfare of the public and property and found that, with mitigation, the Project would have less than significant effects and impacts in all resources areas.

In addition, the project site is not near a residential community and is mostly surrounded by farmland and or open space/recreational land.

F. The proposed use does not violate any other law or ordinance. (Imperial County Code § 90203.09.F)

The proposed project will be subject to the Conditional Use Permit and current Federal, State and Local regulations. State Planning and Zoning Law (Cal. Govt. Code §§ 65000-66035) establishes minimum statewide standards for the regulation of local land use through planning and zoning. The County regulates local land use via Title 9 of the Imperial County Code. As found above, the proposed project is conditioned to be consistent with Imperial County, Title 9, Land Use Ordinance and CEQA mitigation measures and therefore complies with both State and local laws and ordinance.

Pursuant to CEQA, the County has prepared an EIR for the Project, which analyzes the proposed Project's compliance and consistency with other federal, state, and local laws and ordinances regulating the environment. Substantial evidence supports the conclusions in the EIR that the Project complies with said environmental laws, and thus the finds that the proposed use does not violate any other law or ordinance.

G. The proposed use is not granting a special privilege. (Imperial County Code § 90203.09.G)

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The proposed solar generating and storage facility is a permitted use subject to approval of the proposed Conditional Use Permit. No special privileges are being offered or will be granted.

SECTION 3. Approval of the Project is conditioned upon the terms and conditions set forth in the Agreement for Conditional Use Permit #20-0023 attached hereto and incorporated herein by this reference.

NOW, THEREFORE, based on the above findings, the Imperial County Planning Commission **DOES HEREBY RECOMMEND APPROVAL** of Conditional Use Permit #20-0023 to the Board of Supervisors, subject to the attached Conditions of Approval.

_____

Rudy Schaffner, Chairperson
Imperial County Planning Commission

I hereby certify that the Planning Commission at a meeting conducted on **August 23, 2023** by the following vote approved the preceding resolution:

AYES:
NOES:
ABSENT:
ABSTAIN:

ATTEST:

_____

Jim Minnick, Director of Planning & Development Services
Secretary to the Planning Commission

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When Recorded Return To:

Imperial County
Planning & Development Services
801 Main Street
El Centro, California 92243

AGREEMENT FOR CONDITIONAL USE PERMIT #20-0023
VEGA SES 5 SOLAR ENERGY STORAGE PROJECT
APN's 025-260-019 & 025-260-022-000 & partial APN 025-260-011-000

This Agreement is made and entered into on this ___day of _____, 2023, by and between APEX ENERGY SOLUTIONS, LLC hereinafter referred to as the Permittee (Permittee), and the COUNTY OF IMPERIAL, a political subdivision of the State of California (County or Imperial County), related to the VEGA SES 5 SOLAR ENERGY STORAGE PROJECT (CUP #20-0023) project area.

RECITALS

WHEREAS, Permittee is the lessee or successor-in-interest of certain land in Imperial County to be improved with the proposed utility-scale solar and battery storage facility. The project, Conditional Use Permit (CUP or Permit) #20-0023, consists of a proposed 50 megawatt (MW) photovoltaic solar energy facility, energy (battery) storage facility **(up to 100 MW and not to exceed a 2 to 1 solar/battery ratio)** and associated infrastructure, including but not limited to, electrical switch station, substation, on-site operations and maintenance (O&M), a gen-tie line and internal solar development transmission lines, on approximately 250 acres within Imperial County (the "Project"). The proposed facility is located approximately 5.67 miles southeast of the unincorporated community of Niland between the unincorporated communities of Iris and Slab City. The Coachella and East Highline Canals and the Union Pacific Railway transect the project area. The project area is located entirely within the County's Renewable Energy Overlay Zone. .

WHEREAS, Permittee has applied to the County of Imperial for CUP #20-0023 for constructing and operating a new 50 MW solar energy facility, energy (battery) storage facility (up to 100 MW and not to exceed a 2 to 1 solar/battery ratio) with ancillary support facilities, including electrical interconnections. The Project will connect to the existing IID "P" line located immediately north of the project site north of the All American Canal.

WHEREAS, the Project is located on portion of APN 025-260-011; 025-260-019 & 025-260-022-000. Additionally, the legal description includes SEC 9, 15, 17 Township 11 South, Range 15 East on approximately 250 aces. The project site is located entirely within the Imperial County Renewable Energy Overlay zone.

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WHEREAS, the Permittee for the VEGA SES 5 Solar Energy Project (CUP #20-0023) shall fully comply with all of the terms and conditions of the Project as specified hereinafter within this CUP.

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GENERAL CONDITIONS:

The "GENERAL CONDITIONS" are shown by the letter "G". These conditions are conditions that are either routinely and commonly included in all Conditional Use Permits as "standardized conditions" and/or are conditions that the Imperial County Planning Commission has established as a requirement on all CUP's for consistent application and enforcement. The Permittee is hereby advised that the General Conditions are as applicable as the SITE SPECIFIC conditions. The General Conditions are in addition to the MMRP and any and all other requirements for the project.

G-1 GENERAL LAWS:

The Permittee shall obtain, comply with and maintain all applicable County, State, and federal laws, rules, regulations, ordinances, and/or standards as they may pertain to this project whether specified herein or not.

G-2 EFFECTIVE DATE:

The approved Conditional Use Permit shall not become effective until ten (10) calendar days after the decision of the Planning Director or Commission. Further the Conditional Use Permit shall not be effective until applicable conditions have been met, and the Conditional Use Permit is recorded with the County Recorder, with payment of recording fees being paid by applicant. In the case of a decision by the Board of Supervisors there is no 10-day appeal.

G-3 RECORDATION:

CUP #20-0023 shall **not be effective** until it is recorded at the Imperial County Recorder's Office and if no appeal has been made after approval from the hearing body. Payment of the recordation fee shall be the responsibility of the Permittee. If this CUP is not recorded within one hundred eighty (180) days from the date of approval the CUP shall be deemed null and void, without notice having to be provided to Permittee. Permittee may submit a written request for a recordation extension for this CUP by filing such a request with the Planning Director at least sixty (60) days prior to the one hundred eighty 180-day expiration. The Director may approve one (1) extension for a period not to exceed one hundred eighty (180) days. An extension may not be granted if the request for an extension is filed after the expiration date. Failure to record this CUP within one (1) year including the granted extension period shall deem this CUP null and void.

G-4 COMMENCEMENT OF WORK:

If the project for which a CUP has been approved has not commenced, or permits for said project have not been issued, within one (1) year from effective date, the CUP shall be null and void. If an applicant cannot initiate or obtain permits for the approved use during the one (1) year, applicant may request a one (1) year extension from the Department. The request for an extension shall be in writing and be submitted with explanation to the Planning & Development Services Department at least sixty days prior to the end of the extended one (1) year period. The Director shall have the authority to extend the initial start-up period, or commencement of work, of a CUP up to two (2) times for a maximum of two (2) years. Should the

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Permittee desire to continue with the project, a new application shall be submitted and the entire process would have to begin anew.

G-5 TIME LIMIT:

Unless otherwise specified within the Site Specific Conditions, this Permit shall be limited to a maximum of thirty (30) years from the recordation of the CUP. The CUP may be extended for an additional ten (10) year period by the appropriate County entity (either the Planning Director, the Planning Commission or the Board of Supervisors as set forth in the applicable Imperial County Ordinances) upon a finding that the Project is in compliance with all conditions of the CUP as stated herein and any applicable Land Use regulation of the County of Imperial. In order to obtain an extension, the Permittee shall file a written extension request with the Planning Director at least sixty (60) days prior to the expiration date of the permit. Such an extension request shall include the appropriate extension fee. Nothing stated or implied within this Permit shall constitute a guarantee that an extension will be granted. An extension may or may not be granted if the Project is in violation of any one or all of the conditions or if there is a history of non-compliance with the Permit conditions.

G-6 ABANDONMENT:

If a CUP has been unused, abandoned, discontinued, or ceased for one (1) year, the CUP shall be null and void, and be of no effect. Notice to applicant/permittee under this division will not be required or provided by Department.

G-7 PERMIT/LICENSE:

Permittee shall obtain and comply with any and all required permits, licenses, and/or approvals, for the construction and/or operation of this project. This shall include, but shall NOT be limited to, permits from the County Division of Environmental Health Services (EHS), Planning & Development Services Department, Office of Emergency Services (OES), Imperial County Air Pollution Control District (ICAPCD) and Public Works Department. Permittee shall likewise comply with all such permit requirements for the life of the project. **Additionally, Permittee shall submit a copy of such additional permit(s) and/or license(s) to the Planning & Development Services Department within 60-days of receipt, including amendments or alternatives thereto.**

G-8 APPROVALS AND CONDITIONS SUBSEQUENT TO GRANTING PERMIT:

Permittee acceptance of this CUP shall be deemed to constitute agreement with the terms and conditions contained herein. Where a requirement is imposed in this CUP that Permittee conduct a monitoring program, and where the County has reserved the right to impose or modify conditions with which the Permittee must comply based on data obtained therefrom, or where the Permittee is required to prepare specific plans for County approval and disagreement arises, the Permittee, operator and/or agent, the Planning and Development Services Director or other affected party, to be determined by the Planning and Development Services

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Director, may request that a hearing be conducted before the Imperial County Planning Commission whereby they may state the requirements which will implement the applicable conditions as intended herein. Upon receipt of a request, the Planning Commission shall conduct a hearing and make a written determination. The Planning Commission may request support and advice from a technical advisory committee. Failure to take any action shall constitute endorsement of staff's determination with respect to implementation.

G-9 CONDITION PRIORITY:

This project shall be constructed/operated as described in the CUP application, the environmental documents, the project description, and as specified in these conditions. Where a conflict occurs, the CUP conditions shall govern.

G-10 INDEMNIFICATION:

As part of this application, applicant and real party in interest, if different, agree to defend, indemnify, hold harmless, and release the County of Imperial ("County"), its agents, officers, attorneys, and employees (including consultants) from any claim, action, or proceeding brought against any of them, the purpose of which is to attack, set aside, void, or annul the approval of this application or adoption of the environmental document which accompanies it. This indemnification obligation shall include, but not be limited to, damages, costs, expenses, attorney fees, or expert witness fees that may be asserted by any person or entity, including the applicant, arising out of or in connection with the approval of this application, whether or not there is concurrent negligence on the part of the County, its agents, officers, attorneys, or employees (including consultants).

If any claim, action, or proceeding is brought against the County, its agents, officers, attorneys, or employees (including consultants), to attack, set aside, void, or annul the approval of the application or adoption of the environmental document which accompanies it, then the following procedures shall apply: The Planning Director shall promptly notify the County Board of Supervisors of any claim, action or proceeding brought by an applicant challenging the County's action. The County, its agents, attorneys and employees (including consultants) shall fully cooperate in the defense of that action. The County shall have the final determination on how to best defend the case and will consult with applicant regularly regarding status and the plan for defense. The County will also consult and discuss with applicant the counsel to be used by County to defend it, either with in-house counsel, or by retaining outside counsel provided that the County shall have the final decision on the counsel retained to defend it. Applicant shall be fully responsible for all costs incurred. Applicant shell be entitled to provide his or her own counsel to defend the case, and said independent counsel shall work with County Counsel to provide a joint defense.

G-11 INSURANCE:

The Permittee shall take out and maintain workers compensation insurance as required by the State of California. The Permittee shall also secure liability

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insurance and such other insurance as required by state and/or federal law. A Certificate of Insurance is to be provided to the Planning and Development Services Department by the insurance carrier, and said insurance and certificate shall be kept current for the life of the project. Certificates of Insurance shall be sent directly to the Planning and Development Services Department by the insurance carrier and shall name the Department as a recipient of both renewal and cancellation notices.

G-12 RIGHT OF ENTRY:

The County reserves the right to enter the premises at any time, announced or unannounced, in order to make the appropriate inspection(s) and to determine if the condition(s) of this CUP are complied with. Access by authorized enforcement agency personnel shall not be denied.

G-13 SEVERABILITY:

Should any condition(s) of this CUP be determined by a Court or other agency with proper jurisdiction to be invalid for any reason, such determination shall not invalidate the remaining provision(s) of this CUP.

G-14 PROVISION TO RUN WITH LAND:

The provisions of this CUP are to run with the land/project and shall bind the current and future owner(s) successor(s) of interest; assignee(s) and/or transferee(s) of said CUP. **Permittee shall not without prior notification to the Planning & Development Services Department assign, sell, or transfer, or grant control of CUP or any right or privilege therein.** The Permittee shall provide a minimum of 60 days written notice prior to such proposed transfer becoming effective. The permitted use identified herein is limited for use upon this parcel described herein and may not be transferred to another parcel.

G-15 COMPLIANCE/REVOCATION:

Upon the determination by the Planning & Development Services Department that the project is or may not be in full compliance with any one or all of the conditions of this CUP, or upon the finding that the project is creating a nuisance as defined by law, the issue shall be brought immediately to the appropriate enforcement agency or to the Planning Commission for hearing to consider appropriate response including but not limited to the revocation of the CUP or to consider possible amendments to the CUP. The hearing shall be held upon due notice having been provided to the Permittee and to the public in accordance with established ordinance/policy.

G-16 NON-COMPLIANCE (ENFORCEMENT & TERMINATION):

Should the Permittee violate any condition herein, the County shall give written notice of such violation and actions required of Permittee to correct such violation. If Permittee does not act to correct the identified violation within forty-five (45) days

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after written notice, County may revoke the CUP. If Permittee pursues correction of such violation with reasonable diligence, the County may extend the cure period. Upon such revocation, County may, at its sole discretion, cease processing, defending any lawsuit or paying for costs associated with the Project.

G-17 COSTS:

Permittee shall pay any and all amounts determined by the County to defray any and all cost(s) for the review of reports, field investigations, monitoring, and other activities directly related to the enforcement/monitoring for compliance of this CUP, County Ordinance or any other applicable law. Any billing against this project, now or in the future, by the Planning & Development Services Department or any County Department for costs incurred as a result of this CUP, shall be billed through the Planning & Development Services Department.

G-18 REPORT(S)

Permittee shall file an annual report with the Planning and Development Services Department to show that Permittee is in full compliance with this CUP. The report shall be filed at least fifteen (15) days prior to the anniversary (recordation date) of this CUP. It shall be the responsibility of the Permittee to provide all reports and to include the information about other users. The County may request information at any time from the Permittee or other users if applicable; however, it shall be the responsibility of the Permittee to assure that the County receives such information in a timely manner.

G-19 RESPONSIBLE AGENT

Permittee shall maintain on file with the Planning and Development Services Department the name and phone number of the responsible agent for the site. A back-up name shall also be provided, and a phone number for twenty-four (24) hour emergency contact shall also be on file. If there are other users, the same information (as applicable) required from the Permittee shall also be made available to the County from such other users.

G-20 WATER AND SEWER:

Permittee shall provide water and sewer to Federal, State and County standards. Water and sewer systems shall be approved by the Environmental Health Services and the Planning & Development Services Department. Permittee shall hook up to a public water system or supplier if and when available.

G-21 DEFINITIONS:

In the event of a dispute, the meaning(s) or the intent of any word(s) phrase(s) and/or conditions or sections herein shall be determined by the Planning Commission of the County of Imperial. Their determination shall be final unless an appeal is made to the Board of Supervisors ten (10) days from the date of their decision.

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G-22 SPECIFICITY:

The issuance of this CUP does not authorize the Permittee to construct or operate this project in violation of any state, federal, local law nor beyond the specified boundaries of the project as shown in the application/project description/ CUP, nor shall this CUP allow any accessory or ancillary use not specified herein. This CUP does not provide any prescriptive right or use to the Permittee for future addition and/or modification to this project.

G-23 HEALTH HAZARD:

If the County Health Officer determines that a significant health hazard exists to the public, the County Health Officer may require appropriate measures and the Permittee shall implement such measures to mitigate the health hazard. If the hazard to the public is determined to be imminent, such measures may be imposed immediately and may include temporary suspension of the subject operations. However, within forty five (45) days of any such suspension of operations, the measures imposed by the County Health Officer must be submitted to the Planning Commission for review and approval. Nothing shall prohibit Permittee from requesting a special Planning Commission meeting provided Permittee bears all costs.

G-24 CHANGE OF OWNER/OPERATOR:

In the event the ownership of the site or the operation of the site transfers from the current Permittee to a new successor Permittee, the successor Permittee shall be bound by all terms and conditions of this CUP as if said successor was the original Permittee. Current Permittee shall inform the County Planning & Development Services Department in writing at least sixty (60) days prior to any such transfer. Failure of a notice of change of ownership or change of operator shall be grounds for the immediate revocation of the CUP. In the event of a change, the new Owner/Operator shall file with the Department, via certified mail, a letter stating that they are fully aware of all conditions and acknowledge that they will adhere to all.

G-25 PERMITS OF OTHER AGENCIES INCORPORATED:

Permits granted by other governmental agencies in connection with the Project are incorporated herein by reference. The County reserves the right to apply conditions of those permits, as the County deems appropriate; provided, however, that enforcement of a permit granted by another governmental agency shall require concurrence by the respective agency. Permittee shall provide to the County, upon request, copies and amendments of all such permits.

G-26 MINOR AMENDMENTS:

The Planning Director may approve minor changes or administrative extensions, as requested in writing by the Permittee, provided it does not result in additional

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environmental impacts and/or are generally procedural or technical and/or which may be necessary to comply with other government permit compliance requirements.

(TOTAL "G" CONDITIONS are 26)

SITE SPECIFIC CONDITIONS:

S-1 AUTHORIZED SCOPE OF ACTIVITIES:

(A) Permittee shall be responsible as for all improvements, septic, sewer, approved potable water system(s), pipelines, roads and other improvements discussed in the CUP Application and Conditions of Approval, FEIR, and MMRP. If Permittee sells all or part of this Project, an approved agreement shall be in place for new Project owner to build and maintain as agreed to by the conditions set forth in this CUP. Additionally, the County Assessor's Office shall be notified of any ownership change.

(B) Permittee shall develop this 50 Mw solar energy Project per approved CUP 20-0023 as a separate solar energy and energy (battery) storage facility. Any development with a combination of parcels will require the owner(s) to have a recorded deed restriction to "hold the parcel as one parcel" that runs with the land, or at Permmittee's option merge the parcels. This deed restriction shall be for a minimum of thirty (30) years and shall only be released upon the expiration of the thirty (30) years, the expiration or termination of the CUP, or upon approval of the Imperial County Planning and Development Director that the restriction is no longer needed based on a change in the development or regulation.

(C) The Permittee shall construct and operate the 50 Mw solar energy and 100 Mw energy (battery) storage facility in compliance with the CUP, the County's General Plan's Land Use Element, Land Use Ordinance and all other applicable local, state, and federal LORS, to include any other permits which are incorporated herein by reference.

(D) Construction, operation, maintenance, replacement and removal of a solar energy facility & energy (battery) storage system shall be as described in Permittee's CUP Application and previously approved FEIR for the Vega SES 5 Solar Energy project (CUP #20-0023), to include photovoltaic (PV) modules, mounting structures, electrical wiring, inverters, transformers and alternating current (AC) electric collector system, project electric substation and ancillary facilities. Ancillary facilities include safety and security equipment, retention basins, perimeter fencing, access gates, lighting systems, access roads, and may include temporary construction trailers, equipment enclosures, water treatment system and building, septic system, parking, and fire protection. The Project's PV arrays shall be comprised of solar PV panels organized into

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electrical groups referred to as "blocks." The panels shall be oriented from east to west for maximum sun exposure and the foundation shall be designed based on soil conditions. The PV panels are made of a poly-crystalline silicon semiconductor material encapsulated in glass. Installation of the PV arrays includes installation of mounting posts, module rail assemblies, PV modules, inverters, transformers and buried electrical conductors. Concrete is required for the footings, foundations and pads for the transformers and substation work. Tracker foundations shall be comprised of either driven or vibrated steel posts/pipes, and/or concrete in some places (depending on soil and underground conditions).

(E) The Project's energy (battery) storage (BESS) component will be located on a concrete pad at the northeastern edge of the project site, unless final engineering design and/or IID requirements require a different location.

The BESS will consist banks of batteries and will be supported by a DC Combiner, control panel, and inverter/transformer skid. Each enclosure will include built-in fire suppression systems. The batteries will be lithium-ion based and capable of storing up to 100 MW in total (not to exceed 100 MW. These racks would be integrated into containers or be self-contained in engineered systems such as for example the Tesla Mega Pack. The Project design would meet minimum spacing required by code and manufacturers specifications.

S-2 AESTHETICS:

(A) The Permittee shall design and maintain all buildings and equipment enclosures to have exterior surfaces with neutral, non-reflective colors.

(B) The Permittee shall design and install lighting at construction storage yards and staging areas, such that light bulbs and reflectors are not visible from public viewing areas; lighting does not create reflected glare; and illumination of the Project facilities, vicinity, and nighttime sky is minimized.

(C) Lighting shall be designed so exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light source is shielded to minimize light trespass outside the Project boundary.

(D) All lighting shall be of minimum necessary brightness consistent with worker safety and OSHA requirements.

(E) High illumination areas not occupied on a continuous basis shall have switches or motion detectors to light the area only when occupied.

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S-3 AGRICULTURE:

MITIGATION FOR THE TEMPORARY CONVERSION OF PRIME FARMLAND, FARMLAND OF STATEWIDE IMPORTANCE AND LOCAL IMPORTANCE

Developer shall implement a Mitigation Measure for the loss of Farmland.

One of the following options included below shall be implemented prior to the issuance of a grading permit or building permit (whichever is issued first) for the proposed Project:

For Prime Farmland:

Option 1: The Permittee shall procure Agricultural Conservation Easements on a "2 to 1" basis on land of equal size, of equal quality farmland, outside of the path of development. The Conservation Easements shall meet the State Department of Conservation's regulations and shall be recorded prior to issuance of any grading or building permits; or

Option 2: The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 30 percent of the fair market value per acre for the total acres of the proposed site based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Imperial County Agricultural Commissioner's office and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County; or

Option 3: The Permittee and the County voluntarily enter into an enforceable Public Service Agreement that includes a Agricultural Mitigation payment that is consistent with Board Resolution 2012-05; or

Option 4: The Permittee shall revise their CUP Application/Site Plan to avoid Prime Farmland.

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For Non-Prime Farmland:

Option 1: The Permittee shall procure Agricultural Conservation Easements on a 1 to 1 basis on land of equal size, of equal quality of farmland, outside the path of development. The Conservation Easement shall meet the State Department of Conservation's regulations and shall be recorded prior to issuance of any grading or building permits; or

Option 2: The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 20% of the fair market value per acre for the total acres of proposed site based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Imperial County Agricultural Commissioner's office and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County; or

Option 3: The Permittee and the County voluntarily enter into an enforceable Public Service Agreement that includes a Agricultural Mitigation payment that is consistent with Board Resolution 2012-05; or

Option 4: The Permittee shall revise their CUP Application/Site Plan to avoid Non-Prime Farmland.

For Local Importance Farmland:

Option 1: The Permittee shall procure Agricultural Conservation Easements on a 1 to 1 basis on land of equal size, of equal quality of farmland, outside the path of development. The Conservation Easement shall meet the State Department of Conservation's regulations and shall be recorded prior to issuance of any grading or building permits; or

Option 2: The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 10% of the fair market value per acre for the total acres of proposed site based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust

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account administered by the Imperial County Agricultural Commissioner's office and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County; or

Option 3: The Permittee and the County voluntarily enter into an enforceable Public Service Agreement that includes a Agricultural Mitigation payment that is consistent with Board Resolution 2012-05; or

Option 4: The Permittee shall revise their CUP Application/Site Plan to avoid Local Importance Farmland.

(A) Permittee shall minimize paving and ground disturbing activities to the maximum extent practical within agricultural fields to retain soil characteristics.

(B) Pest Management Plan. Prior to the issuance of a grading permit or building permit (whichever occurs first), a Pest Management Plan shall be developed by the Permittee and approved by the County of Imperial Agriculture Commissioner. The Permittee shall maintain a Pest Management Plan until reclamation is complete. The Plan shall provide the following:

1. Monitoring, preventative, and management strategies for weed and pest control during construction activities at any portion of the project (e.g., transmission line);
2. Control and management of weeds and pests in areas temporarily disturbed during construction where native seed will aid in site revegetation as follows:

- Monitor for all pests including insects, vertebrates, weeds, and pathogens. Promptly control or eradicate pests when found, or when notified by the Agricultural Commissioner's office that a pest problem is present on the project site. The assistance of a licensed pest control advisor is recommended.
- All treatments must be performed by a qualified applicator or a licensed pest control operator;
- "Control" means to reduce the population of common pests below economically damaging levels, and includes attempts to exclude pests before infestation, and effective control methods after infestation. Effective control methods may include physical/mechanical removal, bio control, cultural control, or chemical treatments;
- Use of "permanent" soil sterilants to control weeds or other pests is prohibited because this would interfere with reclamation;
- Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of Food Agriculture and the U.S. Department of Agriculture. Request a sample be taken by the Agricultural Commissioner's Office of a suspected invasive species. Eradication of exotic pests shall be done under

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the direction of the Agricultural Commissioner's Office and/or California Department of Food and Agriculture.

S-4 AIR QUALITY:

(A) The Permittee shall comply at all times with the ICAPCD Regulation VIII, Fugitive Dust Control. Please use MMRP for guidance.

(B) Prior to commencing construction, the Permittee shall submit a Dust Control Plan to the ICAPCD for approval identifying all sources of PM_{10} emissions and associated mitigation measures during the construction and operational phases of the Project. The Project Proponent shall submit a "Construction Notification Form" to the ICAPCD ten (10) days prior to the commencement of any earthmoving activity. The Dust Control Plan submitted to the ICAPCD shall meet all applicable requirements for control of fugitive dust emissions, including the following measures designed to achieve the no greater than 20% opacity performance standard for dust control:

(1) All on-site and off-site unpaved roads shall be effectively stabilized, and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.

(2) All unpaved traffic areas one acre or more in size with seventy-five (75) or more average vehicle trips per day, shall be effectively stabilized, and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.

(3) The transport of bulk materials shall be completely covered, unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks shall be cleaned and/or washed at the delivery site after removal of bulk material.

(4) All track-out or carry-out, which includes bulk materials that adhere to the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto the pavement, shall be cleaned at the end of each workday, or immediately when mud or dirt extends a cumulative distance of fifty (50) linear feet or more onto a paved road within an urban area.

(5) Movement of bulk material handling or transfer shall be stabilized prior to handling, or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.

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(6) The construction of new unpaved roads is prohibited within any area with a population of five hundred (500) or more, unless the road meets ICAPCD's definition of a "temporary unpaved road." Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

(7) Shall comply with the MMRP's and its applicable mitigations.

(C) The Permittee shall implement all applicable standard mitigation measures for construction combustion equipment for the reduction of excess NOx emissions as contained in the Imperial County CEQA Air Quality Handbook and associated regulations. These measures include:

(1) Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel-powered equipment.

(2) Minimize idling time, either by shutting equipment off when not in use or reducing the time of idling to five minutes at a maximum.

(3) Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.

(4) Replace fossil-fueled equipment with electrically driven equivalents (assuming powered by a portable generator set and are available, cost effective, and capable of performing the task in an effective, timely manner).

(5) Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing construction activity during the peak hour of vehicular traffic on adjacent roadways.

(6) Implement activity management (e.g. rescheduling activities to avoid overlap of construction phases, which would reduce short-term impacts).

S-5 GEOLOGY/SOILS and MINERAL RESOURCES:

(A) Prior to approval of final engineering and grading plans for the Project, the County shall verify that all recommendations contained in the Geotechnical Report for this Solar Facility and have been incorporated into all final engineering and grading plans. The County's soil engineer and engineering geologist shall review grading plans prior to finalization to verify compliance with the recommendations of the report.

S-6 CULTURAL RESOURCES:

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(A) Compliance and Monitors shall insure all mitigations set forth in the MMRP are followed.

S-7 HEALTH, SAFETY AND HAZARDOUS MATERIAL/FIRE AND FUELS MANAGEMENT:

(A) All trash and debris within the Project site shall be disposed of off-site, in accordance with current, local, state, and federal disposal regulations. Compliance with this measure shall be verified by the Planning and Development Services Department.

(B) If it is determined that hazardous wastes are, or will be generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5).

(C) If it is determined that hazardous wastes will be generated, the Permittee should also obtain a United States Environmental Protection Agency, Identification Number by contacting (800) 618-6942. Certain hazardous waste treatment processes or hazardous material, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting the local CUPA.

(D) Firearms shall be prohibited in all Project areas except for those used by licensed security personnel.

(E) The recognized environmental concerns shall be cleaned up and properly disposed of in accordance with all federal, state and local regulations.

(F) Any hazardous materials storage areas shall be designed with curbs or other containment measures, e.g., double-walled storage tanks, to contain spills and leaks. If on-site hazardous materials exceed fifty-five (55) gallons, a "Hazardous Material Management Plan" shall be prepared and approved by the County Local Enforcement Agency (LEA) and the Imperial County CUPA. A copy of the approved plan shall be submitted to ICPDSD prior to the issuance of the grading/building permit (Source: Imperial County Renewable Energy Ordinance, Title 9, Division 17, § 91702.00).

(G) The Permittee shall present to the Department an Emergency Response/Action Plan that has been approved by the ICFD/OES Department, and the LEA and any other agencies with jurisdiction (Source: Imperial County Renewable Energy Ordinance, Title 9, Division 17, § 91702.00).

The Emergency Response/Action Plan shall cover all possible foreseeable emergencies, e.g., major fluid spills, earthquakes, fires, floods or other emergencies. At all times, there shall be at least one employee either on the facility premises or on-call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility to coordinate all emergency response measures. This Emergency Coordinator shall be thoroughly familiar with all aspects of the Project's Emergency Response/Action Plan, all operations and activities at the facility, location of all records within the facility and the facility's layout. This Emergency Coordinator shall have the authority to commit the resources needed to carry out the contingency plan. Adequate personnel and equipment shall be available to respond to emergencies and to ensure compliance with the conditions of the Permit.

The Emergency Response/Action Plan shall be prepared in consultation with, but not be limited to, the ICFD/OES, County EHS/Health Department, County Sheriff/Coroner's office, County Department of Public Works, ICPDSD, and other appropriate state and county agencies. The plan shall include a notification list of response agencies which shall be notified immediately upon the discovery of a reportable unauthorized discharge and the list shall include:

- ICFD/OES;
- ICPDSD;
- County EHS/Health Department;
- County Department of Public Works; and
- California Highway Patrol, as applicable.

All employees shall be trained by classroom and hands-on training on safety procedures, maintenance programs and emergency response protocols to ensure safety and reliability in the event of an unforeseen emergency situation.

The Permittee shall provide adequate safety devices to protect against the hazard of fire and explosion for activities that involve the use and storage of flammable, explosive or highly corrosive or reactive materials as well as provide adequate firefighting and fire suppression equipment and using devices standard within the industry in compliance with all applicable state and local laws as determined by the ICFD/OES.
The Permittee shall implement all State and County-approved worker safety and fire protection plans and programs.

Any gates on-site shall have a "Knox" lock rapidly accessible by the ICFD/OES.

Appropriate first aid provisions for facility operations shall be made for emergency response during Project construction, operation, and

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maintenance activities with appropriate first aid training for Project employees.

During construction, a member of each working crew shall be trained in basic first aid and supplied with necessary medical equipment to respond to emergencies as provided for in the Emergency Response/Action Plan required above.

Permittee shall identify a responsible agent for emergency purposes, whose name, title, e-mail address and telephone number shall be provided to the County Department of Public Works, ICFD/OES, County Environmental Health Services/Health Department, County Sheriff/Coroner's office, IID, and ICPDSD.

S-8 HYDROLOGY AND WATER QUALITY:

Adhere to measures set forth in the MMRP.

S-9 BIOLOGICAL RESOURCES:

Adhere to all Biological measures in the MMRP

S-10 PUBLIC SERVICES:

(A) The Permittee shall widely publicize to County residents the availability of job opportunities associated with the Project (whether or not those job opportunities are within Imperial County or are regional). Postings at City Halls, newspaper and television advertisements, local job centers, and dedicated website shall offer sufficient avenues of communication. The Imperial County Office of Employment and Training in addition to the Imperial Valley College presents viable sources for community awareness. The information shall provide available positions, details of positions including qualifications, number of openings, indicated the anticipated start date for each, and application process. In order to maintain oversight of the process, the application process can be completed both on a dedicated website and at dedicated computers at the County which would afford those without Internet connection the ability to apply. The Permittee's information shall be forwarded to the Permittee or their contractor and copies of applications files are maintained at the County.

(B) During the development phase of the Project, the Permittee shall provide a roster of employees to include their position and place of residence.

(C) Unless prohibited by local, state or federal law or regulation, Permittee shall make good faith efforts to hire qualified residents of the Imperial County with the objective that a majority of the total work force is comprised of the Imperial County residents.

(D) The Permittee shall install and implement security measures which may include, but not limited to, secured perimeter fencing with barbed wire, sensors, controlled

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access points, security alarms, security camera systems, and security guard vehicle patrols to deter trespass or unauthorized activities that would interfere with operation of the Project.

(E) Permittee shall compensate the County pursuant to the Department of Environmental Health Fee Schedule for any costs of calls related to bees and mosquitoes.

(F) The Permittee shall reimburse the Sheriff's Department for any investigations regarding theft on the Project site and related law enforcement.

(G) All construction supervisors and foremen shall be provided with communication devices, cell phones or walkie-talkies, in the event of an emergency situation on-site.

(H) All construction-related activities shall take place within the development footprint of the Project as defined by the final engineering plans. The anticipated impact areas, including staging areas, equipment access, and disposal or temporary placement of spoils, shall be delineated with staking and/or orange construction fencing prior to construction to avoid natural resources where possible. No construction-related activities shall occur outside of the designated impact area. All construction materials, staging, storage, dispensing, fueling, and maintenance activities shall be designated on construction maps and shall be situated a minimum of fifty (50) feet from all drainages. Staging and temporary access shall occur on existing roadways whenever possible.

(I) **Emergency Operations Plan** - The Applicant shall develop an Emergency Operation Plan in conjunction with local fire service personnel and the AHJ and hold a comprehensive understanding of the hazards associated with lithium-ion battery technology. Lithium-ion battery energy storage systems must incorporate adequate explosion prevention protection as required in NFPA 855 or International Fire Code Chapter 12, where applicable.

(J) **Signage** - The Applicant shall provide signage that identifies the contents of an energy storage system on all energy storage system installations to alert first responders to the potential hazards associated with the installation.

S-11 TRANSPORATION AND TRAFFIC:

A. Permittee shall prepare and submit a Construction Traffic Control Plan to Imperial County Department of Public Works-Development Review and Caltrans District 11, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues:

1. Timing of deliveries of heavy equipment and building materials;
2. Directing construction traffic with a flag person;

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3. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;
4. Ensuring access for emergency vehicles to the Project site;
5. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
6. Maintaining access to adjacent property;
7. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hours, distributing construction traffic flow across alternative routes to access the Project site, and avoiding residential neighborhoods to the maximum extent feasible.

B. Permittee shall Institute construction work hours as necessary, such that the arrival and/or departure times of workers would be staggered as necessary.

C. Permittee shall identify vehicle safety procedure for entering and exiting site access roads.

D. Permittee shall submit documentation that identifies the roads to be used during construction.

E. The Permittee shall be responsible for repairing any damage to non-County maintained roads that may result from construction activities. The Permittee shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Imperial County Department of Public Works Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to the County. This information shall be submitted in electronic format. The County, in consultation with the Permittee's engineer, shall determine the extent of remediation required, if any.

S-12 COMMENCEMENT OF WORK:

(A) If the Project has not commenced, or permits for the Project have not been issued, within one (1) year from approval date this CUP shall be null and void. If this CUP has been unused, abandoned, discontinued, or ceased for one (1) year, it shall be null and void and of no effect.

(B) If Permittee cannot initiate or obtain permits for the approved use during the one (1) year period following approve of this CUP, Permittee may request a one (1) year extension from the ICPDSD. The request for an extension shall be in writing and be submitted with explanation to the ICPDSD at least sixty (60) days prior to the end of the one (1) year period. The Director shall have the authority to extend the initial startup period of a CUP two times for a maximum of one (1) year each. No

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extension under this section shall be extended for more than two (2) years.

S-13 CONSTRUCTION STANDARDS:

(A) The solar energy and energy (battery) storage facility structures shall be built in accordance with the California Building Code requirements applicable to "Seismic Category D". All structures and facilities shall be designed in accordance with the publication entitled "Recommended Lateral Force Requirements and Commentary by the Structural Engineers Association of California". The structural components of the permitted facilities shall be reviewed by the Building Official/Planning and Development Services Director. Applicable building permits shall be procured from the County for facilities prior to commencement of construction of such facilities.

S-14 LAND USE IMPROVEMENTS:

(A) The Permittee shall prepare an appropriate parking plan for review and approval by the ICPDSD and County Public Works Department for any and/or all proposed Operation & Maintenance buildings.

(B) The Permittee shall surface with a material of higher quality all access drives, parking areas, and vehicular maneuvering areas from primary access to any constructed operation and maintenance buildings.

S-15 NOISE STANDARDS:

(A) During the construction period, heavy truck traffic shall be limited to the hours between 6:00 AM and 7:00 PM.

(B) During construction, in accordance with Imperial County Noise Element of the General Plan, the noise level shall not exceed 75 dBA_{Leq} at the property boundary when averaged over an 8-hour period.

(C) During operation of the facility, the maximum permitted continuous sound level shall be not more than 45 dBA_{Leq}, as measured at the nearest residence using the "A" scale and measured with a sound level meter and associated octave band analyzer. The level may be exceeded by ten percent (10%) if the noise is intermittent and during daylight hours.

(D) Haul trucks and other engine-powered equipment shall be muffled and operated with engine exhaust brake use limited to emergencies.

S-16 ODOR CONTROL:

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The Permittee shall control all odor-causing, harmful, noxious emissions to ensure that quantities or air contaminants released as a result of the permitted facilities do not exceed County, State or Federal standards, nor constitute a public nuisance, per the Imperial County Land Use Ordinance, Division 13, Enforcement, Chapter 2, Abatement of Nuisances, Sections 91302.00 through 91301.02.

S-17 PLAN APPROVALS:

Permittee shall submit to the ICPDSD, architectural, landscaping and lighting plans prior to construction of those facilities, to include painting of structures, planting of trees and/or vegetation, and shall receive all approvals prior to commencing construction of the applicable permitted facilities. Approval shall not be unreasonably withheld so long as the plans are consistent with applicable Imperial County Land Use Ordinance requirements.

S-18 PROJECT DESIGN:

(A) All facility access and parking areas shall be constructed to the standards of the Imperial County Land Use Ordinance.

(B) All permitted activities shall provide for the minimum feasible surface land disturbance for compatibility with the existing uses wherever possible.

(C) All equipment and electrical interconnection facilities used at the solar plant facilities shall be maintained in a manner that prevents breaking, cracking, and leaking, e.g. operator staffing and training, including appropriate quality assurance procedures, with the operation of back-up or auxiliary facilities when necessary.

(D) All on-site basins shall be designed and constructed under the supervision of a California-licensed Civil Engineer meeting sound engineering standards, with all applicable regulations and all requirements of the County EHS/Health Department and Public Works Departments are complied with.

(E) Permittee shall obtain encroachment permits for any construction or operation on IID existing rights of way or easements.

S-19 REPORTING AND MONITORING:

(A) The Permittee shall furnish to the County, at its sole cost within a reasonable time, any relevant reports/information which the County requires for monitoring purposes to determine whether cause exists for revoking this Permit, or to determine compliance with this Permit. The Permittee shall submit all required reports to the Planning Director,

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County Planning and Development Services Department, 801 Main Street, El Centro, CA 92243.

(B) Permittee and ICPDSD Director shall agree upon an environmental consultant for overseeing all the required mitigation, conditional use Permit conditions and public benefit agreement (if any) requirements during the construction of the Project.

(C) Permittee shall pay for third-party environmental consultant monitoring and compliance.

(D) The ICPDSD, in consultation with the third-party Environmental Consultant and the County Executive Office, will require that all mitigation measures be satisfied, all MMRP requirements have been satisfied, all Conditions of Approval in the CUP are in full compliance and all conditions of the Development Agreement (if any) have been satisfied before the Final Certificate of Occupancy Certificate is issued.

(E) During the operation of solar facility, an Annual Compliance Report shall be submitted to the ICPDS, documenting the implementation of the conditions and general measures as well as any resource-specific measures.

(F) The Permittee shall reimburse the ICPDS for County as well as monitoring and investigations related to the construction and operation of the Project. Permittee shall compensate the County pursuant to the ICPDSD Fee Schedule for any costs incurred.

(G) Permittee shall pay for all costs as required to comply with the Conditions of Approval and MMRP.

(H) All County staff time will be billed on a time and materials basis. Failure by Permittee to provide any payment required of Permittee to the County in the CUP shall cause Permittee to be in non-compliance of the CUP. Upon notice of such noncompliance, County may, at its sole discretion, cease processing, defending any lawsuit or paying for costs associated with the Project.

S-20 SPILLS AND RUNOFF:

The Permittee shall design and construct the permitted facilities to prevent spills from endangering adjacent properties and to prevent runoff from any source being channeled or directed in an unnatural way so as to cause erosion, siltation, or other detriments pursuant to the construction Storm Water Pollution Prevention Plan approved by the Regional Water Quality Control Board.

S-21 FACILITIES CLOSURE AND SITE RESTORATION:

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(A) Permittee shall implement the site restoration plan at the earlier of when the operation of the permitted facilities herein authorized has ceased or the term of the CUP has expired. At such time, all facilities shall be dismantled, and the lands involved restored to their pre-construction condition and available for agricultural production uses as agreed to by the Imperial County Planning and Development Services Director.

(B) Prior to the issuance of a grading Permit, a decommissioning and restoration plan (the Reclamation Plan) shall be submitted and approved by the Imperial County Planning and Development Services Director. The Reclamation Plan shall documents the procedures by which the Project site will be returned to its current conditions.

(C) Within thirty (30) days prior to ground disturbance, a Bond, or other acceptable surety, in the amount of the estimated site restoration financial calculations/bond, for the developed project area, or other forms of security acceptable to County Counsel's office, shall be filed with the County that guarantees restoration of the land to its condition prior to the permitted solar plant development.

(D) Upon completion of such site restoration, and demonstration that the land has been restored to the agriculturally productive/farmable condition prior to the permitted solar plant development the Bond or other surety shall be released by the County.

(E) The above financial calculations/bond shall be reviewed every five (5) years in December and adjusted on January 1st to add a Consumer Price Index (CPI) (Los Angeles) increase by the Planning and Development Services Director. This readjustment can be made in the County's sole discretion and must be funded by the Permittee within ninety (90) calendars after notice of the additional amount of such adjustment.

S-22 PUBLIC WORKS:

1. The Applicant shall acquire proper easements from adjacent property owners for the installation of any proposed transmission lines.

2. All survey monuments, including those within the interior of the project, shall be protected, and their locations shall remain accessible to any surveyor throughout the duration of the project. Section 8774 of the Business and Professions Code, and Section 846.5 of the Civil Code, each provide the right of entry to utilize boundary evidence and perform surveys, without undue delay, to any person authorized to practice land surveying. The right of entry is not contingent upon prior notice.

3. The Applicant shall furnish a Drainage and Grading Plan/Study to provide for property grading and drainage control, which shall also include prevention of sedimentation of damage to off-site properties. The Study/Plan shall be

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submitted to the Department of Public Works for review and approval. The applicant shall implement the approved plan. Employment of the appropriate Best Management Practices (BMP's) shall be included (Per Imperial County Code of Ordinances, Chapter 12.10.020 B).

4. Based from the information provided on the project documents, it is assumed that County roads will not be used for site access during or after construction activities have been completed. In the event that County roads are required for site access, the Applicant shall consult with this Department in advance for review and approval.

   Access to sites shall be completed from public roads.

5. Any unimproved access roads/routes between public roads and access gates shall be improved for all-weather access. Such all-weather improvements shall be completed as recommended by a Geotechnical Engineer licensed to practice in the State of California.

6. Each site shall have, as a minimum, one (1) primary Class 2 Base aggregate material driveway and one (1) emergency access Class 2 Base aggregate material driveway, if they are tied to a County Road only.

7. Access to project sites during and after construction is expected to be completed through private unpaved roads or private property.

The Applicant shall mitigate generation of dust caused by construction traffic as per Rule 805 – Paved and Unpaved Roads of the Imperial County Air Pollution Control District.

- All solid and hazardous waste shall be disposed of in approved solid waste disposal sites in accordance with existing County, State and Federal regulations (Per Imperial County Code of Ordinances, Chapter 8.72).

- All on-site traffic areas shall be hard surfaced to provide all weather access for emergency vehicles. The surfacing shall meet the Department of Public Works and Fire/Office of Emergency Services (EOS) Standards as well as those of the Air Pollution Control District (APCD).

- The project may require a National Pollutant Discharge Elimination System (NPDES) permit and Notice of Intent (NOI) from the Regional Water Quality Control Board (RWQCB) prior to County approval of onsite grading plan (40 CFR 122.28).

- A Transportation Permit may be required from road agency(s) having jurisdiction over the haul route(s) for any hauls of heavy equipment and/or large vehicles which impose greater than legal loads on riding surfaces, including bridges. (Per Imperial County Code of Ordinances, Chapter 10.12 - OVERWEIGHT VEHICLES AND LOADS).

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- Effective September 15, 2020, the State's Mandatory Organic Waste Recycling Law (AB 1826 or Chapter 727, Statutes of 2014) decreased the threshold requiring all businesses and multi-dwelling facilitates of 5 units or more generating two (2) cubic yards or more of solid waste per week to recycle their organic waste including landscape waste, wood waste, and food waste. Information about possible organics waste recycling services can be found at the CalRecycle site at: https://www.calrecycle.ca.gov/Recycle/Commercial/Organics/

S-23 WASTE DISPOSAL

(A) The Permittee shall insure that all solar plant facilities waste, liquid, gas or solid, which are generated on-site shall be disposed of in compliance with appropriate local, state, and federal regulations, in effect or as subsequently duly-enacted. All solid waste debris and/or any hazardous wastes located on the Project site must be satisfactorily removed to a permitted facility prior to the commencement of grading earthen material at the site.

(B) Littering shall not be allowed. Project personnel shall not deposit or leave any food or waste in the Project area, and no biodegradable or non-biodegradable debris shall remain in the right-of-way or on the Project site following completion of construction.

S-24 CALTRANS:

(A) An encroachment permit shall be required for any work performed within any Caltrans right-of-way. If required, any traffic control will need to be addressed as part of Caltrans permit approval in accordance with the Caltrans Standard Plans and the California Manual on Uniform Traffic Control Devices (MUTCD).

(B) Any application for a permit for work performed within a Caltrans right-of-way must include an approved final environmental document including the California Environmental Quality Act (CEQA) determination addressing any environmental impacts within the Caltrans right-of-way and any corresponding technical studies, if required. If these materials are not included with the encroachment permit application, the Permittee will be required to acquire and provide these to Caltrans before the permit application will be accepted. Identification of avoidance and/or mitigation measures will be a condition of encroachment permit approval as well as procurement of any necessary regulatory and resource agency permits.

(C) Any work performed within Caltrans' Right of Way (R/W) will require discretionary review and approval by Caltrans. As part of the encroachment permit process, the applicant must provide an approved final environmental document, corresponding technical studies, and

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necessary regulatory and resource agency permits, specifically, any CEQA determinations or exemptions.

S-25 IID Condition requirements

(A) The Project may impact IID drains with project site runoff flows draining into IID drains. To mitigate impacts, IID may require a comprehensive IID hydraulic drainage system analysis. IID's hydraulic drainage system analysis includes an associated drain impact fee.

(B) An IID encroachment permit is necessary to utilize existing surface-water drainpipe connections to drains and receive drainage service from IID. Surface-water drainpipe connections are to be modified in accordance with IID standards. A construction storm-water permit from the California Regional Water Quality Control Board is required before commencing construction and an industrial storm water permit from CRWQCB is needed for the operation of the proposed facility. Copies of these permits as well as the project's Storm Water Pollution Prevention Plan are to be submitted to IID.

S-26 FIRE PROTECTION:

Energy storage facilities create extreme hazards for firefighters and emergency responders with possibility of explosions, flammable gases, toxic fumes, water-reactive materials, electrical shock, corrosives, chemical burns. The hazards listed can create a potential significant impact on Imperial County Fire Department due personnel staffing to safely perform firefighting operations and Hazardous Material Response for a utility-scale energy storage facility. The location of the project will lead to longer response times. These longer response times can create incidents that can create difficulties in incident stabilization; therefor requiring additional personnel to safety manage the incident. Utility-scale energy storage will require specialized and reliable equipment to perform firefighting operations safely and effectively to NFPA, OSHA and ICFD standards and requirements.

Standards and requirements for energy storage system includes but not limited to:

NFPA:

1 Fire Code
70 National Electrical Code
855 Standard for the installation of Energy Storage System
111 Stored Electrical Energy Emergency and Standby Power System
1710 Standard for Organization and Deployment of Fire Suppression Operations, Emergency Medial Operations, and Special Operations to the Public by Career Fire Departments.

OSHA:

29 CFR 1910.134(g)(4)

CFC:

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Chapter 12 section 1206 Electrical Energy Storage System
Chapter 9 Fire Protection and Life Safety System.

1) Vega Solar Energy and Storage Project reviews for plans and inspections will be done by a third-party consultant determined by the Fire Department at the applicant's expense as per California Fire Code Chapter 1 [A] 104.7.2 Technical Assistance. This will be at the discretion of the Fire Department.

2) Project will provide adequate Fire water. Fire Department will determine number of gallons to be placed strategically once site plan is reviewed.

3) Signage that identifies the contents of an ESS is required on all ESS installations to alert first responders to the potential hazards associated with the installation.

4) An approved water supply capable of supplying the required fire flow determined by appendix B in the California Fire Code shall be installed and maintained. Private fire service mains and appurtenance shall be installed in accordance with NFPA 24.

5) An approved automatic fire suppression system shall be installed on all structures as per the California Fire Code. All fire suppression systems will be installed and maintained to the current adapted fire code and regulations.

6) An approved automatic fire detection system shall be installed on all structures as per the California Fire Code. All fire detection systems will be installed and maintained to the current adapted fire code and regulations.

7) Fire department access roads and gates will be in accordance with the current adapted fire code and the facility will maintain a Knox Box for access on site.

8) Compliance with all required sections of the fire code.

9) Applicant shall provide product containment areas(s) for both product and water run-off in case of fire applications and retained for removal.

10) All hazardous material and wastes shall be handled, store, and disposed as per the approved Hazardous Waste Materials Plan. All spills shall be documented and reported to Imperial County Fire Department and CUPA as required by the Hazardous Waste Material Plan.

S-27 COUNTY EXECUTIVE OFFICE:

1. Fiscal and Economic Impact Analysis. The Permittee will be invoiced by the Executive Office for expenses related to the procurement of a consultant to

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produce a Fiscal and Economic Impact Analysis (FEIA) and will be responsible for the cost of any subsequent updates as a result of modifications to the data and project by the developer.

2. Public Service Agreement ("Agreement" or "PSA"). Pursuant to the Guidelines for the Public Service Program for Solar Power Plants in Imperial County amended and adopted by the Board of Supervisors on May 9, 2023, PSA will be entered into by and between the County of Imperial and Developer to provide for a concerted and coordinated effort to maximize the benefits of the Project to the County of Imperial community.

Sales Tax Benefit Solar Farm:

(a) Developer will require that all qualifying contractors and subcontractors exercise their option to obtain a California Department of Tax and Fee Administration (CDTFA) sub-permit for the jobsite and allocate all eligible use tax payments to Imperial County and LTA. Prior to commencement of any construction activity on-site the developer will require that the contractor or subcontractor provide County of Imperial with either a copy of their CDTFA account number and sub-permit.

(b) To accomplish this, Permittee shall either cause its construction contractor to treat the project in accordance with California Regulation 1521(b)(2)(B), California Regulation 1521(c)(13)(B), and California Regulation 1826(b) for sales and use tax purposes or form a "Buying Company" as defined in the CDTFA 1699(h). Permittee can adopt an alternate methodology to accomplish this goal if such methodology is approved by the County Executive Officer prior to issuance of building permits. Not later than forty five (45) days after the due date for filing sales and use tax returns for each calendar quarter, occurring after the commencement of any construction activity on-site through and including the first anniversary of COD (as defined below),

(c) Developer shall report, or cause its general contractor to report to County, the total amount of sales and use taxes related to the Project that are allocated to the County, and reported on Developer's, general contractor's, and subcontractors' applicable California sales and use tax returns. The obligations of Developer under this Section III.A are hereinafter referred to as the "Developer Sales and Use Tax Responsibilities."

(d) Guarantee Amounts. In the event that Developer shall fail to perform the Developer Sales and Use Tax Responsibilities and as a result of such failure, with respect to the Project, (i) County receives less than the amount of such sales and use taxes it would have received under existing applicable sales and use tax laws had such responsibilities been fully performed subject to adjustment as set forth in Section IV.C below) or (ii) Local Transportation Authority (LTA) receives less than the amount of such sales and use taxes it would have received under existing applicable sales and use tax laws had such responsibilities been fully-performed, then Developer shall pay, as and when provided below, to County or LTA as applicable, the amount of the applicable shortfall.

(e) Adjustments to Guarantee Amounts.

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(f) Developer's sales tax guarantee set out in Section III.B above shall be adjusted to be eighty-five percent (85%) of the projected sales and use taxes for the Project. At least ten (10) days prior to the issuance of the first (1st) grading permit, Developer shall provide County with evidence of such projected sales and use taxes, including but not limited to sales taxes receipts, engineering contracts, procurement contracts, construction contracts. County shall meet with Developer to confirm that amount.

(g) The amount of sales and use tax anticipated to be generated is based on the projected construction of a **fifty (50 Mw) megawatt** alternating current 50 MW AC solar generation facility. Construction of any additional output capacity beyond the 50 MW output now projected will require the sales tax guarantee be adjusted based on the actual output from solar generation facilities of the Project as evidenced by any Power Purchase Agreement subsequently entered into by Developer related to this Project.

(h) To the extent of any reduction in the size of the Project as the result of any final ruling, stipulated judgment, or settlement, in accordance with Section V.C below, the not-to-exceed amounts set forth in Section III.B shall be reduced pro rata based on the size of such reduction.

(i) The complete amount due to County for the Project must be received within one (1) year after Commercial Operation Date ("COD") for this Project. If, within one (1) year after issuance of the final Certificate of Occupancy, the sales and use taxes received by the County are less than the amount guaranteed for that portion of the project, Developer shall pay the difference to the County.

(j) Payments to County and LTA as a result of a shortfall shall be due within thirty days of Developer's receipt of written notice of shortfall from the County. Payments received by County after the ninetieth (90th) day following Developer's receipt of notice shall be deemed late. Developer hereby agrees to pay interest at the rate of six percent (6%) per annum of the payment due for any payment received by County beyond the due date. Said interest shall be included with the late payment. The obligation to pay interest shall be stayed when such amounts are disputed in good faith, so long as Developer submits the payments "under written protest." Upon determination of dispute, such interest may be assessed if it is determined that the dispute was not made in good faith.

(k) In the event that Developer repowers or replaces the equipment onsite, each Site shall be designated as the "Point of Sale" so as to create an additional local tax-funding source for the County of Imperial.

Battery Storage Sales Tax Benefit

1.1.1. To the extent permitted by applicable local, state, and Federal law, Developer will require that all qualifying contractors and subcontractors exercise their option to obtain a California Department of Tax and Fee Administration ("CDTFA") sub-permit for the jobsite and allocate all eligible sales and use tax payments to County and the Local Transit Authority ("LTA").

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1.1.2. Prior to commencement of any construction activity onsite exclusive of grading. Developer shall require that the contractor or subcontractor provide County with a copy of their CDTFA account number and sub-permit. Developer shall either cause its construction contractor to treat the Project in accordance with California Sales and Use Tax Regulation 1521(b)(2)(B), California Sales and Use Tax Regulation 1521(c)(13)(B), and California Sales and Use Tax Regulation 1826(b) for sales and use tax purposes, or form a "Buying Company," as defined in the California Sales and Use Tax Regulation 1699(h). Developer may adopt an alternate methodology to accomplish this goal if such methodology is approved by the County's Executive Officer prior to issuance of any building permit.

1.1.3. No later than forty-five (45) days after the due date for filing sales and use tax returns for each calendar quarter, occurring after the commencement of any construction activity on-site through and including the first anniversary of commercial operating date ("COD"), Developer shall report, or cause its general contractor to report to County, the total amount of sales and use taxes related to the Project that are allocated to the County, and reported on Developer's, general contractor's and subcontractors' applicable California sales and use tax returns.

1.1.4. *Guarantee Amounts*. Prior to the issuance of any building permit for the Project, Developer shall provide County with a guarantee of the minimum sales and use that will be received by County and LTA under existing applicable sales and use tax laws. The guarantee amount shall be based on the total storage capacity of the Project in megawatts, which is projected to be **one hundred megawatts (100 Mws)** Should Developer choose to develop the Project in phases, and receives the required approvals from County to do so, then Developer shall provide a separate guarantee amount for each phase of the project based on the total storage capacity in megawatts for the applicable phase.

(a) Developer warrants that the sales/use tax guarantee amounts to be provided to County as mandated in this Subparagraph 9.2.4 shall be true and accurate estimates of the projected sales and use taxes that will be generated for this Project. Developer shall provide County with evidence of the projected sales/use taxes for the Project, including but not limited to sales tax receipts, and executed or anticipated engineering contracts, procurement contracts, and construction contracts. If the Parties are unable to agree upon a guarantee amount, then the dispute shall be referred to an independent accountant mutually acceptable to both Parties. The costs for such nonbinding mediation shall be borne by Developer.

(b) Developer warrants that the sales/use tax guarantee amounts to be provided to County as mandated in this Subparagraph 9.2.4 will incorporate any and all sales/use tax exemptions that Developer and/or its contractors and subcontractors intend to utilize, and that such exemptions will be

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disclosed to County fully and in good faith prior to the issuance of any building permit for this Project.

(c) Developer understands and acknowledges that the sales/use tax guarantee amounts to be provided to County as mandated by this Subparagraph 9.2.4 are a part of the consideration to be received by County in return for entering into this Agreement, and further understands and acknowledges that County would not enter into this Agreement but for said guarantee from Developer.

1.1.5. In the event that County and / or LTA receives less than the amount of sales/use taxes guaranteed pursuant to Subparagraph 9.2.4, then Developer shall pay, as and when provided below, to County or LTA as applicable, the amount of the applicable shortfall.

1.1.6. *Adjustments to Guarantee Amounts.*

(a) The amount of sales and use tax anticipated to be generated is based on the projected construction of a **100 MW utility**-scale energy storage complex incorporating lithium ion batteries and/or flow battery technologies throughout the Project site. Construction of any additional storage capacity beyond the **100 MW storage** capacity now projected will require the sales/use tax guarantee amounts to be adjusted based on the actual storage facilities of the Project as evidenced by any power purchase agreement or power storage agreement subsequently entered into by Developer related to this Project.

(b) To the extent of any reduction in the size of the Project as the result of any final ruling, stipulated judgment, or settlement, the sales/use tax guarantee amounts mandated under Subparagraph 9.2.4 shall be reduced pro rata based on the size of such reduction.

(c) Should Developer become of aware of a change in circumstances that would materially affect the sales/use tax guarantee amount, then Developer shall, within thirty (30) days of learning of such change in circumstances, inform the County in writing of the change in circumstances. If the County determines that such change in circumstances warrants an adjustment to the sales/use tax guarantee amount, then County shall negotiate in good faith with Developer in revising the sales/use tax guarantee amount. If the Parties are unable to agree upon a revised guarantee amount, then the dispute shall be referred to an independent accountant mutually acceptable to both Parties. The costs for such nonbinding mediation shall be borne by Developer. Failure of the Developer to inform the County of the change in circumstances shall constitute a waiver of Developer's ability to seek any adjustment to the sales/use tax guarantee based on such change in circumstances.

1.1.7. The complete sales/use tax guarantee amount due to County and LTA for the Project must be received within one (1) year after COD for this Project, or such later date as any applicable sales/use tax is due or is transmitted from the CDTFA, unless it is delayed due to causes beyond Developer's control or for which Developer is not responsible. If, within one (1) year after issuance of the final certificate of occupancy, or such later date as any applicable sales/use tax is due or is transmitted from the CDTFA, the sales/use taxes received by the County are less than the

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sales use tax guarantee amounts mandated under Subparagraph 9.2.4, then Developer shall pay the difference to the County.

1.1.8. Payments to County and LTA as a result of a shortfall shall be due within thirty days of Developer's receipt of written notice of shortfall from the County. Payments received by County after the ninetieth (90th) day following Developer's receipt of notice shall be deemed late. Developer hereby agrees to pay interest at the rate of six percent (6%) per annum of the payment due for any payment received by County beyond the due date. Said interest shall be included with the late payment. The obligation to pay interest shall be stayed when such amounts are disputed in good faith, so long as Developer submits the payments "under written protest." Upon determination of dispute, such interest may be assessed if it is determined that the dispute was not made in good faith.

In the event that Developer repowers or replaces the equipment onsite, each Site shall be designated as the "Point of Sale" so as to create an additional local tax-funding source for the County of Imperial.

S-28 Additional Conditions

1. Because oversize vehicles may utilize this facility (i.e., SR 111), as a condition of the Conditional Use Permit, the project applicant will be required to obtain all applicable Caltrans permits required for construction of the project, including special transportation permits (if applicable) for oversize construction vehicles.
2. As a condition of the Conditional Use Permit, the applicant will be required to prepare and submit for approval a traffic management plan to Caltrans as specified in this comment.
3. As currently proposed, the project would not require an encroachment permit as no work or improvements are proposed within Caltrans right-of-way. However, as a condition of the Conditional Use Permit, the applicant will be required to obtain necessary permits from Caltrans. This includes encroachment permits if applicable.
4. **Coachella Valley Water District** – Review for requirements on elevated concrete foundations and appropriate spacing shall be evaluated, including with respect to existing training dikes and addressed as part of the final site plan engineering design.
5. **Bureau of Reclamation.** modifications to training dikes will require appropriate authorization from Bureau of Reclamation.
6. Condition of approval that the County and Developer will coordinate with the U.S. Marine Corps to notify them of the project development and to determine any potential impacts to their operations, if any.

S-29 ACCEPTANCE:

Acceptance of this permit shall be deemed to constitute agreement by Permittee with all terms and conditions herein contained.

The rest of this page is intentionally left blank.

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NOW THEREFORE, County hereby issues the Conditional Use Permit #20-0021, and Permittee hereby accepts such permit upon the terms and conditions set forth herein.

IN WITNESS THEREOF, the parties hereto have executed this Agreement the day and year first written.

PERMITTEE:

_____ _____

Date

COUNTY OF IMPERIAL, a political subdivision of the STATE OF CALIFORNIA

_____ _____

Jim Minnick,
Director, Planning & Development Services Department

Date

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PERMITTEE NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA

COUNTY OF _____} S.S.

On_____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document.

Title or Type of Document_____

Number of Pages_____ Date of Document_____

Signer(s) Other Than Named Above_____

Dated_____

COUNTY NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF IMPERIAL} S.S.

On_____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document.

Title or Type of Document_____
Number of Pages_____ Date of Document_____
Signer(s) Other Than Named Above_____

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Attachment F

Resolutions & Water Well CUP's #20-0025, # 20-0026, #20-0027

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RESOLUTION NO. ___

A RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF IMPERIAL, CALIFORNIA, FOR THE RECOMMENDATION TO THE BOARD OF SUPERVISORS FOR THE APPROVAL OF CONDITIONAL USE PERMIT #20-0025- AND CONDITIONS OF APPROVAL FOR THE VEGA SES 2 SOLAR ENERGY COMMERCIAL GROUND WATER WELL.

WHEREAS, APEX ENERGY, LLC has submitted an application for Conditional Use Permit proposing to drill and install a water well for commercial purposes to serve as a potable water source for a commercial purpose; and,

WHEREAS, an Environmental Impact Report (EIR) and CEQA Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State Guidelines, and the County's "Rules and Regulations to Implement CEQA, as Amended"; and,

WHEREAS, the Planning Commission of the County of Imperial has the responsibility of recommendations to Board of Supervisors for the approvals and certifications; and,

WHEREAS, public notice of said application has been given, and the Planning Commission has considered evidence presented by the Imperial County Planning & Development Services Department, and other comments by interested parties at a public hearing held with respect to this item on August 23, 2023; and,

WHEREAS, on August 23, 2023, the Planning Commission heard the proposed project; and,

NOW, THEREFORE, the Planning Commission of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Planning Commission has considered Conditional Use Permit #20-0025 and Conditions of Approval prior to recommend approval; the Planning Commission finds and determines that the Conditional Use Permit and Conditions of Approval are adequate and prepared in accordance with the requirements of the Imperial County General Plan and Land Use Ordinance and the (EIR) which analyzed environmental effects, based upon the following findings and determinations.

SECTION 2. That in accordance with State Planning and Zoning Law and the County of Imperial Land Use Ordinance and General Plan, the following findings for the approval of Conditional Use Permit #20-0025 have been made:

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A. The proposed use is consistent with the goals and policies of the adopted County General Plan.

The General Plan designates the project site as "Agriculture". It is classified as S-2 RE Open Space Recreational Renewable Energy Overlay under the Imperial County Land Use Ordinance (Title 9). The proposed project is for a water well and is a conditionally permitted use pursuant to County's Land Use Ordinance (Section 92102.00).

B. The proposed use is consistent with the purpose of the zone or sub-zone which the use will be used.

The water well is for commercial purposes. Section 92102.00 of the Imperial County Land Use Ordinance governs water wells. The purposed use could be considered a compatible use with a Conditional Use Permit pursuant to the Water Well Regulation (Land Use Ordinance, Section 92102.00).

C. The proposed use is listed as a use within the zone or sub-zone or is found to be similar to a listed conditional use according to the procedures of Section 90203.10.

The proposed water well is consistent with Land Use Ordinance, Section 92102.00 with an approved Conditional Use Permit.

D. The proposed use meets the minimum requirements of this Title applicable to the use and complies with all applicable laws, ordinances and regulations of the County of Imperial and the State of California.

The Conditions of Approval will insure that the project complies with all applicable regulations of the County of Imperial and State of California. Therefore, the proposed project will meet the minimum requirements of the Land Use Ordinance, Section 90203.00.

E. The proposed use will not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity.

The proposed water well anticipated water usage amount to **661.5-acre-feet** for construction and **24-acre-feet** per year for operational water. The water well will be used for the construction period and then periodically for dust control and cleaning of panels at the solar site. There will be no detrimental to

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the health safety, and welfare of the public or to the property and residents in the vicinity.

F. The proposed use does not violate any other law or ordinance.

The proposed project is conditioned to be consistent with Title 9, Codified Land Use Ordinance of the County of Imperial and CEQA. The proposed project will be subject to a Conditional Use Permit and current Federal, State and Local regulations.

G. The proposed use is not granting a special privilege.

The proposed water well is a conditional permitted use subject to the conditions of approval of CUP #22-0025 (Land Use Ordinance, Section 92102.00) and will not grant a special privilege.

NOW, THEREFORE, based on the above findings, the Imperial County Planning Commission **DOES HEREBY Recommend for the Board of Supervisors to approve** Conditional Use Permit #22-0025, subject to the attached Conditions of Approval.

_____

Rudy Schaffner, Chairperson
Imperial County Planning Commission

I hereby certify that the Planning Commission at a meeting conducted on **August 23, 2023** by the following vote approved the preceding resolution:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

_____

Jim Minnick, Director of Planning & Development Services

Secretary to the Planning Commission

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When Recorded Return To:

Imperial County Planning & Development
Services Department
801 Main Street
El Centro, California 92243

AGREEMENT FOR CONDITIONAL USE PERMIT #22-0025
FOR A WATER WELL
VEGA SES 2 WATER WELL
(APN 025-010-006, 025-260-011 & 025-270-023-000)

This Agreement is made and entered into on this ____ day of _____, 2023, by and between [**APEX ENERGY, LLC**,] (hereinafter referred to as "Permittee"), and the COUNTY OF IMPERIAL, a political subdivision of the State of California, (hereinafter referred to as "COUNTY").

RECITALS

WHEREAS, Permittee is the owner, and/or operator and/or successor-in-interest in certain land in Imperial County known as "Assessor's Parcel 025-010-006, 025-260-011, & 025-270-023 further described as a Section 9, 15, 17 of Township 11 South, Range 15 East, S.B.B.M, approximately 1,323-acres, and,

WHEREAS, Permittee has applied to the County for permission to construct, operate and maintain one water well, at the above site, and;

WHEREAS, Permittee has applied to the County to be allowed to pump up to 24 acre feet per year of groundwater for operations, and a one-time maximum of 661.5 acre feet of groundwater during construction, from the water well to provide water to a solar development project, and;

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WHEREAS, Permittee and/or any subsequent owner(s) would be required to and intend to fully comply with all of the terms and conditions of the project as specified in this Conditional Use Permit.

WHEREAS, County, after a noticed public hearing, agreed to issue Conditional Use Permit #20-0025 to Permittee, and/or his or her successor in interest subject to the following conditions:

---

*The "GENERAL CONDITIONS" are shown by the letter **"G"**. These conditions are conditions that are either routinely and commonly included in all Conditional Use Permits as "standardized" conditions and/or are conditions that the Imperial County Planning Commission has established as a requirement on all CUP's for consistent application and enforcement. The Permittee is advised that the General Conditions are as applicable as the SITE SPECIFIC conditions!*

GENERAL CONDITIONS:

G-1 ACQUISITION OF PERMITS/LICENSES AND COMPLIANCE WITH GENERAL LAWS:

The Permittee shall obtain, comply with, and maintain all applicable County, State, and Federal permits, licenses, and/or approvals, including, but not limited to those required by Imperial County Planning & Development Services Department, Air Pollution Control District (APCD), County Division of Environmental Health Services (EHS), and Public Works Department. Additionally, Permittee agrees to comply with all applicable laws, ordinances, and/or regulations promulgated by County, State, and Federal jurisdictions whether specified herein or not. Furthermore, Permittee shall submit a copy of such additional permit(s)/license(s) to the Planning & Development Services Department within thirty (30) days of receipt, including amendments or alterations thereto.

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G-2 RECORDATION:

This permit shall not be effective until it is recorded at the Imperial County Recorder's Office, and payment of the recordation fee shall be the responsibility of the Permittee.

G-3 INDEMNIFICATION:

Permittee shall defend, indemnify and hold harmless County and its agents, including consultants, officers and employees from any claim, action or proceeding against the County or its agents, including consultants, officers or employees to attack, set aside, void, or annul the approval of this application or adoption of the environmental documents which accompanies it. This indemnification obligation shall include, but not be limited to, damages, costs, expenses, attorney's fees, or expert witness costs that may be asserted by any person or entity, including the Permittee arising out of or in connection with the approval of this application, including any claim for private attorney general fees claimed by or awarded to any party from the County.

G-4 RIGHT OF ENTRY:

The County reserves the right to enter the premises to make the appropriate inspection(s) and to determine if the condition(s) of this permit are complied with and access to authorized enforcement agency personnel shall not be denied.

G-5 PROVISION TO RUN WITH THE LAND/PROJECT:

The provisions of this permit are to run with the land/project and shall bind the current and future owner(s) successor(s) of interest, assignee(s) and/or transferor(s) of said project.

- Permittee shall not without prior notification to the Planning & Development Services Department assign, sell, or transfer, or grant control of project or any right or privilege therein.

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- The Permittee shall provide a minimum of 60 days written notice prior to such proposed transfer becoming effective.
- In the event that the new owner or assignee or transferor has a history of non-compliance with environmental laws or is not of substantial equivalent or superior financial capability and/or responsibility or is not willing to or has not agreed to in writing to abide by the terms or conditions of this permit, the Planning & Development Services Department shall bring this matter to the Planning Commission for either revocation or modification to the permit.

G-6 CONDITION PRIORITY:

This project shall be constructed/operated as described in the approved Conditional Use Permit and conditions , site plan, support documentation, the Environmental Impact Report (EIR), the project description, and as specified in these conditions. Where a conflict occurs, the Conditional Use Permit conditions shall govern and take precedence.

G-7 INVALID CONDITIONS/SEVERABILITY:

Should any condition(s) of this permit be determined by a Court or other agency with property jurisdiction to be invalid for any reason, such determination shall not invalidate the remaining provision(s) of this permit.

G-8 TIME LIMIT:

Unless otherwise specified within the specific conditions, this permit shall be limited to a maximum of thirty (30) years from the recordation of the CUP. If an extension is necessary, the Permittee shall file a written extension request with the Planning Director at least sixty (60) days prior to the expiration date of the permit. Such an extension request shall include the appropriate extension fee. If the original approval was granted by the Planning Commission and/or the Board of Supervisors, such an extension shall only be

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considered by the approving body, after a noticed public hearing. Nothing stated or implied within this permit shall constitute a guarantee that an extension will be granted. An extension may not be granted if the Project is in violation of any one or all of the conditions or if there is a history of non-compliance with the permit conditions.

G-9 PERMIT/MONITORING-RELATED FEES:

The Permittee shall pay any and all amounts determined by the County Planning & Development Services Department to defray any and all cost(s) for the review of reports, field investigations, monitoring, and other activities directly related to the enforcement/monitoring for compliance of this Conditional Use Permit, County Ordinance or any other applicable law. All County Departments, directly involved in the monitoring/enforcement of this project may bill Permittee under this provision, however said billing shall only be through and with the approval of the Planning & Development Services Department.

G-10 DEFINITIONS:

In the event of a dispute the meaning(s) or the intent of any word(s), phrase(s) and/or conditions or sections herein shall be determined by the Planning Commission of the County of Imperial. Their determination shall be final unless an appeal is made to the Board of Supervisors within ten (10) days from the date of the Commission's decision.

G-11 REVOCATION:

Upon the determination by the Planning & Development Services Department that the project is or may not be in full compliance with any one or all of the conditions of this Conditional Use Permit, or upon the finding that the project is creating a nuisance as defined by law, the issue shall be brought immediately to the appropriate enforcement agency or to the Planning

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Commission for hearing to consider appropriate response including but not limited to the revocation of the CUP or to consider possible amendments to the CUP. The hearing shall be held upon due notice having been provided to the Permittee and to the public in accordance with established ordinance/policy.

G-12 HEALTH HAZARD:

If the County Health Officer determines that a significant health hazard exists to the public, the Health Officer may require appropriate measures and the Permittee shall implement such measures to mitigate the health hazard. If the hazard to the public is determined to be imminent, such measures may be imposed immediately and may include temporary suspension of operations; the measures imposed by the County Health Officer must be submitted to the Planning Commission for review and approval. Nothing shall prohibit Permittee from requesting a special Planning Commission meeting provided Permittee bears all costs.

PROJECT SPECIFIC CONDITIONS:

S-1 The Conditional Use Permit (CUP) 22-0025 allows the Permittee to draw a maximum of **24-acre-feet** of groundwater per year for operations, and a one-time maximum of **661.5-acre**-feet of groundwater during construction. Exceeding the amount of water specified herein will result in the Planning & Development Services Department taking action to rescind the CUP for non-compliance.

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S-2 Water from the well shall not be used, sold, given, exported, or transported from those lands within VEGA SES 2 Solar Development and Battery Storage designated areas per the VEGA SES 2 approved EIR

S-3 The water shall be used only for on-site use(s) within VEGA SES 2 solar and battery development areas only which includes the washing of solar panels, dust control and onsite construction related activities.

S-4 If the Board of Supervisors determines that groundwater management activities may be necessary to improve and preserve the quality or quantity of groundwater resources or prevent other environmental damage, the Board , after notice to the public and a public hearing, limitations or suspension of extractions from this water well. Title 9: Division 22: Ground Water Ordinance, Chapter 2: 92202.00 (E).

S-5 A flow meter shall be installed and sealed by a California State Licensed Water Well Drilling Contractor. Registered user shall submit an annual report to the Planning & Development Services Department indicating the yearly amount of water extracted from the well. A photograph (dated and signed) of the flow meter readings shall be included in the annual report. The report shall be received within thirty (30) days following the anniversary date of the issuance of this registration. In the event of a flow meter failure, the registered user shall be required to cease the water well operation and notify the Planning & Development Services Department. The registered user may be allowed to temporarily substitute the flow meter for an alternative measuring device, at the approval of the Planning & Development Services Department. In this case two (2) separate reports shall be submitted as stipulated herein. **Title 9, Division 22: Groundwater Ordinance 92202.04 Extraction Facility Water Flow Measurements.**

S-6 Should the water well be "abandoned" at any time for more than 365 consecutive days, or such longer period of not more than twenty-four (24)

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consecutive months as the Director may approve in writing, Permittee shall seal/cap the well according to standards set by the State and in a manner acceptable to the County Building Official. Abandonment shall mean as follows:

- ABANDONMENT: A well is deemed "abandoned" when it has not been used for one (1) year. An owner may have the well deemed "inactive" by filling a written notice with the Department stating his/her intentions to use the well under specific conditions and/or time frames. As evidence of his/her intentions, the conditions contained in Bulletin 74-81 (Sec. 21) shall be met.
- Any well that is open or whose services/operating equipment (e.g. pumps/motors/pipes, etc.) has been removed shall be deemed abandoned.

S-7 The water well shall be registered with the Planning & Development Services Department to comply with the Imperial County's Groundwater Ordinance (Title 9, Division 22) and Water Well Regulations (Title 9, Division 21). The applicant is required to sign the registration form prior to recordation of the CUP.

S-8 Permittee shall provide a bond, letter of credit, cash deposit or other surety acceptable to County Counsel in the amount of $5,000 to the County to assure for proper closure and/or transfer of permit.

S-9 Water Well Replacement: In the event the proposed water well under this CUP requires replacement, and the CUP is still active and in compliance, said replacement water well shall be constructed by a California Licensed Driller in accordance with California Department of Water Resources Bulletin 74-81 and

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74-90 (including any subsequent revisions), and with the Imperial County Water Well Ordinance, Section 92101.00 et seq.

- Permittee shall submit copies of the "Report of Completion" (as required by the California Water Code, Section 13751), by the California Licensed Driller on the construction of any water well replaced. Copies shall be submitted to the Environmental Health Services, Planning & Development Services Department, and Public Works within thirty (30) days of the construction or destruction of the well, this report shall include:

  1. A description of the exact location of the well'
  2. A detailed log of the well
  3. A description of the type and depth of casings
  4. Details of perforation
  5. The methods used for sealing off surface or contaminated waters.
  6. Methods for preventing contaminated waters from one aquifer to mix with another aquifer.
  7. Name of person who constructed the well.

S-10 On a bi-annual basis, the Permittee shall provide chemical analysis of the well water to the Departments of Planning, Public Works, and Health Services. The analysis shall include but not be limited to all General Mineral and Inorganic Chemical Analysis for chemicals listed in Section 64431, Article 4, Title 22, California Code of Regulations. All sampling and analysis shall be performed by a laboratory licensed by the State of California to perform drinking water analysis. The reported analysis results shall be provided to the Planning Department during the second year report, and all subsequent bi-annual reports.

NOW THEREFORE, County hereby issues Conditional Use Permit **#20-0025** and Permittee hereby accepts such permit upon the terms and conditions set forth herein.

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IN WITNESS THEREOF, the parties hereto have executed this Agreement the day and year first written.

PERMITTEE

By: _____ Dated: _____

[APEX ENERGY, LLC]

COUNTY OF IMPERIAL, a political Subdivision of the STATE OF CALIFORNIA

By: _____ Dated: _____

Jim Minnick, Director of
Planning & Development Services
Department.

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PERMITTEE NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

Dated_____

STATE OF CALIFORNIA

COUNTY OF _____} S.S.

On _____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document.

Title or Type of Document_____
Number of Pages_____ Date of Document_____
Signer(s) Other Than Named Above_____

Dated_____

PC ORIGINAL PKG

COUNTY NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

COUNTY OF IMPERIAL} S.S.

On _____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

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Title or Type of Document_____
Number of Pages_____ Date of Document_____
Signer(s) Other Than Named Above_____

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RESOLUTION NO. ___

A RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF IMPERIAL, CALIFORNIA, FOR THE RECOMMENDATION TO THE BOARD OF SUPERVISORS FOR THE APPROVAL OF CONDITIONAL USE PERMIT #22-0026- AND CONDITIONS OF APPROVAL FOR THE VEGA SES 3 SOLAR ENERGY COMMERCIAL GROUND WATER WELL.

WHEREAS, APEX ENERGY, LLC has submitted an application for Conditional Use Permit proposing to drill and install a water well for commercial purposes to serve as a potable water source for a commercial purpose; and,

WHEREAS, an Environmental Impact Report (EIR) and CEQA Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State Guidelines, and the County's "Rules and Regulations to Implement CEQA, as Amended"; and,

WHEREAS, the Planning Commission of the County of Imperial has the responsibility of recommendations to Board of Supervisors for the approvals and certifications; and,

WHEREAS, public notice of said application has been given, and the Planning Commission has considered evidence presented by the Imperial County Planning & Development Services Department, and other comments by interested parties at a public hearing held with respect to this item on August 23, 2023; and,

WHEREAS, on August 23, 2023, the Planning Commission heard the proposed project; and,

NOW, THEREFORE, the Planning Commission of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Planning Commission has considered Conditional Use Permit #20-0026 and Conditions of Approval prior to recommend approval; the Planning Commission finds and determines that the Conditional Use Permit and Conditions of Approval are adequate and prepared in accordance with the requirements of the Imperial County General Plan and Land Use Ordinance and the (EIR) which analyzed environmental effects, based upon the following findings and determinations.

SECTION 2. That in accordance with State Planning and Zoning Law and the County of Imperial Land Use Ordinance and General Plan, the following findings for the approval of Conditional Use Permit #20-0026 have been made:

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A. The proposed use is consistent with the goals and policies of the adopted County General Plan.

The General Plan designates the project site as "Agriculture". It is classified as S-2 RE Open Space Recreational Renewable Energy Overlay under the Imperial County Land Use Ordinance (Title 9). The proposed project is for a water well and is a conditionally permitted use pursuant to County's Land Use Ordinance (Section 92102.00).

B. The proposed use is consistent with the purpose of the zone or sub-zone which the use will be used.

The water well is for commercial purposes. Section 92102.00 of the Imperial County Land Use Ordinance governs water wells. The purposed use could be considered a compatible use with a Conditional Use Permit pursuant to the Water Well Regulation (Land Use Ordinance, Section 92102.00).

C. The proposed use is listed as a use within the zone or sub-zone or is found to be similar to a listed conditional use according to the procedures of Section 90203.10.

The proposed water well is consistent with Land Use Ordinance, Section 92102.00 with an approved Conditional Use Permit.

D. The proposed use meets the minimum requirements of this Title applicable to the use and complies with all applicable laws, ordinances and regulations of the County of Imperial and the State of California.

The Conditions of Approval will insure that the project complies with all applicable regulations of the County of Imperial and State of California. Therefore, the proposed project will meet the minimum requirements of the Land Use Ordinance, Section 90203.00.

E. The proposed use will not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity.

The proposed water well anticipated annual water usage amount to **115-acre-feet** for construction and **6-acre-feet** per year for operational water. The water well will be used for the construction period and then periodically for dust control and cleaning of panels at the solar site. There will be no detrimental to

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the health safety, and welfare of the public or to the property and residents in the vicinity.

F. The proposed use does not violate any other law or ordinance.

The proposed project is conditioned to be consistent with Title 9, Codified Land Use Ordinance of the County of Imperial and CEQA. The proposed project will be subject to a Conditional Use Permit and current Federal, State and Local regulations.

G. The proposed use is not granting a special privilege.

The proposed water well is a conditional permitted use subject to the conditions of approval of CUP #22-0026 (Land Use Ordinance, Section 92102.00) and will not grant a special privilege.

NOW, THEREFORE, based on the above findings, the Imperial County Planning Commission **DOES HEREBY Recommends for the Board of Supervisors to approve** Conditional Use Permit #22-0026, subject to the attached Conditions of Approval.

_____

Rudy Schaffner, Chairperson
Imperial County Planning Commission

I hereby certify that the Planning Commission at a meeting conducted on **August 23, 2023** by the following vote approved the preceding resolution:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

_____

Jim Minnick, Director of Planning & Development Services

Secretary to the Planning Commission

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When Recorded Return To:

Imperial County Planning & Development
Services Department
801 Main Street
El Centro, California 92243

AGREEMENT FOR CONDITIONAL USE PERMIT # 22-0026
FOR A WATER WELL
VEGA SES 3 WATER WELL
(APN 025-010-006 -000)

This Agreement is made and entered into on this ____ day of _____, 2023, by and between [**APEX ENERGY, LLC**,] (hereinafter referred to as "Permittee"), and the COUNTY OF IMPERIAL, a political subdivision of the State of California, (hereinafter referred to as "COUNTY").

RECITALS

WHEREAS, Permittee is the owner, and/or operator and/or successor-in-interest in certain land in Imperial County known as "Assessor's Parcel 025-010-006, further described as a Section 9, 15, 17 of Township 11 South, Range 15 East, S.B.B.M, approximately 1,323-acres, and,

WHEREAS, Permittee has applied to the County for permission to construct, operate and maintain one water well, at the above site, and;

WHEREAS, Permittee has applied to the County to be allowed to pump up to **6-acre-feet** per year of groundwater for operations and **115-acre-feet** for construction phase of project from the water well to provide water to a solar development project, and;

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WHEREAS, Permittee and/or any subsequent owner(s) would be required to and intend to fully comply with all of the terms and conditions of the project as specified in this Conditional Use Permit.

WHEREAS, County, after a noticed public hearing, agreed to issue Conditional Use Permit #_____ to Permittee, and/or his or her successor in interest subject to the following conditions:

---

*The "GENERAL CONDITIONS" are shown by the letter **"G"**. These conditions are conditions that are either routinely and commonly included in all Conditional Use Permits as "standardized" conditions and/or are conditions that the Imperial County Planning Commission has established as a requirement on all CUP's for consistent application and enforcement. The Permittee is advised that the General Conditions are as applicable as the SITE SPECIFIC conditions!*

GENERAL CONDITIONS:

G-1 ACQUISITION OF PERMITS/LICENSES AND COMPLIANCE WITH GENERAL LAWS:

The Permittee shall obtain, comply with, and maintain all applicable County, State, and Federal permits, licenses, and/or approvals, including, but not limited to those required by Imperial County Planning & Development Services Department, Air Pollution Control District (APCD), County Division of Environmental Health Services (EHS), and Public Works Department. Additionally, Permittee agrees to comply with all applicable laws, ordinances, and/or regulations promulgated by County, State, and Federal jurisdictions whether specified herein or not. Furthermore, Permittee shall submit a copy of such additional permit(s)/license(s) to the Planning & Development Services Department within thirty (30) days of receipt, including amendments or alterations thereto.

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G-2 RECORDATION:

This permit shall not be effective until it is recorded at the Imperial County Recorder's Office, and payment of the recordation fee shall be the responsibility of the Permittee.

G-3 INDEMNIFICATION:

Permittee shall defend, indemnify and hold harmless County and its agents, including consultants, officers and employees from any claim, action or proceeding against the County or its agents, including consultants, officers or employees to attack, set aside, void, or annul the approval of this application or adoption of the environmental documents which accompanies it. This indemnification obligation shall include, but not be limited to, damages, costs, expenses, attorney's fees, or expert witness costs that may be asserted by any person or entity, including the Permittee arising out of or in connection with the approval of this application, including any claim for private attorney general fees claimed by or awarded to any party from the County.

G-4 RIGHT OF ENTRY:

The County reserves the right to enter the premises to make the appropriate inspection(s) and to determine if the condition(s) of this permit are complied with and access to authorized enforcement agency personnel shall not be denied.

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The provisions of this permit are to run with the land/project and shall bind the current and future owner(s) successor(s) of interest, assignee(s) and/or transferor(s) of said project.

- Permittee shall not without prior notification to the Planning & Development Services Department assign, sell, or transfer, or grant control of project or any right or privilege therein.

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- The Permittee shall provide a minimum of 60 days written notice prior to such proposed transfer becoming effective.
- In the event that the new owner or assignee or transferor has a history of non-compliance with environmental laws or is not of substantial equivalent or superior financial capability and/or responsibility or is not willing to or has not agreed to in writing to abide by the terms or conditions of this permit, the Planning & Development Services Department shall bring this matter to the Planning Commission for either revocation or modification to the permit.

G-6 CONDITION PRIORITY:

This project shall be constructed/operated as described in the approved Conditional Use Permit and conditions , site plan, support documentation, the Environmental Impact Report (EIR), the project description, and as specified in these conditions. Where a conflict occurs, the Conditional Use Permit conditions shall govern and take precedence.

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Should any condition(s) of this permit be determined by a Court or other agency with property jurisdiction to be invalid for any reason, such determination shall not invalidate the remaining provision(s) of this permit.

G-8 TIME LIMIT:

Unless otherwise specified within the specific conditions, this permit shall be limited to a maximum of thirty (30) years from the recordation of the CUP. If an extension is necessary, the Permittee shall file a written extension request with the Planning Director at least sixty (60) days prior to the expiration date of the permit. Such an extension request shall include the appropriate extension fee. If the original approval was granted by the Planning Commission and/or the Board of Supervisors, such an extension shall only be

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considered by the approving body, after a noticed public hearing. Nothing stated or implied within this permit shall constitute a guarantee that an extension will be granted. An extension may not be granted if the Project is in violation of any one or all of the conditions or if there is a history of non-compliance with the permit conditions.

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The Permittee shall pay any and all amounts determined by the County Planning & Development Services Department to defray any and all cost(s) for the review of reports, field investigations, monitoring, and other activities directly related to the enforcement/monitoring for compliance of this Conditional Use Permit, County Ordinance or any other applicable law. All County Departments, directly involved in the monitoring/enforcement of this project may bill Permittee under this provision, however said billing shall only be through and with the approval of the Planning & Development Services Department.

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G-11 REVOCATION:

Upon the determination by the Planning & Development Services Department that the project is or may not be in full compliance with any one or all of the conditions of this Conditional Use Permit, or upon the finding that the project is creating a nuisance as defined by law, the issue shall be brought immediately to the appropriate enforcement agency or to the Planning

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Commission for hearing to consider appropriate response including but not limited to the revocation of the CUP or to consider possible amendments to the CUP. The hearing shall be held upon due notice having been provided to the Permittee and to the public in accordance with established ordinance/policy.

G-12 HEALTH HAZARD:

If the County Health Officer determines that a significant health hazard exists to the public, the Health Officer may require appropriate measures and the Permittee shall implement such measures to mitigate the health hazard. If the hazard to the public is determined to be imminent, such measures may be imposed immediately and may include temporary suspension of operations; the measures imposed by the County Health Officer must be submitted to the Planning Commission for review and approval. Nothing shall prohibit Permittee from requesting a special Planning Commission meeting provided Permittee bears all costs.

PROJECT SPECIFIC CONDITIONS:

S-1 The Conditional Use Permit (CUP) allows the Permittee to draw a maximum of **6-acre**-feet of groundwater per year for operations and **115-acre-feet** for construction phase of project. Exceeding the amount of water specified herein will result in the Planning & Development Services Department taking action to rescind the CUP for non-compliance.

S-2 Water from the well shall not be used, sold, given, exported, or transported from those lands within VEGA SES 3 Solar Development and Battery Storage designated areas per the VEGA SES 3 approved EIR

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S-3 The water shall be used only for on-site use(s) within VEGA SES 3 solar and battery development areas only which includes the washing of solar panels, dust control and onsite construction related activities.

S-4 If the Board of Supervisors determines that groundwater management activities may be necessary to improve and preserve the quality or quantity of groundwater resources or prevent other environmental damage, the Board , after notice to the public and a public hearing, limitations or suspension of extractions from this water well. Title 9: Division 22: Ground Water Ordinance, Chapter 2: 92202.00 (E).

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S-6 Should the water well be "abandoned" at any time for more than 365 consecutive days, or such longer period of not more than twenty-four (24) consecutive months as the Director may approve in writing, Permittee shall seal/cap the well according to standards set by the State and in a manner

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acceptable to the County Building Official. Abandonment shall mean as follows:

- ABANDONMENT: A well is deemed "abandoned" when it has not been used for one (1) year. An owner may have the well deemed "inactive" by filling a written notice with the Department stating his/her intentions to use the well under specific conditions and/or time frames. As evidence of his/her intentions, the conditions contained in Bulletin 74-81 (Sec. 21) shall be met.
- Any well that is open or whose services/operating equipment (e.g. pumps/motors/pipes, etc.) has been removed shall be deemed abandoned.

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- Permittee shall submit copies of the "Report of Completion" (as required by the California Water Code, Section 13751), by the California Licensed Driller on the construction of any water well replaced. Copies shall be submitted to the Environmental Health Services, Planning & Development Services Department, and Public Works within thirty (30) days of the construction or destruction of the well, this report shall include:

  1. A description of the exact location of the well'
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NOW THEREFORE, County hereby issues Conditional Use Permit # **22-0026** and Permittee hereby accepts such permit upon the terms and conditions set forth herein.

IN WITNESS THEREOF, the parties hereto have executed this Agreement the day and year first written.

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PERMITTEE

By: _____ Dated: _____

[APEX ENERGY, LLC]

COUNTY OF IMPERIAL, a political Subdivision of the STATE OF CALIFORNIA

By: _____ Dated: _____

Jim Minnick, Director of
Planning & Development Services
Department.

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PERMITTEE NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

Dated_____

STATE OF CALIFORNIA

COUNTY OF _____} S.S.

On _____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature_____

_____

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document.

Title or Type of Document_____

Number of Pages_____ Date of Document_____

Signer(s) Other Than Named Above_____

Dated_____

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COUNTY NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

COUNTY OF IMPERIAL} S.S.

On _____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

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Signer(s) Other Than Named Above_____

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RESOLUTION NO. ___

A RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF IMPERIAL, CALIFORNIA, FOR THE RECOMMENDATION TO THE BOARD OF SUPERVISORS FOR THE APPROVAL OF CONDITIONAL USE PERMIT #22-0027- AND CONDITIONS OF APPROVAL FOR THE VEGA SES 5 SOLAR ENERGY COMMERCIAL GROUND WATER WELL.

WHEREAS, APEX ENERGY, LLC has submitted an application for Conditional Use Permit proposing to drill and install a water well for commercial purposes to serve as a potable water source for a commercial purpose; and,

WHEREAS, an Environmental Impact Report (EIR) and CEQA Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State Guidelines, and the County's "Rules and Regulations to Implement CEQA, as Amended"; and,

WHEREAS, the Planning Commission of the County of Imperial has the responsibility of recommendations to Board of Supervisors for the approvals and certifications; and,

WHEREAS, public notice of said application has been given, and the Planning Commission has considered evidence presented by the Imperial County Planning & Development Services Department, and other comments by interested parties at a public hearing held with respect to this item on August 23, 2023; and,

WHEREAS, on August 23, 2023, the Planning Commission heard the proposed project; and,

NOW, THEREFORE, the Planning Commission of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Planning Commission has considered Conditional Use Permit #22-0027 and Conditions of Approval prior to recommend approval; the Planning Commission finds and determines that the Conditional Use Permit and Conditions of Approval are adequate and prepared in accordance with the requirements of the Imperial County General Plan and Land Use Ordinance and the (EIR) which analyzed environmental effects, based upon the following findings and determinations.

SECTION 2. That in accordance with State Planning and Zoning Law and the County of Imperial Land Use Ordinance and General Plan, the following findings for the approval of Conditional Use Permit #22-0027 have been made:

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A. The proposed use is consistent with the goals and policies of the adopted County General Plan.

The General Plan designates the project site as "Agriculture". It is classified as S-2 RE Open Space Recreational Renewable Energy Overlay under the Imperial County Land Use Ordinance (Title 9). The proposed project is for a water well and is a conditionally permitted use pursuant to County's Land Use Ordinance (Section 92102.00).

B. The proposed use is consistent with the purpose of the zone or sub-zone which the use will be used.

The water well is for commercial purposes. Section 92102.00 of the Imperial County Land Use Ordinance governs water wells. The purposed use could be considered a compatible use with a Conditional Use Permit pursuant to the Water Well Regulation (Land Use Ordinance, Section 92102.00).

C. The proposed use is listed as a use within the zone or sub-zone or is found to be similar to a listed conditional use according to the procedures of Section 90203.10.

The proposed water well is consistent with Land Use Ordinance, Section 92102.00 with an approved Conditional Use Permit.

D. The proposed use meets the minimum requirements of this Title applicable to the use and complies with all applicable laws, ordinances and regulations of the County of Imperial and the State of California.

The Conditions of Approval will insure that the project complies with all applicable regulations of the County of Imperial and State of California. Therefore, the proposed project will meet the minimum requirements of the Land Use Ordinance, Section 90203.00.

E. The proposed use will not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity.

The proposed water well anticipated water usage amount to **205-acre-feet** for construction and **5-acre-feet** per year for operational water. The water well will be used for the construction period and then periodically for dust control and cleaning of panels at the solar site. There will be no detrimental to the health safety, and welfare of the public or to the property and residents in the vicinity.

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F. The proposed use does not violate any other law or ordinance.

The proposed project is conditioned to be consistent with Title 9, Codified Land Use Ordinance of the County of Imperial and CEQA. The proposed project will be subject to a Conditional Use Permit and current Federal, State and Local regulations.

G. The proposed use is not granting a special privilege.

The proposed water well is a conditional permitted use subject to the conditions of approval of CUP#22-0027 (Land Use Ordinance, Section 92102.00) and will not grant a special privilege.

NOW, THEREFORE, based on the above findings, the Imperial County Planning Commission **DOES HEREBY Recommend for the Board of Supervisors to approve** Conditional Use Permit #22-0027, subject to the attached Conditions of Approval.

_____

Rudy Schaffner, Chairperson
Imperial County Planning Commission

I hereby certify that the Planning Commission at a meeting conducted on **August 23, 2023** by the following vote approved the preceding resolution:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

_____

Jim Minnick, Director of Planning & Development Services

Secretary to the Planning Commission

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When Recorded Return To:

Imperial County Planning & Development
Services Department
801 Main Street
El Centro, California 92243

AGREEMENT FOR CONDITIONAL USE PERMIT CUP 22-0027
VEGA SES 5 WATER WELL
(APN 025-010-006-000)

This Agreement is made and entered into on this ____ day of _____, 2024, by and between [**APEX ENERGY, LLC**,] (hereinafter referred to as "Permittee"), and the COUNTY OF IMPERIAL, a political subdivision of the State of California, (hereinafter referred to as "COUNTY").

RECITALS

WHEREAS, Permittee is the owner, and/or operator and/or successor-in-interest in certain land in Imperial County known as "Assessor's Parcel 025-010-006, further described as a Section 9, Township 11 South, Range 15 East, S.B.B.M, approximately 640-acre parcel, and,

WHEREAS, Permittee has applied to the County for permission to construct, operate and maintain one water well, at the above site, and;

WHEREAS, Permittee has applied to the County to be allowed to pump up to **5-acre-feet** per year of groundwater for operations, and a one-time maximum of **205-acre-feet** of groundwater during construction, from the water well to provide water to a solar development project, and;

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WHEREAS, Permittee and/or any subsequent owner(s) would be required to and intend to fully comply with all of the terms and conditions of the project as specified in this Conditional Use Permit.

WHEREAS, County, after a noticed public hearing, agreed to issue Conditional Use Permit # 22-0027 to Permittee, and/or his or her successor in interest subject to the following conditions:

---

*The "GENERAL CONDITIONS" are shown by the letter **"G"**. These conditions are conditions that are either routinely and commonly included in all Conditional Use Permits as "standardized" conditions and/or are conditions that the Imperial County Planning Commission has established as a requirement on all CUP's for consistent application and enforcement. The Permittee is advised that the General Conditions are as applicable as the SITE SPECIFIC conditions!*

GENERAL CONDITIONS:

G-1 ACQUISITION OF PERMITS/LICENSES AND COMPLIANCE WITH GENERAL LAWS:

The Permittee shall obtain, comply with, and maintain all applicable County, State, and Federal permits, licenses, and/or approvals, including, but not limited to those required by Imperial County Planning & Development Services Department, Air Pollution Control District (APCD), County Division of Environmental Health Services (EHS), and Public Works Department. Additionally, Permittee agrees to comply with all applicable laws, ordinances, and/or regulations promulgated by County, State, and Federal jurisdictions whether specified herein or not. Furthermore, Permittee shall submit a copy of such additional permit(s)/license(s) to the Planning & Development Services Department within thirty (30) days of receipt, including amendments or alterations thereto.

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G-2 RECORDATION:

This permit shall not be effective until it is recorded at the Imperial County Recorder's Office, and payment of the recordation fee shall be the responsibility of the Permittee.

G-3 INDEMNIFICATION:

Permittee shall defend, indemnify and hold harmless County and its agents, including consultants, officers and employees from any claim, action or proceeding against the County or its agents, including consultants, officers or employees to attack, set aside, void, or annul the approval of this application or adoption of the environmental documents which accompanies it. This indemnification obligation shall include, but not be limited to, damages, costs, expenses, attorney's fees, or expert witness costs that may be asserted by any person or entity, including the Permittee arising out of or in connection with the approval of this application, including any claim for private attorney general fees claimed by or awarded to any party from the County.

G-4 RIGHT OF ENTRY:

The County reserves the right to enter the premises to make the appropriate inspection(s) and to determine if the condition(s) of this permit are complied with and access to authorized enforcement agency personnel shall not be denied.

G-5 PROVISION TO RUN WITH THE LAND/PROJECT:

The provisions of this permit are to run with the land/project and shall bind the current and future owner(s) successor(s) of interest, assignee(s) and/or transferor(s) of said project.

- Permittee shall not without prior notification to the Planning & Development Services Department assign, sell, or transfer, or grant control of project or any right or privilege therein.

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- The Permittee shall provide a minimum of 60 days written notice prior to such proposed transfer becoming effective.
- In the event that the new owner or assignee or transferor has a history of non-compliance with environmental laws or is not of substantial equivalent or superior financial capability and/or responsibility or is not willing to or has not agreed to in writing to abide by the terms or conditions of this permit, the Planning & Development Services Department shall bring this matter to the Planning Commission for either revocation or modification to the permit.

G-6 CONDITION PRIORITY:

This project shall be constructed/operated as described in the approved Conditional Use Permit and conditions , site plan, support documentation, the Environmental Impact Report (EIR), the project description, and as specified in these conditions. Where a conflict occurs, the Conditional Use Permit conditions shall govern and take precedence.

G-7 INVALID CONDITIONS/SEVERABILITY:

Should any condition(s) of this permit be determined by a Court or other agency with property jurisdiction to be invalid for any reason, such determination shall not invalidate the remaining provision(s) of this permit.

G-8 TIME LIMIT:

Unless otherwise specified within the specific conditions, this permit shall be limited to a maximum of thirty (30) years from the recordation of the CUP. If an extension is necessary, the Permittee shall file a written extension request with the Planning Director at least sixty (60) days prior to the expiration date of the permit. Such an extension request shall include the appropriate extension fee. If the original approval was granted by the Planning Commission and/or the Board of Supervisors, such an extension shall only be

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considered by the approving body, after a noticed public hearing. Nothing stated or implied within this permit shall constitute a guarantee that an extension will be granted. An extension may not be granted if the Project is in violation of any one or all of the conditions or if there is a history of non-compliance with the permit conditions.

G-9 PERMIT/MONITORING-RELATED FEES:

The Permittee shall pay any and all amounts determined by the County Planning & Development Services Department to defray any and all cost(s) for the review of reports, field investigations, monitoring, and other activities directly related to the enforcement/monitoring for compliance of this Conditional Use Permit, County Ordinance or any other applicable law. All County Departments, directly involved in the monitoring/enforcement of this project may bill Permittee under this provision, however said billing shall only be through and with the approval of the Planning & Development Services Department.

G-10 DEFINITIONS:

In the event of a dispute the meaning(s) or the intent of any word(s), phrase(s) and/or conditions or sections herein shall be determined by the Planning Commission of the County of Imperial. Their determination shall be final unless an appeal is made to the Board of Supervisors within ten (10) days from the date of the Commission's decision.

G-11 REVOCATION:

Upon the determination by the Planning & Development Services Department that the project is or may not be in full compliance with any one or all of the conditions of this Conditional Use Permit, or upon the finding that the project is creating a nuisance as defined by law, the issue shall be brought immediately to the appropriate enforcement agency or to the Planning

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Commission for hearing to consider appropriate response including but not limited to the revocation of the CUP or to consider possible amendments to the CUP. The hearing shall be held upon due notice having been provided to the Permittee and to the public in accordance with established ordinance/policy.

G-12 HEALTH HAZARD:

If the County Health Officer determines that a significant health hazard exists to the public, the Health Officer may require appropriate measures and the Permittee shall implement such measures to mitigate the health hazard. If the hazard to the public is determined to be imminent, such measures may be imposed immediately and may include temporary suspension of operations; the measures imposed by the County Health Officer must be submitted to the Planning Commission for review and approval. Nothing shall prohibit Permittee from requesting a special Planning Commission meeting provided Permittee bears all costs.

PROJECT SPECIFIC CONDITIONS:

S-1 The Conditional Use Permit (CUP) allows the Permittee to draw a maximum of **5-acre-feet** of groundwater per year for operations, and a one-time maximum of **205–acre-feet** of groundwater during construction. Exceeding the amount of water specified herein will result in the Planning & Development Services Department taking action to rescind the CUP for non-compliance.

S-2 Water from the well shall not be used, sold, given, exported, or transported from those lands within VEGA SES 5 Solar Development and Battery Storage designated areas per the VEGA SES 5 approved EIR

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S-3 The water shall be used only for on-site use(s) within VEGA SES 5 solar and battery development areas only, which includes the washing of solar panels, dust control and onsite construction related activities.

S-4 If the Board of Supervisors determines that groundwater management activities may be necessary to improve and preserve the quality or quantity of groundwater resources or prevent other environmental damage, the Board , after notice to the public and a public hearing, limitations or suspension of extractions from this water well. Title 9: Division 22: Ground Water Ordinance, Chapter 2: 92202.00 (E).

S-5 A flow meter shall be installed and sealed by a California State Licensed Water Well Drilling Contractor. Registered user shall submit an annual report to the Planning & Development Services Department indicating the yearly amount of water extracted from the well. A photograph (dated and signed) of the flow meter readings shall be included in the annual report. The report shall be received within thirty (30) days following the anniversary date of the issuance of this registration. In the event of a flow meter failure, the registered user shall be required to cease the water well operation and notify the Planning & Development Services Department. The registered user may be allowed to temporarily substitute the flow meter for an alternative measuring device, at the approval of the Planning & Development Services Department. In this case two (2) separate reports shall be submitted as stipulated herein. **Title 9, Division 22: Groundwater Ordinance 92202.04 Extraction Facility Water Flow Measurements.**

S-6 Should the water well be "abandoned" at any time for more than 365 consecutive days, or such longer period of not more than twenty-four (24) consecutive months as the Director may approve in writing, Permittee shall seal/cap the well according to standards set by the State and in a manner

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acceptable to the County Building Official. Abandonment shall mean as follows:

- ABANDONMENT: A well is deemed "abandoned" when it has not been used for one (1) year. An owner may have the well deemed "inactive" by filling a written notice with the Department stating his/her intentions to use the well under specific conditions and/or time frames. As evidence of his/her intentions, the conditions contained in Bulletin 74-81 (Sec. 21) shall be met.
- Any well that is open or whose services/operating equipment (e.g. pumps/motors/pipes, etc.) has been removed shall be deemed abandoned.

S-7 The water well shall be registered with the Planning & Development Services Department to comply with the Imperial County's Groundwater Ordinance (Title 9, Division 22) and Water Well Regulations (Title 9, Division 21). The applicant is required to sign the registration form prior to recordation of the CUP.

S-8 Permittee shall provide a bond, letter of credit, cash deposit or other surety acceptable to County Counsel in the amount of $5,000 to the County to assure for proper closure and/or transfer of permit.

S-9 Water Well Replacement: In the event the proposed water well under this CUP requires replacement, and the CUP is still active and in compliance, said replacement water well shall be constructed by a California Licensed Driller in accordance with California Department of Water Resources Bulletin 74-81 and 74-90 (including any subsequent revisions), and with the Imperial County Water Well Ordinance, Section 92101.00 et seq.

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- Permittee shall submit copies of the "Report of Completion" (as required by the California Water Code, Section 13751), by the California Licensed Driller on the construction of any water well replaced. Copies shall be submitted to the Environmental Health Services, Planning & Development Services Department, and Public Works within thirty (30) days of the construction or destruction of the well, this report shall include:

  1. A description of the exact location of the well'
  2. A detailed log of the well
  3. A description of the type and depth of casings
  4. Details of perforation
  5. The methods used for sealing off surface or contaminated waters.
  6. Methods for preventing contaminated waters from one aquifer to mix with another aquifer.
  7. Name of person who constructed the well.

S-10 On a bi-annual basis, the Permittee shall provide chemical analysis of the well water to the Departments of Planning, Public Works, and Health Services. The analysis shall include but not be limited to all General Mineral and Inorganic Chemical Analysis for chemicals listed in Section 64431, Article 4, Title 22, California Code of Regulations. All sampling and analysis shall be performed by a laboratory licensed by the State of California to perform drinking water analysis. The reported analysis results shall be provided to the Planning Department during the second year report, and all subsequent bi-annual reports.

NOW THEREFORE, County hereby issues Conditional Use Permit # 22-0027 and Permittee hereby accepts such permit upon the terms and conditions set forth herein.

IN WITNESS THEREOF, the parties hereto have executed this Agreement the day and year first written.

PC ORIGINAL PKG

PERMITTEE

By: _____ Dated: _____

[APEX ENERGY, LLC]

COUNTY OF IMPERIAL, a political Subdivision of the STATE OF CALIFORNIA

By: _____ Dated: _____

Jim Minnick, Director of
Planning & Development Services
Department.

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PERMITTEE NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

Dated _____

STATE OF CALIFORNIA

COUNTY OF _____} S.S.

On _____ before me, _____ a Notary Public in and for said County and State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature _____

_____

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Attachment G
Applications and back-up

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CONDITIONAL USE PERMIT

I.C. PLANNING & DEVELOPMENT SERVICES DEPT.
801 Main Street, El Centro, CA 92243 (760) 482-4236

- APPLICANT MUST COMPLETE ALL NUMBERED (black) SPACES – Please type or print -

1. PROPERTY OWNER'S NAME: Apex Energy LLC	EMAIL ADDRESS: jurgheuberger@gmail.com	
2. MAILING ADDRESS (Street / P O Box, City, State): 750 W. Main St., El Centro, Ca.	ZIP CODE: 92243	PHONE NUMBER: 760-996-0313 (jurg heuberger)
3. APPLICANT'S NAME: same	EMAIL ADDRESS: c/o jurgheuberger@gmail.com	
4. MAILING ADDRESS (Street / P O Box, City, State): same	ZIP CODE:	PHONE NUMBER:
4. ENGINEER'S NAME: NA — CA. LICENSE NO.	EMAIL ADDRESS:	
5. MAILING ADDRESS (Street / P O Box, City, State): NA	ZIP CODE: NA	PHONE NUMBER: NA

6. ASSESSOR'S PARCEL NO.: 025-010-006	SIZE OF PROPERTY (in acres or square foot):	ZONING (existing):
7. PROPERTY (site) ADDRESS: pendiong Vega 3 project		
8. GENERAL LOCATION (i.e. city, town, cross street): south-east of the townsite of niland		
9. LEGAL DESCRIPTION: see PV application on file		

PLEASE PROVIDE CLEAR & CONCISE INFORMATION (ATTACH SEPARATE SHEET IF NEEDED)

10. DESCRIBE PROPOSED USE OF PROPERTY (list and describe in detail): this application is to supplement the previously filed CUP app for a solar project by adding a water well
11. DESCRIBE CURRENT USE OF PROPERTY: vacant
12. DESCRIBE PROPOSED SEWER SYSTEM: none required
13. DESCRIBE PROPOSED WATER SYSTEM: none required
14. DESCRIBE PROPOSED FIRE PROTECTION SYSTEM: standard as required by County fire
15. IS PROPOSED USE A BUSINESS? ☐ Yes ☐ No — IF YES, HOW MANY EMPLOYEES WILL BE AT THIS SITE?

I / WE THE LEGAL OWNER (S) OF THE ABOVE PROPERTY CERTIFY THAT THE INFORMATION SHOWN OR STATED HEREIN IS TRUE AND CORRECT.

jurg heuberger for Ziad Alywan — Print Name
Signature
Oct. 5, 2022 — Date

Print Name
Signature
Date

REQUIRED SUPPORT DOCUMENTS

A. SITE PLAN
B. FEE
C. OTHER
D. OTHER

APPLICATION RECEIVED BY: — DATE
APPLICATION DEEMED COMPLETE BY: — DATE
APPLICATION REJECTED BY: — DATE
TENTATIVE HEARING BY: — DATE
FINAL ACTION: ☐ APPROVED ☐ DENIED — DATE

REVIEW / APPROVAL BY OTHER DEPT'S required.
☐ P. W.
☐ E. H. S.
☐ A. P. C. D.
☐ O. E. S.
☐ _____
☐ _____

CUP # _____

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CONDITIONAL USE PERMIT

I.C. PLANNING & DEVELOPMENT SERVICES DEPT.
801 Main Street, El Centro, CA 92243 (760) 482-4236

- APPLICANT MUST COMPLETE ALL NUMBERED (black) SPACES – Please type or print -

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4. MAILING ADDRESS (Street / P O Box, City, State): same	ZIP CODE:	PHONE NUMBER:
4. ENGINEER'S NAME: NA — CA. LICENSE NO.	EMAIL ADDRESS:	
5. MAILING ADDRESS (Street / P O Box, City, State): NA	ZIP CODE: NA	PHONE NUMBER: NA

6. ASSESSOR'S PARCEL NO.: 025-270-023	SIZE OF PROPERTY (In acres or square foot):	ZONING (existing):
7. PROPERTY (site) ADDRESS: pendiong Vega 2 project		
8. GENERAL LOCATION (i.e. city, town, cross street): south-east of the townsite of niland		
9. LEGAL DESCRIPTION: see PV application on file		

PLEASE PROVIDE CLEAR & CONCISE INFORMATION (ATTACH SEPARATE SHEET IF NEEDED)

10. DESCRIBE PROPOSED USE OF PROPERTY (list and describe in detail): this application is to supplement the previously filed CUP app for a solar project by adding a water well
11. DESCRIBE CURRENT USE OF PROPERTY: vacant
12. DESCRIBE PROPOSED SEWER SYSTEM: none required
13. DESCRIBE PROPOSED WATER SYSTEM: none required
14. DESCRIBE PROPOSED FIRE PROTECTION SYSTEM: standard as required by County fire
15. IS PROPOSED USE A BUSINESS? ☐ Yes ☐ No — IF YES, HOW MANY EMPLOYEES WILL BE AT THIS SITE?

I / WE THE LEGAL OWNER (S) OF THE ABOVE PROPERTY CERTIFY THAT THE INFORMATION SHOWN OR STATED HEREIN IS TRUE AND CORRECT.

jurg heuberger for Ziad Alywan — Print Name
Signature
Oct. 5, 2022 — Date

Print Name
Signature
Date

REQUIRED SUPPORT DOCUMENTS

A. SITE PLAN
B. FEE
C. OTHER
D. OTHER

APPLICATION RECEIVED BY: — DATE
APPLICATION DEEMED COMPLETE BY: — DATE
APPLICATION REJECTED BY: — DATE
TENTATIVE HEARING BY: — DATE
FINAL ACTION: ☐ APPROVED ☐ DENIED — DATE

REVIEW / APPROVAL BY OTHER DEPT'S required.
☐ P. W.
☐ E. H. S.
☐ A. P. C. D.
☐ O. E. S.
☐ ____
☐ ____

CUP # ____

PC ORIGINAL PKG

CONDITIONAL USE PERMIT

I.C. PLANNING & DEVELOPMENT SERVICES DEPT.
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1. PROPERTY OWNER'S NAME Apex Energy LLC		EMAIL ADDRESS jurgheuberger@gmail.com	
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4. ENGINEER'S NAME NA	CA. LICENSE NO.	EMAIL ADDRESS	
5. MAILING ADDRESS (Street / P O Box, City, State) NA		ZIP CODE NA	PHONE NUMBER NA

6. ASSESSOR'S PARCEL NO. 025-010-006 partial & 025-260-019 & 022	SIZE OF PROPERTY (in acres or square foot) partial of 160 & 90 & 160	ZONING (existing)
7. PROPERTY (site) ADDRESS pendiong Vega 5 project		
8. GENERAL LOCATION (i.e. city, town, cross street) south-east of the townsite of niland		
9. LEGAL DESCRIPTION see PV application on file		

PLEASE PROVIDE CLEAR & CONCISE INFORMATION (ATTACH SEPARATE SHEET IF NEEDED)

10. DESCRIBE PROPOSED USE OF PROPERTY (list and describe in detail) this application is to supplement the previously filed CUP app for a solar project by adding a water well	
11. DESCRIBE CURRENT USE OF PROPERTY	vacant
12. DESCRIBE PROPOSED SEWER SYSTEM	none required
13. DESCRIBE PROPOSED WATER SYSTEM	none required
14. DESCRIBE PROPOSED FIRE PROTECTION SYSTEM	standard as required by County fire
15. IS PROPOSED USE A BUSINESS? ☐ Yes ☐ No	IF YES, HOW MANY EMPLOYEES WILL BE AT THIS SITE?

I / WE THE LEGAL OWNER (S) OF THE ABOVE PROPERTY CERTIFY THAT THE INFORMATION SHOWN OR STATED HEREIN IS TRUE AND CORRECT.

jurg heuberger for Ziad Alywan — JAN 19, 2023
Print Name — Date
Signature

Print Name — Date
Signature

REQUIRED SUPPORT DOCUMENTS

A. SITE PLAN
B. FEE
C. OTHER
D. OTHER

APPLICATION RECEIVED BY		DATE	
APPLICATION DEEMED COMPLETE BY		DATE	
APPLICATION REJECTED BY		DATE	
TENTATIVE HEARING BY		DATE	
FINAL ACTION ☐ APPROVED ☐ DENIED		DATE	

REVIEW / APPROVAL BY OTHER DEPTS required
☐ P. W.
☐ E. H. S.
☐ A. P. C. D.
☐ C. E. S.
☐ _____
☐ _____

CUP # _____

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LETTER OF TRANSMITTAL:

October 15, 2020

TO: Jim Minnick, Director of ICPDS

FROM: Jurg Heuberger, Consultant

RE: VEGA SES 2, 3, 4 and 5

Jim:

Attached are four (4) applications for four solar projects. They are titled VEGA SES 2, VEGA SES 3, VEGA SES 4 and VEGA SES 5.

We are requesting that VEGA 2, 3 and 5 be processed under one EIR and VEGA 4 under one EIR.

The fees per your office are $ $16,500.00 for processing VEGA 2, 3 & 5, and $ 14,500.00 for VEGA 4.

These applications are not complete in the sense that they do not have the accompanying technical studies. They are however complete enough for your office to commence the RFP process to retain appropriate consultant(s) for the preparation of the EIR's.

At this time, we are requesting that your office start the process to retain appropriate EIR Consultant(s).

Time is of the essence on these projects which is why we are requesting your cooperation and assistance in expediting this portion of the process.

We will have the technical studies plus any other documentation you need well before you have a contract for a CEQA consultant. To that end however we would also appreciate having your staff begin the review of these applications and advising me of what other information they feel is lacking aside from the "preliminary title reports", the original owners affidavits, and the technical studies which will include the following: traffic, biological, cultural, visual, air quality/GHG, Noise and AG/LESA.

Lastly, I am the primary point of contact on all of these applications and would respectfully request that all correspondence on these be directed to me at jurgheuberger@gmail.com, or 760-996-0313 or PO Box 4151, El Centro, Ca. 92244. I understand that you have to notify the property owners that a permit application has been filed on their land, however all other correspondence should be directed exclusively to me.

Thank you.

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CONDITIONAL USE PERMIT

I.C. PLANNING & DEVELOPMENT SERVICES DEPT.
801 Main Street, El Centro, CA 92243 (760) 482-4236

- APPLICANT MUST COMPLETE ALL NUMBERED (black) SPACES – Please type or print -

1. PROPERTY OWNER'S NAME See attached Property Owner Exhibit		EMAIL ADDRESS See attached Property Owner Exhibit	
2. MAILING ADDRESS (Street / P O Box, City, State) See attached Property Owner Exhibit		ZIP CODE See attached Property Owner Exhibit	PHONE NUMBER
3. APPLICANT'S NAME Apex Energy Solutions, LLC		EMAIL ADDRESS ziad@zglobal.biz	
4. MAILING ADDRESS (Street / P O Box, City, State) 604 Sutter Street, Suite 250, Folsom, CA		ZIP CODE 95630	PHONE NUMBER (916) 985-9461
4. ENGINEER'S NAME To be determined	CA. LICENSE NO.	EMAIL ADDRESS To be determined	
5. MAILING ADDRESS (Street / P O Box, City, State) To be determined		ZIP CODE To be determined	PHONE NUMBER To be determined

6. ASSESSOR'S PARCEL NO. 025-260-011; 025-010-006; 025-270-023	SIZE OF PROPERTY (In acres or square foot) Approximately 1,483 acres	ZONING (existing) S-2-RE
7. PROPERTY (site) ADDRESS none available 1103 Flowing Wells Rd, Brawley, CA 92227		
8. GENERAL LOCATION (i.e. city, town, cross street) East of Niland in the Unincorporated area of Imperial County		
9. LEGAL DESCRIPTION See attached Property Owner Exhibit for parcel specific legal descriptions. (also see Attachment 1 [Project Description]) for additional detail.		

PLEASE PROVIDE CLEAR & CONCISE INFORMATION (ATTACH SEPARATE SHEET IF NEEDED)

10. DESCRIBE PROPOSED USE OF PROPERTY (list and describe in detail)	Develop the Vega SES 2 Solar BESS Project, a nominal 240-megawatt (MW) alternating current (AC) solar photovoltaic energy generation and 240MW/960 megawatt hour (MWh) battery energy storage project (see Attachment 1 [Project Description])
11. DESCRIBE CURRENT USE OF PROPERTY	Idle land (see Attachment 1)
12. DESCRIBE PROPOSED SEWER SYSTEM	See Attachment 1
13. DESCRIBE PROPOSED WATER SYSTEM	See Attachment 1
14. DESCRIBE PROPOSED FIRE PROTECTION SYSTEM	See Attachment 1
15. IS PROPOSED USE A BUSINESS? ☒ Yes ☐ No	IF YES, HOW MANY EMPLOYEES WILL BE AT THIS SITE? 0 (see Attachment 1)

I / WE THE LEGAL OWNER (S) OF THE ABOVE PROPERTY CERTIFY THAT THE INFORMATION SHOWN OR STATED HEREIN IS TRUE AND CORRECT.

See attached owner's affidavits
Print Name — Date

Applicant: Apex Energy Solutions, LLC
Signature

Ziad Alaywan, P.E. — 10/14/2020
Print Name — Date

Signature

REQUIRED SUPPORT DOCUMENTS

A. SITE PLAN
B. FEE
C. OTHER
D. OTHER

APPLICATION RECEIVED BY:	JH	DATE	10/20/2020
APPLICATION DEEMED COMPLETE BY:		DATE	
APPLICATION REJECTED BY:		DATE	
TENTATIVE HEARING BY:		DATE	
FINAL ACTION: ☐ APPROVED ☐ DENIED		DATE	

REVIEW / APPROVAL BY OTHER DEPT'S required.
☐ P. W.
☐ E. H. S.
☐ A. P. C. D.
☐ O. E. S.
☐ _____
☐ _____

CUP # 20-0021

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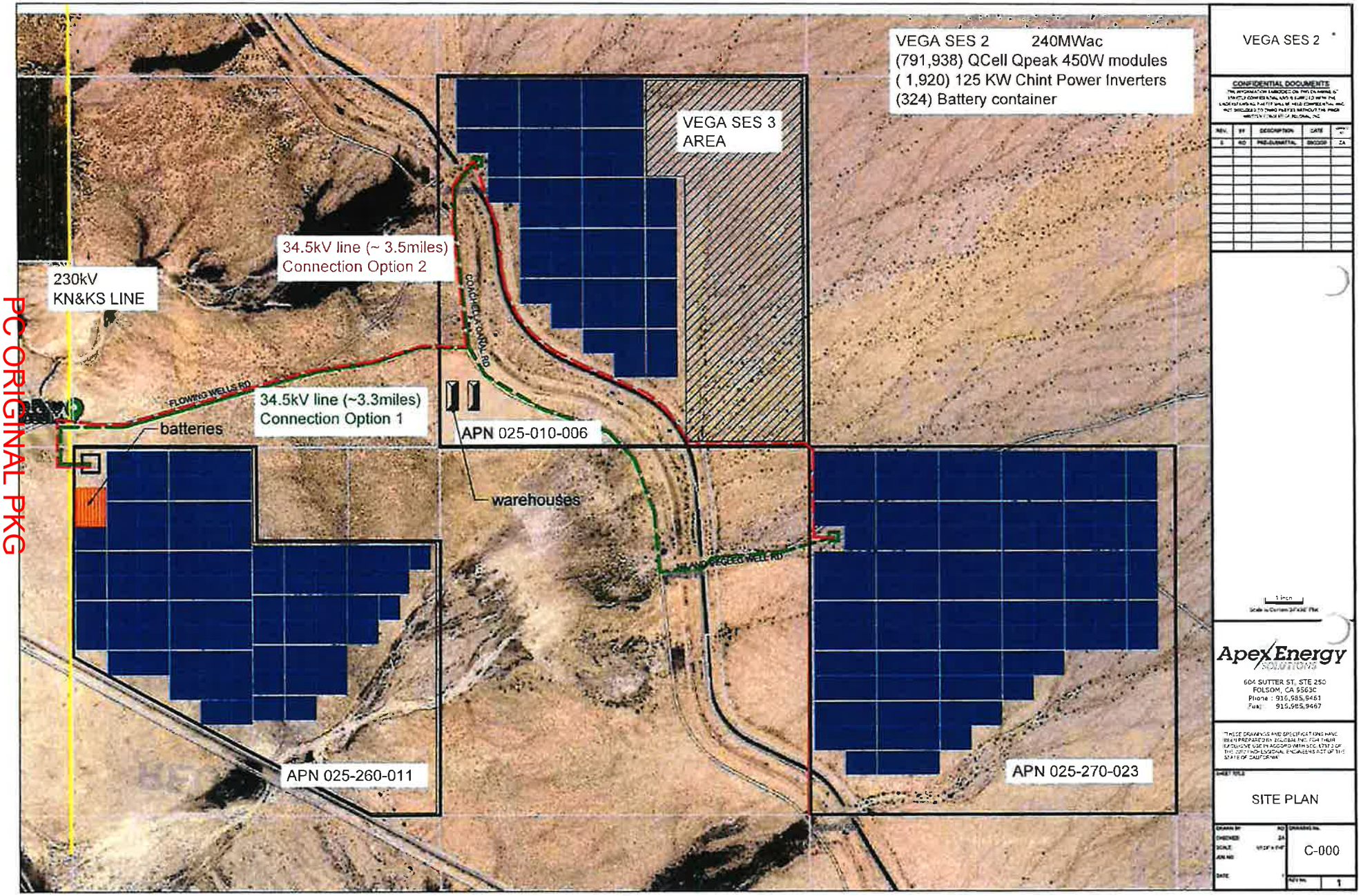

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VEGA SES 2

CONFIDENTIAL DOCUMENTS

REV.	BY	DESCRIPTION	DATE	APPD BY
0	RD	PRE-SUBMITTAL	09/2021	ZA

1 inch
Scale is Correct at ANSI Plot

Apex Energy Solutions
604 SUTTER ST, STE 250
FOLSOM, CA 95630
Phone : 916.985.9461
Fax: 916.985.9467

THESE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED BY ZOLFAN INC FOR THEIR EXCLUSIVE USE IN ACCORD WITH SEC. 6737.2 OF THE CIVIL AND ENGINEERS ACT OF THE STATE OF CALIFORNIA

SHEET TITLE

SITE PLAN

DRAWN BY	RD
CHECKED	ZA
SCALE	AS SHOWN
APN NO	
DATE	
DRAWING No.	C-000
REV No.	1

Property Owner 1

1.	PROPERTY OWNER'S NAME Victoria Gabbard, Individually and on behalf of, Dr. J.G. Clark, Trustee Marjorie Gardner, Trustee	EMAIL ADDRESS lesleyashlaw@gmail.com All contact with property owner is conducted through Attorney. Info in 2B.	
2.	MAILING ADDRESS (Street / P O Box, City, State) 236 N. Laurel Ave, Charlotte, NC	ZIP CODE 28207	PHONE NUMBER
2B.	MAILING ADDRESS (Street / P O Box, City, State) 401 W "A" St, Suite 1100, San Diego, CA	ZIP CODE 92101	PHONE NUMBER (619) 227-7778
6.	ASSESSOR'S PARCEL NO. **025-260-011**	SIZE OF PROPERTY (in acres of square foot) 448.30	ZONING (Existing) S-2-RE
7.	PROPERTY (site) ADDRESS None available		
8.	GENERAL LOCATION (i.e. city, town, cross street) East of Niland in the Unincorporated area of Imperial County		
9.	LEGAL DESCRIPTION SECTION 17, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF. EXCEPTING A STRIP OF LAND 200 FEET WIDE CONTAINING 22 ACRES LYING EQUALLY ON EACH SIDE OF THE CENTERLINE OF THE SOUTHERN PACIFIC RAILROAD COMPANY RIGHT OF WAY AS NOW CONSTRUCTED, RESERVED BY SOUTHERN PACIFIC LAND COMPANY BY DEED RECORDED OCTOBER 16, 1951 IN BOOK 823, PAGE 299 OF OFFICIAL RECORDS. ALSO EXCEPTING THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 17.		

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Property Owner 2

1.	PROPERTY OWNER'S NAME Mesa Ranch West, LLC		EMAIL ADDRESS dennis@seaviewsales.com	
2.	MAILING ADDRESS (Street / P O Box, City, State) 86235 Avenue 52, Coachella, CA		ZIP CODE 92236	PHONE NUMBER (760) 398-8850
6.	ASSESSOR'S PARCEL NO. **025-010-006**	SIZE OF PROPERTY (in acres of square foot) 640		ZONING (Existing) S-2-RE
7.	PROPERTY (site) ADDRESS None available			
8.	GENERAL LOCATION (i.e. city, town, cross street) East of Niland in the Unincorporated area of Imperial County			
9.	LEGAL DESCRIPTION SECTION 9, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN AN UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF. EXCEPT THAT PORTION CONVEYED TO THE UNITED STATES BY DEED RECORDED JULY 24, 1940 IN BOOK 553, PAGE 210 OF OFFICIAL RECORDS. ALSO EXCEPT THEREFROM THAT PROPERTY TAKEN BY THE UNITED STATES OF AMERICA IN THE DECLARATION OF TAKING DATED APRIL 04, 1979 AND RECORDED MAY 23, 1979 AS INSTRUMENT NO. 32, IN BOOK 1434, PAGE 436 OF OFFICIAL RECORDS. ALSO EXCEPT 25% OF ALL OIL, MINERALS, GAS, PETROLEUM, OR OTHER HYDROCARBONS WITHIN OR UNDERLYING WHICH MAY BE PRODUCED AND SAVED THEREFROM, BUT WITH NO RIGHT OF SURFACE ENTRY, RESERVED BY LOUIS MEITUS, ET UX., BY DEED RECORDED MARCH 24, 1964 IN BOOK 1180, PAGE 316 OF OFFICIAL RECORDS. ALSO EXCEPT AN UNDIVIDED 12-1/2% INTEREST TO ALL OF THE SUBSURFACE BELOW 200 FEET, WITHOUT ANY RIGHT, TITLE, OR INTEREST TO THE SURFACE OR SUBSURFACE ABOVE 200 FEET AS THEREIN PROVIDED, CONVEYED TO VERNON NUSSBAUM, ET UX., BY DEED RECORDED SEPTEMBER 01, 1964 IN BOOK 1190, PAGE 762 OF OFFICIAL RECORDS. ALSO EXCEPT ANY UNDIVIDED 12-1/2% INTEREST TO ALL SUBSURFACE BELOW 200 FEET, WITHOUT ANY RIGHT TO THE SURFACE OR THE SUBSURFACE ABOVE 200 FEET EXCEPT AS THEREIN PROVIDED, CONVEYED TO DONALD CANNON, ET UX., BY DEED RECORDED SEPTEMBER 25, 1964 IN BOOK 1194, PAGE 355 OF OFFICIAL RECORDS.			

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Property Owner 3

1.	PROPERTY OWNER'S NAME WANG LI TONG & SUCHU CHOU CO TR & ETAL	EMAIL ADDRESS		
2.	MAILING ADDRESS (Street / P O Box, City, State) 12745 NOTTINGHAM ST CERRITOS CA	ZIP CODE 90703	PHONE NUMBER	
6.	ASSESSOR'S PARCEL NO. **025-270-023**	SIZE OF PROPERTY (in acres of square foot) 624.760		ZONING (Existing) S-2-RE
7.	PROPERTY (site) ADDRESS None available			
8.	GENERAL LOCATION (i.e. city, town, cross street) East of Niland in the Unincorporated area of Imperial County			
9.	LEGAL DESCRIPTION ALL OF SECTION 15, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF. EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE U.S.A. BY DEED RECORDED AUGUST 11, 1978 IN BOOK 1420, PAGE 912 OF OFFICIAL RECORDS.			

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VEGA SES 2 AND VEGA SES 3 SOLAR PROJECT DESCRIPTION

October 2020

Submitted to:

County of Imperial
Planning and Development Services
Department
801 Main Street
El Centro, CA 92243-2811

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Submitted by:

APEX ENERGY SOLUTIONS, LLC.
750 W. Main Street
El Centro, CA 92243

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VEGA SES 2 AND VEGA SES 3

SOLAR PROJECT DESCRIPTION

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VEGA SES 2 AND VEGA SES 3

SOLAR PROJECT DESCRIPTION

Introduction

Apex Energy Solutions LLC. is proposing to develop the Vega SES 2 & Vega SES 3 Solar Energy Storage (Projects),

1. **Vega SES 2:** An up to two-hundred and forty (240)–megawatt alternating current (MWAC) solar photovoltaic (PV) energy generation project with an integrated 240 MW Battery Energy Storage System (BESS), on approximately 1,472 acres of land in the County of Imperial, California.
2. **Vega SES 3:** An up to sixty (60)–megawatt alternating current (MWAC) solar photovoltaic (PV) energy generation project with an integrated 60 MW Battery Energy Storage System (BESS), on approximately 240 acres of land in the County of Imperial, California.

The location of the project sites would be in Sections 9, 15 and 17 all within Township 11 South, Range 15 East of the San Bernardino Base and Meridian (SBB&M) of the "Iris" topographic quadrangles 7.5-minute quadrangle (U.S. Department of the Interior, Geological Survey 2005), in the unincorporated region of the County of Imperial, State of California. The projects are located between the unincorporated communities of Iris and Slab City, running parallel to the Coachella Canal (See Figure 1).

The electrical energy produced by Vega SES 2 would be delivered to the Imperial Irrigation District (IID) through the Project interconnection switching station delivering to the IID 230kV "KN/KS" Line.

The electrical energy produced by Vega SES 3 would be connected to the existing utility approved point of interconnection (POI) at the northern boundary of the Project parcel to the IID 161 kV "L" Line.

Property Description

1. **Vega SES 2** is located on Imperial County Assessor's Parcel Numbers (APNs) 025-260-011-000 (approximately 448.30 acres), APN 025-270-023 (approximately 624.76 acres) and APN 025-010-006-000 (approximately 400 of the 640 acres), the first owned by Joseph G. Clark (trustee), Marjorie Gardner (trustee) and Victoria Gabbard (Seller), the

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second by Mesa West Ranch LLC., and the third by Wang Li Tong & Sochu Chou Co Tr & Etal.

2. **Vega SES 3** is located on the remainder of APN 025-010-006-000 (approximately 240 of the 640 acres), owned by Mesa West Ranch LLC.

All project parcels, for both Vega SES 2 and Vega SES 3, are designated as "Recreation/Open Space" in the Imperial County General Plan and are zoned S-2-RE (Open Space/Preservation with a Renewable Energy overlay).

Pursuant to Section 91703.02 (CONDITIONAL USE PERMITS), Renewable Energy Projects must be located within the Renewable Energy Overlay Zone and may be permitted only through the issuance of a Conditional Use Permit (CUP) as approved by the Approving Authority unless otherwise allowed by applicable law. At present, the Projects are located within a Renewable Energy Zone. This Project Description is intended to support Apex Energy Solutions LLC's request approval of two independent Conditional Use Permits for the Vega SES 2 and Vega SES 3 Projects. Representative photographs of the Project areas will be provided.

Solar Technology

The Projects propose to utilize either thin film or crystalline solar photovoltaic (PV) technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The depth of the piles would be dependent on the recommendations of the geotechnical report prepared for the Projects. The fixed-frame racks would be secured at a fixed tilt of 20° to 30° from horizontal facing a southerly direction. Current Project designs would have individual PV modules, mounted two high on a fixed frame, providing a two-foot ground clearance and resulting in the tops of the panels at approximately 7.5 feet above the ground. The fixed PV modules would be arranged in arrays spaced approximately 15 to 25 feet apart (pile-to-pile) to maximize performance and to allow access for panel cleaning (if necessary). These arrays would be separated from each other and the perimeter security fence by up to 30-foot wide interior roads. If HSAT technology is used, the PV modules would rotate around the north-south HSAT axis so that the PV modules would continue to face the sun as the sun moves across the sky throughout the day. The PV modules would reach their maximum height (up to nine (9) feet above the ground, depending on the final design) at both sunrise and sunset, when the HSAT is rotated to point the modules at the rising or setting sun. At noon, or when stowed during high winds, when the HSAT system is rotated so that the PV modules are horizontal, the nominal height would be about six feet above the ground, depending on the final design. The individual PV systems would be arranged in large arrays by placing them in columns spaced approximately ten feet apart to maximize operational performance and to allow access for panel cleaning and maintenance. Current Project designs would have individual HSAT PV modules, each approximately two feet wide by four feet long (depending on the specific PV technology selected), mounted on a frame which is attached to an HSAT system. These HSAT arrays would be separated from each other and the perimeter security fence by up to 30-foot wide roads, consistent with agency emergency access requirements.

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Project Facilities

Electrical Power System: Electricity generated by the PV modules would be collected by a direct current (DC) collection system routed underground in trenches. This DC power would be delivered to one of the pad-mounted inverters in weatherproof enclosures located within the arrays. The inverters would convert the DC power to three-phase alternating current (AC). The inverters could be connected to AC interconnection facilities which, if needed, would raise the voltage to 34.5 kV, or the interconnection voltage selected by the Projects. Underground or overhead 34.5 kV or 60-kV collection lines would transmit the electricity to the new Project substations.

Substation(s), Distribution/Electrical Collection and Transmission:

1. **Vega SES 2:**

   One new Project substation would be constructed on APN 025-260-011 in the northwestern corner of the parcel (See Figure 3). This substation would take the delivery of up to 60 kV electricity from the below described parcel substations and increase the voltage of the electricity to 230 kV, where it would feed into the interconnection switching station for metering and delivery to the IID KN/KS Line. The substation would include two transformers, circuit breakers, meters, disconnect switches, microwave or other communication facilities and an electrical control building.

   Two new parcel substations would be constructed on each of the Project parcels. The first parcel substation is located on APN 025-010-006 in the northwestern corner of the parcel. The second parcel substation is located on APN 025-270-023 in the northwestern corner of the parcel (See Figure 3). These substations will be comprised of an underground combiner box used to connect all of the low voltage AC outputs of the inverters, a medium voltage transformer to increase the voltage to up to 60kV, a protective relay system and associated circuit breakers and disconnect switches. The parcel substation on APN 025-010-006 will also include one medium to high voltage transformer to bring the voltage to 230 kV, allowing for interconnection with IID via the interconnection switching station. The additional transformer would include high side protection and disconnect switches with associated protective relays. These substations would take delivery of the parcel generation and transmit it through one of the proposed 34.5 or 60 kV lines to the primary Project substation on APN 025-260-011. The parcel substations would include a transformer, circuit breaker, meters, disconnect switches and microwave or other communication facilities.

   One new Project interconnection switching station would be constructed on APN 025-260-011, immediately adjacent to the Project substation. These two stations would be connected via a single overhead 230 kV line. The interconnection switching station would include circuit breakers, switches, overhead bus work, protective relay equipment and control building. The station would operate at 230 kV and be configured in a Breaker-And-A-Half arrangement. This would allow for looping in of one or two of the

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IID 230 kV lines as well as connection of the total project output at 230 kV. The interconnection switching station would be enclosed within its own fence line.

The Projects distribution and interconnection would be as follows; the medium voltage power would be conveyed underground or aboveground via 34.5 or 60-kV distribution circuits from the parcel substations on the two eastern most parcels (APN 025-010-006 and 025-270-023) to the Project substation on the western most parcel (APN 025-260-011). The medium voltage distribution circuits would run along existing county roads [JN1]and terminate at the Project substation on the western most parcel (APN 025-260-011). These distribution lines can follow one of two contemplated pathways, Connection Option 1 and Connection Option 2 (See Figure 3).

2. **Vega SES 3:**

One new Project substation would be constructed on APN 025-010-006 in the northwestern corner of the Project area (See Figure 4). Medium voltage power electricity generated from the site would be conveyed underground, or above ground where necessary, to cross over any sensitive site features, to connect to the Project substation.

An interconnection switching station would be constructed immediately adjacent to the Project substation. These two stations, the Project substation and the interconnection switching station, would be connected via a single overhead 161 kV overhead line. The interconnection switching station would include circuit breakers, switches, overhead bus work, protective relay equipment and a control building. The station would operate at 161 kV and be configured in a Breaker-And-A-Half or three breaker ring bus arrangement. This would allow for looping in of the IID 161 kV "L" transmission line as well as connection of the project tie line. The interconnection switching station would be enclosed within its own fence.

This point of interconnection would meet all necessary utility standards and requirements. All required electrical breaker systems, transformer, and protective relays would be installed as part of the project. Surge arrestors would be used to protect the facilities and auxiliary equipment from lightning strikes or other disturbances, as required. Distribution from the site would be via an overhead connection.

Security: Six-foot high security fencing would be installed around the perimeter of each of the Project sites at the commencement of construction and site access would be limited to authorized site workers. In addition, a motion detection system and closed-circuit camera system may also be installed. The site would be remotely monitored 24 hours per day, 7 days per week. In addition, routine unscheduled security rounds may be made by the security team monitoring the site security.

Battery System: The proposed battery energy storage system (BESS or ESS) would be constructed adjacent to the projects solar facilities and would consist of either lithium ion (Li-ion) or flow batteries. The batteries will either be housed in storage containers or buildings fitted with HVAC and fire suppression systems. Inside the housing the batteries will be placed on

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racks, the orientation of which depends on the type of housing. Underground trenches with conduits will be used to connect the batteries to the control and monitoring systems, and inverters to convert the PV produced DC power to AC power.

Site Access

Each of the Project sites would include both a primary and secondary access (if required) driveway off the adjacent public roads (see Figure 3)[JN2]. No new access across IID lateral canals or drains is expected. These driveways would each be provided with a minimum of 30-foot double swing gates with "Knox Box" for keyed entry. Internal to the Project site up to 30-foot wide roads would be provided between the PV arrays, as well as around the perimeter of each Project site inside the perimeter security fence to provide access to all areas of each site for maintenance and emergency vehicles (see Figure 4 and Figure 5).

Site Construction

Construction Activities: Construction activities would primarily involve demolition and grubbing; grading of each Project site to establish access roads and pads for electrical equipment (inverters and step–up transformers); trenching for underground electrical collection lines; and the installation of solar equipment and security fencing. Dust generated during construction would be controlled by watering and, as necessary, the use of other dust suppression methods and materials accepted by the Imperial County Air Pollution Control District (ICAPCD) or the California Air Resources Board (CARB). A temporary, portable construction supply container would be located at the Project sites at the beginning of construction and removed at the end of construction. The number of on–site construction workers for the solar project facilities is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the battery storage facility and the substation is not expected to exceed 100 workers at any one time. Onsite parking would be provided for all construction workers.

Traffic: The construction worker traffic is expected to travel to the site from Highway 111 east along one of the connecting county roads to Noffsinger Road over the canal crossing to Flowing Wells Road to access APN 025-260-011 and 025-010-006, and beyond to Coachella Canal Road using Niland Pegleg Well Road to cross a second canal and access APN 025-270-023.

Delivery trucks are expected to follow the same routes as the construction workers. An estimated two trucks would arrive at the Project sites each day during the first few weeks of construction of the solar generating facility.

Storm Water: Areas of the solar energy storage facilities where small amounts of contaminants could be released, such as the paved areas surrounding the containers, would be constructed in compliance with storm water quality management measures (i.e., basins and infiltration areas, where required) designed to meet State and local storm water management plan requirements. These paved areas would be maintained, and any vehicle leaks or spills would be periodically cleaned with absorbent materials to minimize the potential for contamination. All applicable local RWQCB discharge requirements and County of Imperial's water quality regulations would

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be adhered to in the development and maintenance of the project sites. A drainage study and preliminary grading plan for the project will be prepared by a local civil engineering firm to address the potential environmental impacts of site drainage and stormwater.

Site Operations

Once construction is completed the Project would be remotely controlled. No employees would be based at the Project sites. Primary security–related monitoring would be done remotely. Security personnel may conduct unscheduled security rounds, and would be dispatched to the site in response to a fence breach or other alarm. Site maintenance workers may access the Project site periodically to clean the panels and maintain the equipment and Project area. The public would not have access to the facility. Access to the Project sites would be infrequent and limited to authorized personnel.

Periodic washing of the PV modules is not expected to be necessary but could be needed to remove dust in order to maintain power generation efficiency. The amount of water needed for this purpose is conservatively estimated at 5 acre-feet per washing for Vega SES 2 and 1-acre foot per washing for Vega SES 3, with up to two washings per year, or a total of up to 10 acre-feet per year for Vega SES 2 and 2-acre feet per year for Vega SES 3. This water would be water purchased from the IID. Each washing is expected to take one to two weeks to complete. Vegetation growing on the site would periodically (approximately every three months) be removed manually and/or treated with herbicides.

Water Resource Requirements

Water for Construction: Water for construction (primarily dust control) would be obtained from local IID irrigation canals or laterals in conformance with IID construction water acquisition requirements. Water would be picked up from a nearby lateral canal and delivered to the construction location by a water truck which would be capable of carrying approximately 4,000 gallons per load. It is estimated that up to 750 acre-feet of water for Vega SES 2 and 200 acre-feet for Vega SES 3 would be needed for site grading and dust control over the expected Project construction period.

Water for Operations: Water for washing the PV modules, if required, would be purchased from the IID and delivered to the Project site by water trucks. The volume of water to be used for PV module washing and dust control, if needed, is estimated at up to 10 acre-feet per year for Vega SES 2 and 2-acre feet per year for Vega SES 3.

Waste

Relatively small amounts of trash would be generated during construction from packaging materials delivered to the site. Construction related waste would be transported to a local landfill authorized to receive this waste for disposal. Portable toilets would be located on-site during construction and sanitary waste would be removed from the site by a local contractor.

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No general waste is expected to be generated during normal operations. Sanitary waste generated during Project maintenance operations would be handled by bringing portable toilets to the Project sites, with waste removed periodically by a local contractor.

No hazardous waste is expected to be generated from the Project during either construction or normal Project operations.

Permit Requirements

The following permits/approvals may be required for the Project from the specified agencies, although some may not be applicable:

- Conditional Use Permit (Imperial County Planning & Development Services Department)
- Grading Permits (Imperial County Planning & Development Services Department)
- Building Permits (Imperial County Planning & Development Services Department)
- Dust Control Plan (Imperial County Air Pollution Control District)
- Rule 310 Exemption (Imperial County Air Pollution Control District)
- Encroachment Permits (Imperial County Public Works Department)
- Encroachment Permits (Imperial Irrigation District)
- Water Supply Agreement (Imperial Irrigation District)
- General Construction Storm Water Permit Notice of Intent/Storm Water Pollution Prevention Plan (California State Water Resource Control Board)
- Consultation for Sensitive Species (California Department of Fish and Wildlife)
- Consultation for Bird and Bat Conservation Strategy (U.S. Fish and Wildlife Service)

Environmental Protection Measures and Baseline Information

All Project construction and contractor personnel would be informed of Vega SES 2's and Vega SES 3's policy regarding undue degradation of the environment. These measures are intended to prevent all unacceptable impacts from occurring as a result of the proposed construction and ongoing operations.

Aesthetics:

Visibility: Project lighting for security purposes would be directed on–site and would incorporate shielding as necessary to minimize illumination of the night sky and potential impacts to surrounding viewers. The solar panels would be constructed to absorb light and minimize any potential glare. There are no panoramic scenic views from the Project area. Visual simulations of the proposed Project will be provided.

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Glare Effects: The Project PV modules are specifically designed to absorb light, rather than reflect it, as reflected light results in the loss of solar energy input, and thus electrical energy output. Modules are dark in color and have a coating that enables the panel to absorb as much of the available light as possible, which directly increases electrical energy production. The glare and reflectance levels from the PV panels are decisively lower than the glare and reflectance by standard glass and other common reflective surfaces. A solar glare analysis will be prepared to determine the potential for glare from the Project.

Odors: No malodorous chemicals or substances would be used or generated during Project construction or operations.

Agricultural Land: The current agricultural map for Imperial County prepared by the California Farmland Mapping and Monitoring Program will be used to determine the amount of the Project lands that have been mapped in each of the eight mapping categories.

There are no Williamson Act lands within or adjacent to the Project area.

Air Quality: Fugitive dust would be controlled during construction and operations as required by Imperial County Air Pollution Control District (ICAPCD) Regulation VIII. A Dust Control Plan would be prepared in conformance with ICAPCD requirements to address construction and earthmoving activities, track-out, open areas and unpaved roads. It would include information on the dust suppressants to be applied and the specific surface treatment(s) and/or control measures to be utilized to control track-out where unpaved and/or access points join paved public access roads. There would be no air pollutant emissions from stationary sources from the Project during solar power generation operations.

Air pollutant emissions would be estimated using the California Emission Estimator Model (CalEEMod) and other emission estimating tools from both Project construction and operation activities.

Biological Resources: A biological resources survey of the Project area and a 500-foot buffer (the "Biological Survey Area," or BSA) will be conducted to identify plant associations and animals present; identify dominant tree, shrub and herbaceous flora; and identifying potential habitat for "sensitive" or "special status" species (or documenting the lack thereof).

A jurisdictional delineation of the BSA for potential "state" and/or "federal" waters that may be subject to regulatory compliance relative to the California Department of Fish and Wildlife's (CDFW's) implementation of Section 1600 of the California Fish and Game Code and/or Section 404 and Section 401 of the Clean Water Act (CWA), respectively, will also be conducted.

Focused breeding season surveys of the BSA for burrowing owl may also be conducted in accordance with the methodologies provided in the California Department of Fish and Wildlife's (CDFW's) "2012 Staff Report on Burrowing Owl Mitigation."

Cultural Resources: A baseline cultural resources survey of the Project area will be conducted.

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Flood Hazard: According to the applicable Federal Emergency Management Agency (FEMA) flood hazard map (06025C0750C, effective 09/26/2008), the Project area is not located within a special flood hazard area.

Geology, Soils and Mineral Resources:

- *Geologic Hazards*: The Project is not located in a seismically active area. No other potential geologic hazards are known within the Project area, and the preliminary geotechnical survey report will provide mitigation recommendations for any identified geologic hazards.
- *Soils*: Soils within the Project area will be evaluated, and the preliminary geotechnical survey report will provide mitigation recommendations for any identified geologic hazards.
- *Mineral Resources*: There are no known developed or potential mineral resources within or adjacent to the Project area.

Hazardous Materials: The Project would not use nor store any hazardous chemicals on site during normal operations. Fuel that may be used on site during construction would be stored in secondary containment. A Phase I Environmental Site Assessment will be conducted to evaluate the potential for hazardous substance or petroleum hydrocarbon contamination at the site.

Hydrology and Water Quality: A drainage study will be prepared for the Project area which will be used to complete the preliminary grading plan in conformance with Imperial County Public Works Department (ICPWD) requirements. A Notice of Intent to comply with the general permit for construction activities would be filed with the State Water Resources Control Board, and the required Storm Water Pollution Prevention Plan (SWPPP) would be prepared and implemented consistent with the requirements of the State Water Resources Control Board general permit.

Noise: The Project would not generate any appreciable noise during normal operations. Construction noise would be limited to the short–term use of heavy equipment operated during daylight hours and to construction traffic.

Traffic: An analysis of the potential traffic-related impacts associated with the construction and day-to-day operations of the proposed Project will be prepared and provided.

Public Services: The following Project measures would minimize the potential need for public fire and police services.

- *Fire Prevention*: The construction site and access roads would be cleared of all vegetation. The cleared areas would be maintained throughout site construction and solar plant operations. Fire extinguishers would be available around the construction sites. Up to three (3) 10,000-gallon fire water tanks would be constructed across the Project sites and kept filled during operations to fight potential fires. Water that is used for construction would also be available for firefighting. Personnel would be allowed to smoke only in designated areas.
- *Emergency Services*: The Project preliminary site plans have been prepared to accommodate the requirements of emergency services which may need to respond to an

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emergency at the Project. Each Project site would be accessible from both a primary and secondary access driveway. These driveways would each be provided with a minimum of 30-foot double swing gates with "Knox Box" for keyed entry. Nominal 20-foot wide roads would be provided between the PV arrays, as well as around the perimeter of the Project site inside the perimeter security fence, to provide access for operational and emergency vehicles.

- *Security*: The entirety of each Project site would be enclosed within a gated security fence. Each site may also be monitored by a motion detection system and closed-circuit camera system.

Site Restoration: The Project areas are zoned S-2-RE, which is intended to preserve the cultural, biological, and open space areas that are rich and natural as well as cultural resources. At the end of the Project life, all facilities would be removed, and the Project sites restored to a condition for open space and recreational use. A proposed Project site restoration plan will be prepared and provided.

Utilities and Service Systems: Electricity for site security facilities when the panels are not generating power would be provided by the IID through interconnection with the existing IID distribution lines.

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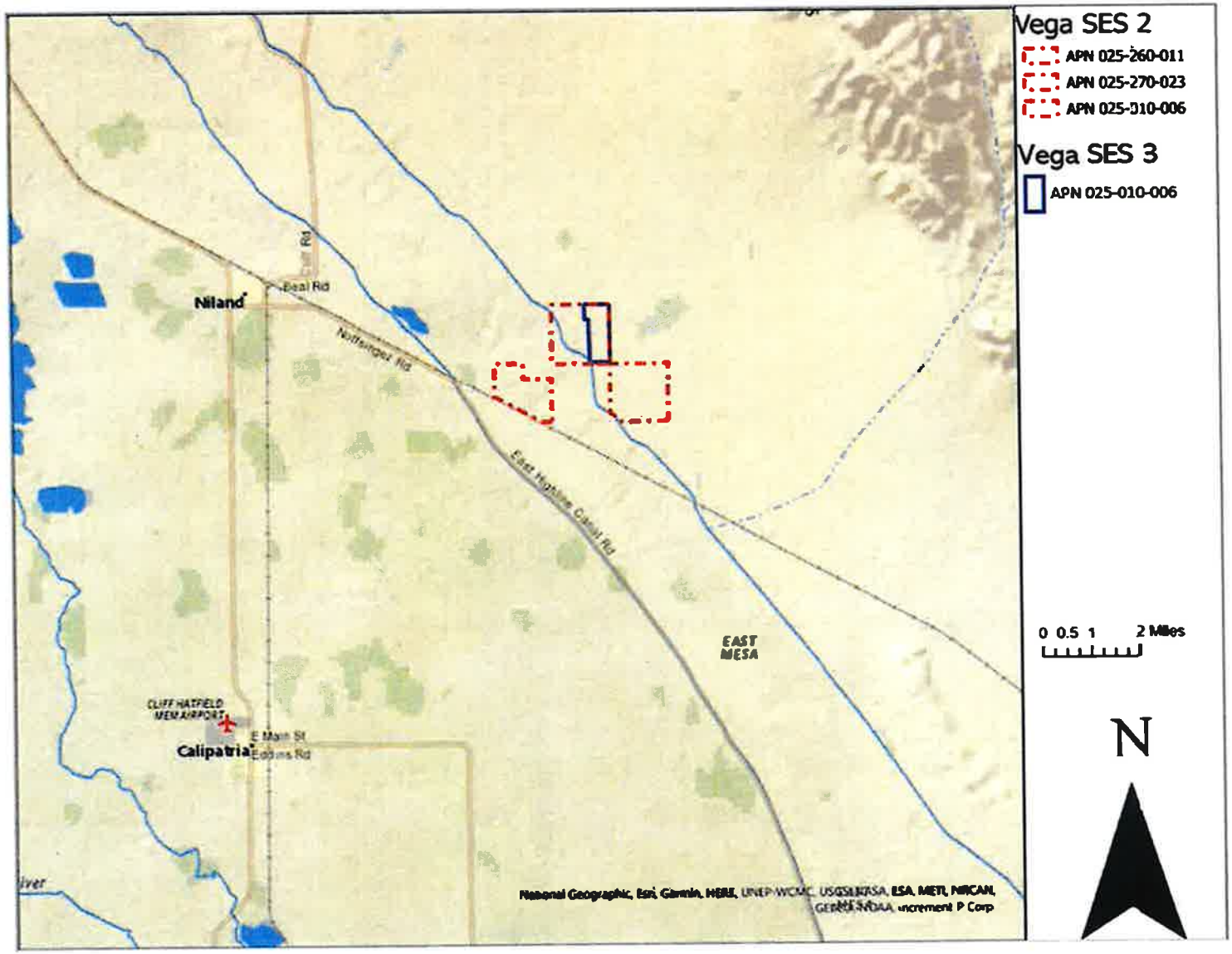

Figure 1 Project Location Map

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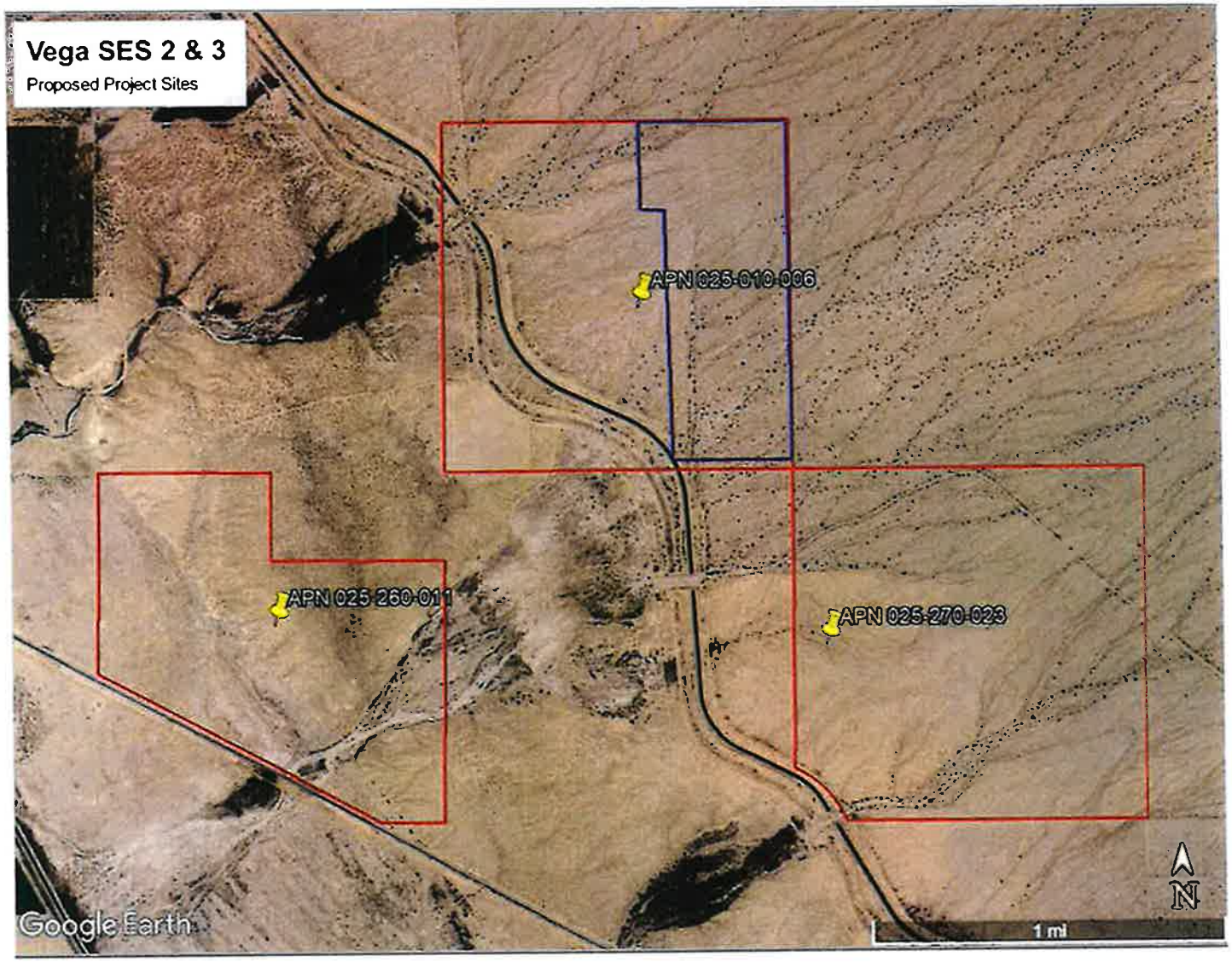

Figure 2 Project Vicinity Map

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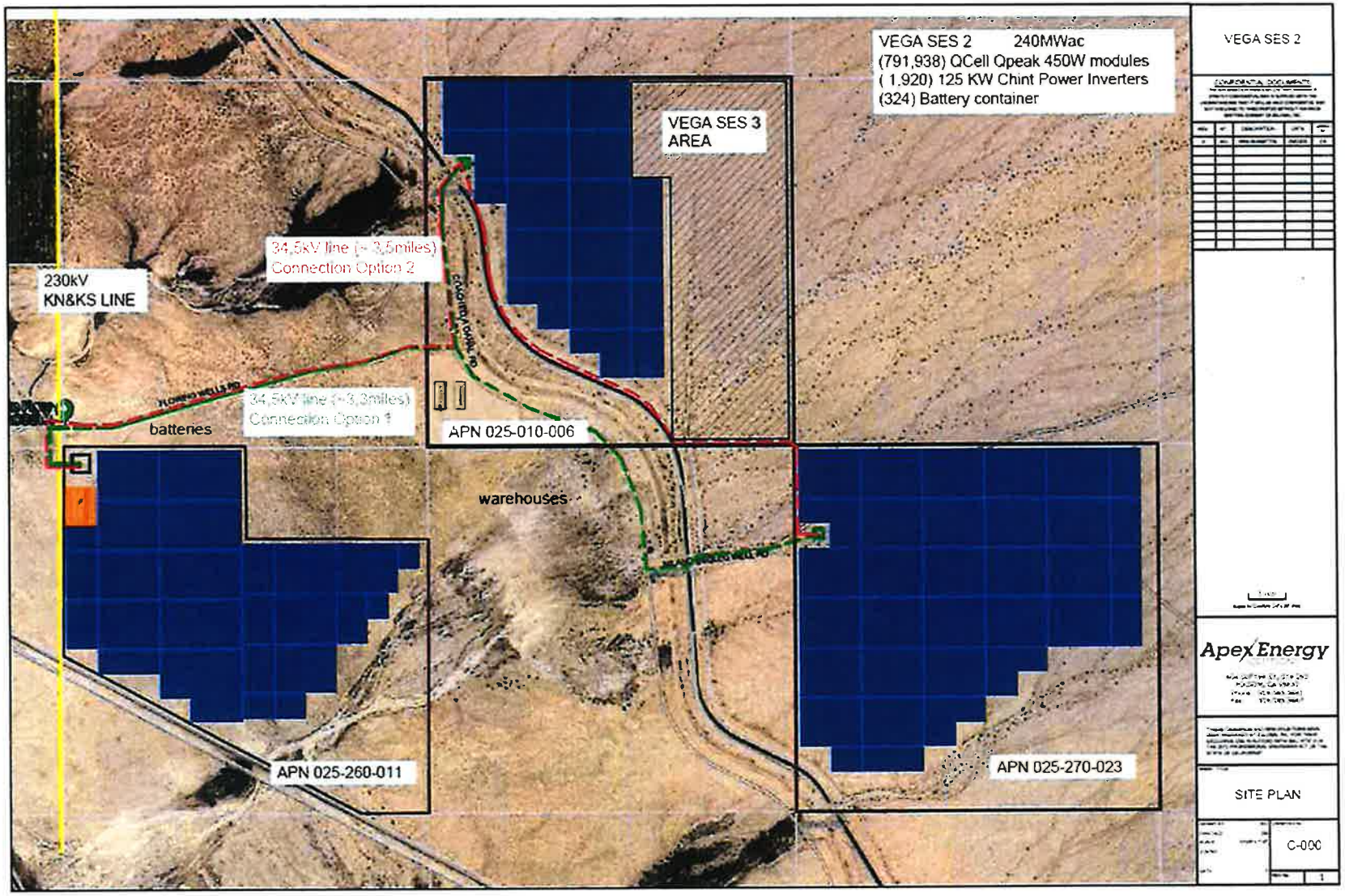

Figure 3 Vega SES 2 Site Plan

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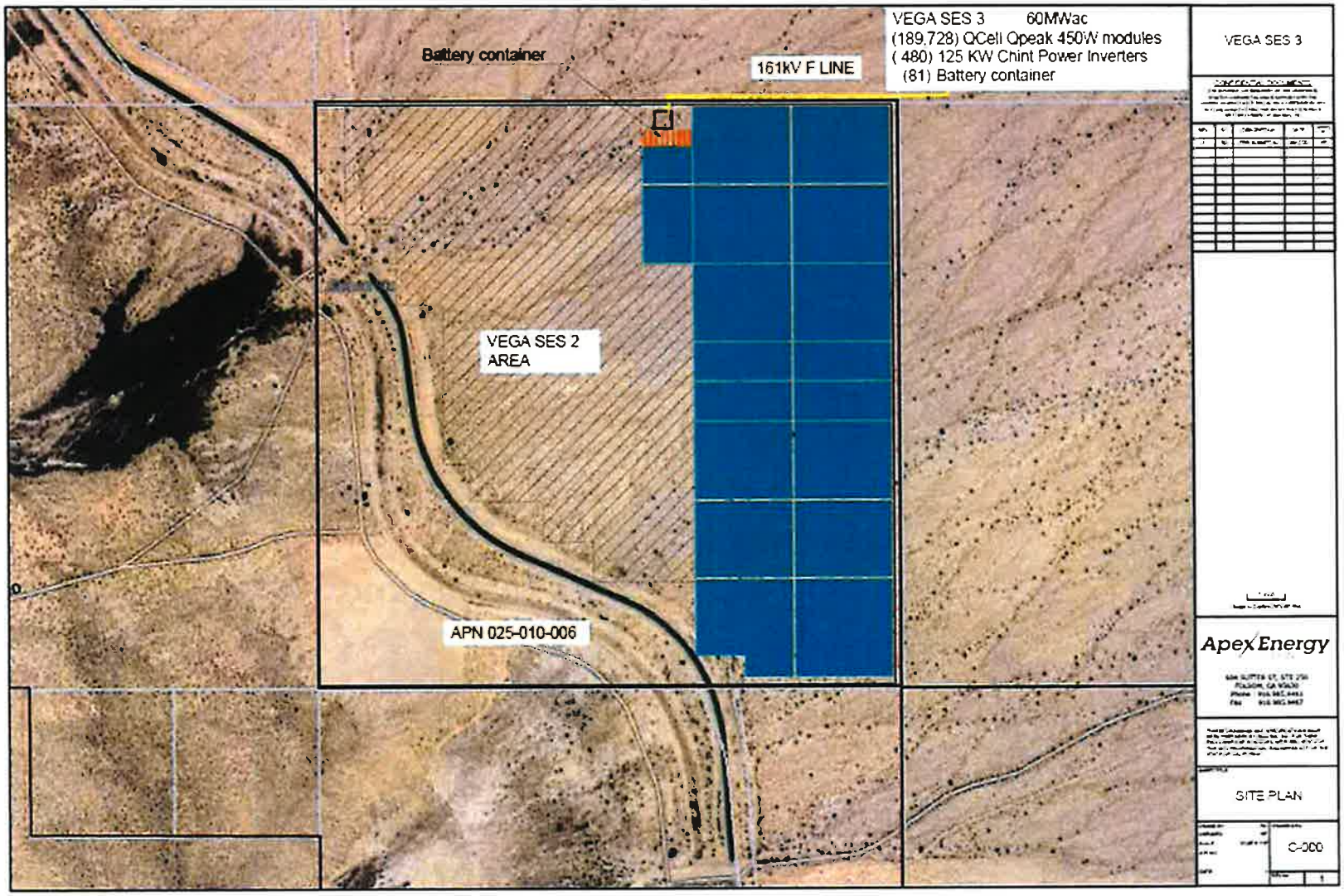

Figure 4 Vega SES 3 Site Plan

LETTER OF TRANSMITTAL:

October 15, 2020

TO: Jim Minnick, Director of ICPDS

FROM: Jurg Heuberger, Consultant

RE: VEGA SES 2, 3, 4 and 5

Jim:

Attached are four (4) applications for four solar projects. They are titled VEGA SES 2, VEGA SES 3, VEGA SES 4 and VEGA SES 5.

We are requesting that VEGA 2, 3 and 5 be processed under one EIR and VEGA 4 under one EIR.

The fees per your office are $ $16,500.00 for processing VEGA 2, 3 & 5, and $ 14,500.00 for VEGA 4.

These applications are not complete in the sense that they do not have the accompanying technical studies. They are however complete enough for your office to commence the RFP process to retain appropriate consultant(s) for the preparation of the EIR's.

At this time, we are requesting that your office start the process to retain appropriate EIR Consultant(s).

Time is of the essence on these projects which is why we are requesting your cooperation and assistance in expediting this portion of the process.

We will have the technical studies plus any other documentation you need well before you have a contract for a CEQA consultant. To that end however we would also appreciate having your staff begin the review of these applications and advising me of what other information they feel is lacking aside from the "preliminary title reports", the original owners affidavits, and the technical studies which will include the following: traffic, biological, cultural, visual, air quality/GHG, Noise and AG/LESA.

Lastly, I am the primary point of contact on all of these applications and would respectfully request that all correspondence on these be directed to me at jurgheuberger@gmail.com, or 760-996-0313 or PO Box 4151, El Centro, Ca. 92244. I understand that you have to notify the property owners that a permit application has been filed on their land, however all other correspondence should be directed exclusively to me.

Thank you.

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CONDITIONAL USE PERMIT

I.C. PLANNING & DEVELOPMENT SERVICES DEPT.
801 Main Street, El Centro, CA 92243 (760) 482-4236

- APPLICANT MUST COMPLETE ALL NUMBERED (black) SPACES – Please type or print -

1.	PROPERTY OWNER'S NAME Mesa West Ranch, LLC	EMAIL ADDRESS dennis@seaviewsales.com	
2.	MAILING ADDRESS (Street / P O Box, City, State) 86235 Avenue 52, Coachella, CA	ZIP CODE 92236	PHONE NUMBER (760) 398-8850
3.	APPLICANT'S NAME Apex Energy Solutions, LLC	EMAIL ADDRESS ziad@zglobal.biz	
4.	MAILING ADDRESS (Street / P O Box, City, State) 604 Sutter Street, Suite 250, Folsom, CA	ZIP CODE 95630	PHONE NUMBER (916) 985-9461
4.	ENGINEER'S NAME To be determined — CA. LICENSE NO.	EMAIL ADDRESS To be determined	
5.	MAILING ADDRESS (Street / P O Box, City, State) To be determined	ZIP CODE To be determined	PHONE NUMBER To be determined

6.	ASSESSOR'S PARCEL NO. 025-010-006	SIZE OF PROPERTY (In acres or square foot) Approximately 590 acres	ZONING (existing) S-2-RE
7.	PROPERTY (site) ADDRESS none available 7965 Coachella Canal Rd, Brawley, CA 92227		
8.	GENERAL LOCATION (i.e. city, town, cross street) East of Niland in the Unincorporated area of Imperial County		
9.	LEGAL DESCRIPTION Section 9, Township 11 South, Range 15 East of the San Bernardino Base Meridian. Exempting all land being used in connection with the Coachella Branch of the All American Canal. (see Attachment 1 [Project Description])		

PLEASE PROVIDE CLEAR & CONCISE INFORMATION (ATTACH SEPARATE SHEET IF NEEDED)

10.	DESCRIBE PROPOSED USE OF PROPERTY (list and describe in detail) Develop the Vega SES 3 Solar BESS Project, a nominal 60-megawatt (MW) alternating current (AC) solar photovoltaic energy generation and 60MW/240 megawatt hour (MWh) battery energy storage project (see Attachment 1 [Project Description])	
11.	DESCRIBE CURRENT USE OF PROPERTY	Idle land (see Attachment 1)
12.	DESCRIBE PROPOSED SEWER SYSTEM	See Attachment 1
13.	DESCRIBE PROPOSED WATER SYSTEM	See Attachment 1
14.	DESCRIBE PROPOSED FIRE PROTECTION SYSTEM	See Attachment 1
15.	IS PROPOSED USE A BUSINESS? ☒ Yes ☐ No	IF YES, HOW MANY EMPLOYEES WILL BE AT THIS SITE? 0 (see Attachment 1)

I / WE THE LEGAL OWNER (S) OF THE ABOVE PROPERTY CERTIFY THAT THE INFORMATION SHOWN OR STATED HEREIN IS TRUE AND CORRECT.

See attached owner's affidavit
Print Name — Date

Applicant: Apex Energy Solutions, LLC
Signature

Ziad Alaywan, P.E.
Print Name — 10/19/2020 Date

Signature

REQUIRED SUPPORT DOCUMENTS

A. SITE PLAN
B. FEE
C. OTHER
D. OTHER

APPLICATION RECEIVED BY:		DATE	
APPLICATION DEEMED COMPLETE BY:		DATE	
APPLICATION REJECTED BY:		DATE	
TENTATIVE HEARING BY:		DATE	
FINAL ACTION: ☐ APPROVED ☐ DENIED		DATE	

REVIEW / APPROVAL BY OTHER DEPT'S required.
☐ P. W.
☐ E. H. S.
☐ A. P. C. D.
☐ O. E. S.
☐ _____
☐ _____

CUP # 20-0022

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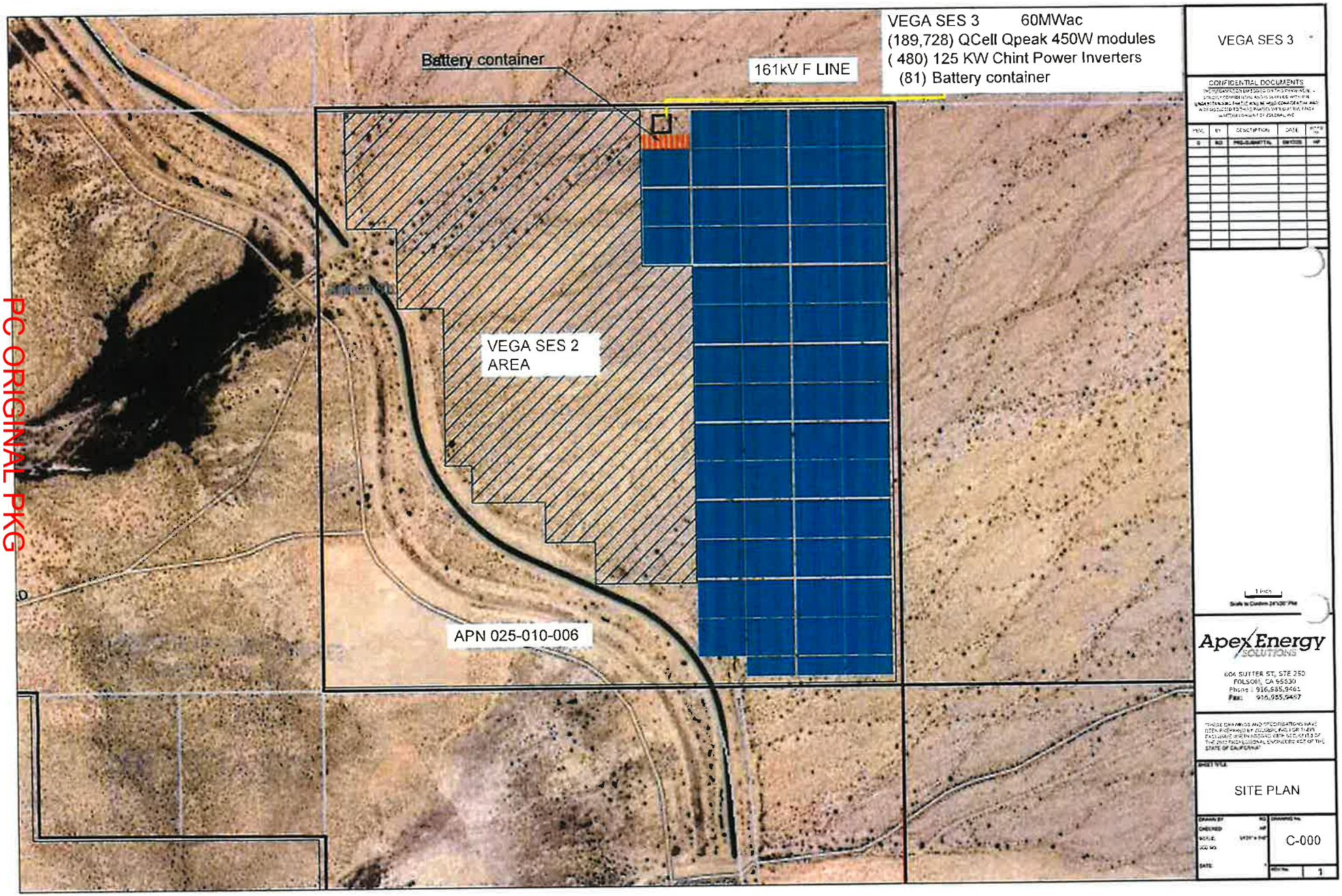

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Property Owner 1

1.	PROPERTY OWNER'S NAME Victoria Gabbard, Individually and on behalf of, Dr. J.G. Clark, Trustee Marjorie Gardner, Trustee	EMAIL ADDRESS lesleyashlaw@gmail.com All contact with property owner is conducted through Attorney. Info in 2B.	
2.	MAILING ADDRESS (Street / P O Box, City, State) 236 N. Laurel Ave, Charlotte, NC	ZIP CODE 28207	PHONE NUMBER
2B.	MAILING ADDRESS (Street / P O Box, City, State) 401 W "A" St, Suite 1100, San Diego, CA	ZIP CODE 92101	PHONE NUMBER (619) 227-7778
6.	ASSESSOR'S PARCEL NO. **025-260-011**	SIZE OF PROPERTY (in acres of square foot) 448.30	ZONING (Existing) S-2-RE
7.	PROPERTY (site) ADDRESS None available		
8.	GENERAL LOCATION (i.e. city, town, cross street) East of Niland in the Unincorporated area of Imperial County		
9.	LEGAL DESCRIPTION SECTION 17, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF. EXCEPTING A STRIP OF LAND 200 FEET WIDE CONTAINING 22 ACRES LYING EQUALLY ON EACH SIDE OF THE CENTERLINE OF THE SOUTHERN PACIFIC RAILROAD COMPANY RIGHT OF WAY AS NOW CONSTRUCTED, RESERVED BY SOUTHERN PACIFIC LAND COMPANY BY DEED RECORDED OCTOBER 16, 1951 IN BOOK 823, PAGE 299 OF OFFICIAL RECORDS. ALSO EXCEPTING THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 17.		

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Property Owner 2

1.	PROPERTY OWNER'S NAME Mesa Ranch West, LLC		EMAIL ADDRESS dennis@seaviewsales.com	
2.	MAILING ADDRESS (Street / P O Box, City, State) 86235 Avenue 52, Coachella, CA		ZIP CODE 92236	PHONE NUMBER (760) 398-8850
6.	ASSESSOR'S PARCEL NO. **025-010-006**	SIZE OF PROPERTY (in acres of square foot) 640		ZONING (Existing) S-2-RE
7.	PROPERTY (site) ADDRESS None available			
8.	GENERAL LOCATION (i.e. city, town, cross street) East of Niland in the Unincorporated area of Imperial County			
9.	LEGAL DESCRIPTION SECTION 9, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN AN UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF. EXCEPT THAT PORTION CONVEYED TO THE UNITED STATES BY DEED RECORDED JULY 24, 1940 IN BOOK 553, PAGE 210 OF OFFICIAL RECORDS. ALSO EXCEPT THEREFROM THAT PROPERTY TAKEN BY THE UNITED STATES OF AMERICA IN THE DECLARATION OF TAKING DATED APRIL 04, 1979 AND RECORDED MAY 23, 1979 AS INSTRUMENT NO. 32, IN BOOK 1434, PAGE 436 OF OFFICIAL RECORDS. ALSO EXCEPT 25% OF ALL OIL, MINERALS, GAS, PETROLEUM, OR OTHER HYDROCARBONS WITHIN OR UNDERLYING WHICH MAY BE PRODUCED AND SAVED THEREFROM, BUT WITH NO RIGHT OF SURFACE ENTRY, RESERVED BY LOUIS MEITUS, ET UX., BY DEED RECORDED MARCH 24, 1964 IN BOOK 1180, PAGE 316 OF OFFICIAL RECORDS. ALSO EXCEPT AN UNDIVIDED 12-1/2% INTEREST TO ALL OF THE SUBSURFACE BELOW 200 FEET, WITHOUT ANY RIGHT, TITLE, OR INTEREST TO THE SURFACE OR SUBSURFACE ABOVE 200 FEET AS THEREIN PROVIDED, CONVEYED TO VERNON NUSSBAUM, ET UX., BY DEED RECORDED SEPTEMBER 01, 1964 IN BOOK 1190, PAGE 762 OF OFFICIAL RECORDS. ALSO EXCEPT ANY UNDIVIDED 12-1/2% INTEREST TO ALL SUBSURFACE BELOW 200 FEET, WITHOUT ANY RIGHT TO THE SURFACE OR THE SUBSURFACE ABOVE 200 FEET EXCEPT AS THEREIN PROVIDED, CONVEYED TO DONALD CANNON, ET UX., BY DEED RECORDED SEPTEMBER 25, 1964 IN BOOK 1194, PAGE 355 OF OFFICIAL RECORDS.			

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Property Owner 3

1.	PROPERTY OWNER'S NAME WANG LI TONG & SUCHU CHOU CO TR & ETAL	EMAIL ADDRESS		
2.	MAILING ADDRESS (Street / P O Box, City, State) 12745 NOTTINGHAM ST CERRITOS CA	ZIP CODE 90703	PHONE NUMBER	
6.	ASSESSOR'S PARCEL NO. **025-270-023**	SIZE OF PROPERTY (in acres of square foot) 624.760		ZONING (Existing) S-2-RE
7.	PROPERTY (site) ADDRESS None available			
8.	GENERAL LOCATION (i.e. city, town, cross street) East of Niland in the Unincorporated area of Imperial County			
9.	LEGAL DESCRIPTION ALL OF SECTION 15, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF. EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE U.S.A. BY DEED RECORDED AUGUST 11, 1978 IN BOOK 1420, PAGE 912 OF OFFICIAL RECORDS.			

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VEGA SES 2 AND VEGA SES 3 SOLAR PROJECT DESCRIPTION

October 2020

Submitted to:

County of Imperial
Planning and Development Services
Department
801 Main Street
El Centro, CA 92243-2811

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IMPERIAL COUNTY
PLANNING & DEVELOPMENT SERVICES

Submitted by:

APEX ENERGY SOLUTIONS, LLC.
750 W. Main Street
El Centro, CA 92243

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VEGA SES 2 AND VEGA SES 3

SOLAR PROJECT DESCRIPTION

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VEGA SES 2 AND VEGA SES 3

SOLAR PROJECT DESCRIPTION

Introduction

Apex Energy Solutions LLC. is proposing to develop the Vega SES 2 & Vega SES 3 Solar Energy Storage (Projects),

1. **Vega SES 2:** An up to two-hundred and forty (240)–megawatt alternating current (MWAC) solar photovoltaic (PV) energy generation project with an integrated 240 MW Battery Energy Storage System (BESS), on approximately 1,472 acres of land in the County of Imperial, California.
2. **Vega SES 3:** An up to sixty (60)–megawatt alternating current (MWAC) solar photovoltaic (PV) energy generation project with an integrated 60 MW Battery Energy Storage System (BESS), on approximately 240 acres of land in the County of Imperial, California.

The location of the project sites would be in Sections 9, 15 and 17 all within Township 11 South, Range 15 East of the San Bernardino Base and Meridian (SBB&M) of the "Iris" topographic quadrangles 7.5-minute quadrangle (U.S. Department of the Interior, Geological Survey 2005), in the unincorporated region of the County of Imperial, State of California. The projects are located between the unincorporated communities of Iris and Slab City, running parallel to the Coachella Canal (See Figure 1).

The electrical energy produced by Vega SES 2 would be delivered to the Imperial Irrigation District (IID) through the Project interconnection switching station delivering to the IID 230kV "KN/KS" Line.

The electrical energy produced by Vega SES 3 would be connected to the existing utility approved point of interconnection (POI) at the northern boundary of the Project parcel to the IID 161 kV "L" Line.

Property Description

1. **Vega SES 2** is located on Imperial County Assessor's Parcel Numbers (APNs) 025-260-011-000 (approximately 448.30 acres), APN 025-270-023 (approximately 624.76 acres) and APN 025-010-006-000 (approximately 400 of the 640 acres), the first owned by Joseph G. Clark (trustee), Marjorie Gardner (trustee) and Victoria Gabbard (Seller), the

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second by Mesa West Ranch LLC., and the third by Wang Li Tong & Sochu Chou Co Tr & Etal.

2. **Vega SES 3** is located on the remainder of APN 025-010-006-000 (approximately 240 of the 640 acres), owned by Mesa West Ranch LLC.

All project parcels, for both Vega SES 2 and Vega SES 3, are designated as "Recreation/Open Space" in the Imperial County General Plan and are zoned S-2-RE (Open Space/Preservation with a Renewable Energy overlay).

Pursuant to Section 91703.02 (CONDITIONAL USE PERMITS), Renewable Energy Projects must be located within the Renewable Energy Overlay Zone and may be permitted only through the issuance of a Conditional Use Permit (CUP) as approved by the Approving Authority unless otherwise allowed by applicable law. At present, the Projects are located within a Renewable Energy Zone. This Project Description is intended to support Apex Energy Solutions LLC's request approval of two independent Conditional Use Permits for the Vega SES 2 and Vega SES 3 Projects. Representative photographs of the Project areas will be provided.

Solar Technology

The Projects propose to utilize either thin film or crystalline solar photovoltaic (PV) technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The depth of the piles would be dependent on the recommendations of the geotechnical report prepared for the Projects. The fixed-frame racks would be secured at a fixed tilt of 20° to 30° from horizontal facing a southerly direction. Current Project designs would have individual PV modules, mounted two high on a fixed frame, providing a two-foot ground clearance and resulting in the tops of the panels at approximately 7.5 feet above the ground. The fixed PV modules would be arranged in arrays spaced approximately 15 to 25 feet apart (pile-to-pile) to maximize performance and to allow access for panel cleaning (if necessary). These arrays would be separated from each other and the perimeter security fence by up to 30-foot wide interior roads. If HSAT technology is used, the PV modules would rotate around the north-south HSAT axis so that the PV modules would continue to face the sun as the sun moves across the sky throughout the day. The PV modules would reach their maximum height (up to nine (9) feet above the ground, depending on the final design) at both sunrise and sunset, when the HSAT is rotated to point the modules at the rising or setting sun. At noon, or when stowed during high winds, when the HSAT system is rotated so that the PV modules are horizontal, the nominal height would be about six feet above the ground, depending on the final design. The individual PV systems would be arranged in large arrays by placing them in columns spaced approximately ten feet apart to maximize operational performance and to allow access for panel cleaning and maintenance. Current Project designs would have individual HSAT PV modules, each approximately two feet wide by four feet long (depending on the specific PV technology selected), mounted on a frame which is attached to an HSAT system. These HSAT arrays would be separated from each other and the perimeter security fence by up to 30-foot wide roads, consistent with agency emergency access requirements.

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Project Facilities

Electrical Power System: Electricity generated by the PV modules would be collected by a direct current (DC) collection system routed underground in trenches. This DC power would be delivered to one of the pad-mounted inverters in weatherproof enclosures located within the arrays. The inverters would convert the DC power to three-phase alternating current (AC). The inverters could be connected to AC interconnection facilities which, if needed, would raise the voltage to 34.5 kV, or the interconnection voltage selected by the Projects. Underground or overhead 34.5 kV or 60-kV collection lines would transmit the electricity to the new Project substations.

Substation(s), Distribution/Electrical Collection and Transmission:

1. **Vega SES 2:**

   One new Project substation would be constructed on APN 025-260-011 in the northwestern corner of the parcel (See Figure 3). This substation would take the delivery of up to 60 kV electricity from the below described parcel substations and increase the voltage of the electricity to 230 kV, where it would feed into the interconnection switching station for metering and delivery to the IID KN/KS Line. The substation would include two transformers, circuit breakers, meters, disconnect switches, microwave or other communication facilities and an electrical control building.

   Two new parcel substations would be constructed on each of the Project parcels. The first parcel substation is located on APN 025-010-006 in the northwestern corner of the parcel. The second parcel substation is located on APN 025-270-023 in the northwestern corner of the parcel (See Figure 3). These substations will be comprised of an underground combiner box used to connect all of the low voltage AC outputs of the inverters, a medium voltage transformer to increase the voltage to up to 60kV, a protective relay system and associated circuit breakers and disconnect switches. The parcel substation on APN 025-010-006 will also include one medium to high voltage transformer to bring the voltage to 230 kV, allowing for interconnection with IID via the interconnection switching station. The additional transformer would include high side protection and disconnect switches with associated protective relays. These substations would take delivery of the parcel generation and transmit it through one of the proposed 34.5 or 60 kV lines to the primary Project substation on APN 025-260-011. The parcel substations would include a transformer, circuit breaker, meters, disconnect switches and microwave or other communication facilities.

   One new Project interconnection switching station would be constructed on APN 025-260-011, immediately adjacent to the Project substation. These two stations would be connected via a single overhead 230 kV line. The interconnection switching station would include circuit breakers, switches, overhead bus work, protective relay equipment and control building. The station would operate at 230 kV and be configured in a Breaker-And-A-Half arrangement. This would allow for looping in of one or two of the

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IID 230 kV lines as well as connection of the total project output at 230 kV. The interconnection switching station would be enclosed within its own fence line.

The Projects distribution and interconnection would be as follows; the medium voltage power would be conveyed underground or aboveground via 34.5 or 60-kV distribution circuits from the parcel substations on the two eastern most parcels (APN 025-010-006 and 025-270-023) to the Project substation on the western most parcel (APN 025-260-011). The medium voltage distribution circuits would run along existing county roads [JN1]and terminate at the Project substation on the western most parcel (APN 025-260-011). These distribution lines can follow one of two contemplated pathways, Connection Option 1 and Connection Option 2 (See Figure 3).

2. **Vega SES 3:**

One new Project substation would be constructed on APN 025-010-006 in the northwestern corner of the Project area (See Figure 4). Medium voltage power electricity generated from the site would be conveyed underground, or above ground where necessary, to cross over any sensitive site features, to connect to the Project substation.

An interconnection switching station would be constructed immediately adjacent to the Project substation. These two stations, the Project substation and the interconnection switching station, would be connected via a single overhead 161 kV overhead line. The interconnection switching station would include circuit breakers, switches, overhead bus work, protective relay equipment and a control building. The station would operate at 161 kV and be configured in a Breaker-And-A-Half or three breaker ring bus arrangement. This would allow for looping in of the IID 161 kV "L" transmission line as well as connection of the project tie line. The interconnection switching station would be enclosed within its own fence.

This point of interconnection would meet all necessary utility standards and requirements. All required electrical breaker systems, transformer, and protective relays would be installed as part of the project. Surge arrestors would be used to protect the facilities and auxiliary equipment from lightning strikes or other disturbances, as required. Distribution from the site would be via an overhead connection.

Security: Six-foot high security fencing would be installed around the perimeter of each of the Project sites at the commencement of construction and site access would be limited to authorized site workers. In addition, a motion detection system and closed-circuit camera system may also be installed. The site would be remotely monitored 24 hours per day, 7 days per week. In addition, routine unscheduled security rounds may be made by the security team monitoring the site security.

Battery System: The proposed battery energy storage system (BESS or ESS) would be constructed adjacent to the projects solar facilities and would consist of either lithium ion (Li-ion) or flow batteries. The batteries will either be housed in storage containers or buildings fitted with HVAC and fire suppression systems. Inside the housing the batteries will be placed on

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racks, the orientation of which depends on the type of housing. Underground trenches with conduits will be used to connect the batteries to the control and monitoring systems, and inverters to convert the PV produced DC power to AC power.

Site Access

Each of the Project sites would include both a primary and secondary access (if required) driveway off the adjacent public roads (see Figure 3)[JN2]. No new access across IID lateral canals or drains is expected. These driveways would each be provided with a minimum of 30-foot double swing gates with "Knox Box" for keyed entry. Internal to the Project site up to 30-foot wide roads would be provided between the PV arrays, as well as around the perimeter of each Project site inside the perimeter security fence to provide access to all areas of each site for maintenance and emergency vehicles (see Figure 4 and Figure 5).

Site Construction

Construction Activities: Construction activities would primarily involve demolition and grubbing; grading of each Project site to establish access roads and pads for electrical equipment (inverters and step–up transformers); trenching for underground electrical collection lines; and the installation of solar equipment and security fencing. Dust generated during construction would be controlled by watering and, as necessary, the use of other dust suppression methods and materials accepted by the Imperial County Air Pollution Control District (ICAPCD) or the California Air Resources Board (CARB). A temporary, portable construction supply container would be located at the Project sites at the beginning of construction and removed at the end of construction. The number of on–site construction workers for the solar project facilities is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the battery storage facility and the substation is not expected to exceed 100 workers at any one time. Onsite parking would be provided for all construction workers.

Traffic: The construction worker traffic is expected to travel to the site from Highway 111 east along one of the connecting county roads to Noffsinger Road over the canal crossing to Flowing Wells Road to access APN 025-260-011 and 025-010-006, and beyond to Coachella Canal Road using Niland Pegleg Well Road to cross a second canal and access APN 025-270-023.

Delivery trucks are expected to follow the same routes as the construction workers. An estimated two trucks would arrive at the Project sites each day during the first few weeks of construction of the solar generating facility.

Storm Water: Areas of the solar energy storage facilities where small amounts of contaminants could be released, such as the paved areas surrounding the containers, would be constructed in compliance with storm water quality management measures (i.e., basins and infiltration areas, where required) designed to meet State and local storm water management plan requirements. These paved areas would be maintained, and any vehicle leaks or spills would be periodically cleaned with absorbent materials to minimize the potential for contamination. All applicable local RWQCB discharge requirements and County of Imperial's water quality regulations would

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be adhered to in the development and maintenance of the project sites. A drainage study and preliminary grading plan for the project will be prepared by a local civil engineering firm to address the potential environmental impacts of site drainage and stormwater.

Site Operations

Once construction is completed the Project would be remotely controlled. No employees would be based at the Project sites. Primary security–related monitoring would be done remotely. Security personnel may conduct unscheduled security rounds, and would be dispatched to the site in response to a fence breach or other alarm. Site maintenance workers may access the Project site periodically to clean the panels and maintain the equipment and Project area. The public would not have access to the facility. Access to the Project sites would be infrequent and limited to authorized personnel.

Periodic washing of the PV modules is not expected to be necessary but could be needed to remove dust in order to maintain power generation efficiency. The amount of water needed for this purpose is conservatively estimated at 5 acre-feet per washing for Vega SES 2 and 1-acre foot per washing for Vega SES 3, with up to two washings per year, or a total of up to 10 acre-feet per year for Vega SES 2 and 2-acre feet per year for Vega SES 3. This water would be water purchased from the IID. Each washing is expected to take one to two weeks to complete. Vegetation growing on the site would periodically (approximately every three months) be removed manually and/or treated with herbicides.

Water Resource Requirements

Water for Construction: Water for construction (primarily dust control) would be obtained from local IID irrigation canals or laterals in conformance with IID construction water acquisition requirements. Water would be picked up from a nearby lateral canal and delivered to the construction location by a water truck which would be capable of carrying approximately 4,000 gallons per load. It is estimated that up to 750 acre-feet of water for Vega SES 2 and 200 acre-feet for Vega SES 3 would be needed for site grading and dust control over the expected Project construction period.

Water for Operations: Water for washing the PV modules, if required, would be purchased from the IID and delivered to the Project site by water trucks. The volume of water to be used for PV module washing and dust control, if needed, is estimated at up to 10 acre-feet per year for Vega SES 2 and 2-acre feet per year for Vega SES 3.

Waste

Relatively small amounts of trash would be generated during construction from packaging materials delivered to the site. Construction related waste would be transported to a local landfill authorized to receive this waste for disposal. Portable toilets would be located on-site during construction and sanitary waste would be removed from the site by a local contractor.

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No general waste is expected to be generated during normal operations. Sanitary waste generated during Project maintenance operations would be handled by bringing portable toilets to the Project sites, with waste removed periodically by a local contractor.

No hazardous waste is expected to be generated from the Project during either construction or normal Project operations.

Permit Requirements

The following permits/approvals may be required for the Project from the specified agencies, although some may not be applicable:

- Conditional Use Permit (Imperial County Planning & Development Services Department)
- Grading Permits (Imperial County Planning & Development Services Department)
- Building Permits (Imperial County Planning & Development Services Department)
- Dust Control Plan (Imperial County Air Pollution Control District)
- Rule 310 Exemption (Imperial County Air Pollution Control District)
- Encroachment Permits (Imperial County Public Works Department)
- Encroachment Permits (Imperial Irrigation District)
- Water Supply Agreement (Imperial Irrigation District)
- General Construction Storm Water Permit Notice of Intent/Storm Water Pollution Prevention Plan (California State Water Resource Control Board)
- Consultation for Sensitive Species (California Department of Fish and Wildlife)
- Consultation for Bird and Bat Conservation Strategy (U.S. Fish and Wildlife Service)

Environmental Protection Measures and Baseline Information

All Project construction and contractor personnel would be informed of Vega SES 2's and Vega SES 3's policy regarding undue degradation of the environment. These measures are intended to prevent all unacceptable impacts from occurring as a result of the proposed construction and ongoing operations.

Aesthetics:

Visibility: Project lighting for security purposes would be directed on–site and would incorporate shielding as necessary to minimize illumination of the night sky and potential impacts to surrounding viewers. The solar panels would be constructed to absorb light and minimize any potential glare. There are no panoramic scenic views from the Project area. Visual simulations of the proposed Project will be provided.

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Glare Effects: The Project PV modules are specifically designed to absorb light, rather than reflect it, as reflected light results in the loss of solar energy input, and thus electrical energy output. Modules are dark in color and have a coating that enables the panel to absorb as much of the available light as possible, which directly increases electrical energy production. The glare and reflectance levels from the PV panels are decisively lower than the glare and reflectance by standard glass and other common reflective surfaces. A solar glare analysis will be prepared to determine the potential for glare from the Project.

Odors: No malodorous chemicals or substances would be used or generated during Project construction or operations.

Agricultural Land: The current agricultural map for Imperial County prepared by the California Farmland Mapping and Monitoring Program will be used to determine the amount of the Project lands that have been mapped in each of the eight mapping categories.

There are no Williamson Act lands within or adjacent to the Project area.

Air Quality: Fugitive dust would be controlled during construction and operations as required by Imperial County Air Pollution Control District (ICAPCD) Regulation VIII. A Dust Control Plan would be prepared in conformance with ICAPCD requirements to address construction and earthmoving activities, track-out, open areas and unpaved roads. It would include information on the dust suppressants to be applied and the specific surface treatment(s) and/or control measures to be utilized to control track-out where unpaved and/or access points join paved public access roads. There would be no air pollutant emissions from stationary sources from the Project during solar power generation operations.

Air pollutant emissions would be estimated using the California Emission Estimator Model (CalEEMod) and other emission estimating tools from both Project construction and operation activities.

Biological Resources: A biological resources survey of the Project area and a 500-foot buffer (the "Biological Survey Area," or BSA) will be conducted to identify plant associations and animals present; identify dominant tree, shrub and herbaceous flora; and identifying potential habitat for "sensitive" or "special status" species (or documenting the lack thereof).

A jurisdictional delineation of the BSA for potential "state" and/or "federal" waters that may be subject to regulatory compliance relative to the California Department of Fish and Wildlife's (CDFW's) implementation of Section 1600 of the California Fish and Game Code and/or Section 404 and Section 401 of the Clean Water Act (CWA), respectively, will also be conducted.

Focused breeding season surveys of the BSA for burrowing owl may also be conducted in accordance with the methodologies provided in the California Department of Fish and Wildlife's (CDFW's) "2012 Staff Report on Burrowing Owl Mitigation."

Cultural Resources: A baseline cultural resources survey of the Project area will be conducted.

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Flood Hazard: According to the applicable Federal Emergency Management Agency (FEMA) flood hazard map (06025C0750C, effective 09/26/2008), the Project area is not located within a special flood hazard area.

Geology, Soils and Mineral Resources:

- *Geologic Hazards*: The Project is not located in a seismically active area. No other potential geologic hazards are known within the Project area, and the preliminary geotechnical survey report will provide mitigation recommendations for any identified geologic hazards.
- *Soils*: Soils within the Project area will be evaluated, and the preliminary geotechnical survey report will provide mitigation recommendations for any identified geologic hazards.
- *Mineral Resources*: There are no known developed or potential mineral resources within or adjacent to the Project area.

Hazardous Materials: The Project would not use nor store any hazardous chemicals on site during normal operations. Fuel that may be used on site during construction would be stored in secondary containment. A Phase I Environmental Site Assessment will be conducted to evaluate the potential for hazardous substance or petroleum hydrocarbon contamination at the site.

Hydrology and Water Quality: A drainage study will be prepared for the Project area which will be used to complete the preliminary grading plan in conformance with Imperial County Public Works Department (ICPWD) requirements. A Notice of Intent to comply with the general permit for construction activities would be filed with the State Water Resources Control Board, and the required Storm Water Pollution Prevention Plan (SWPPP) would be prepared and implemented consistent with the requirements of the State Water Resources Control Board general permit.

Noise: The Project would not generate any appreciable noise during normal operations. Construction noise would be limited to the short–term use of heavy equipment operated during daylight hours and to construction traffic.

Traffic: An analysis of the potential traffic-related impacts associated with the construction and day-to-day operations of the proposed Project will be prepared and provided.

Public Services: The following Project measures would minimize the potential need for public fire and police services.

- *Fire Prevention*: The construction site and access roads would be cleared of all vegetation. The cleared areas would be maintained throughout site construction and solar plant operations. Fire extinguishers would be available around the construction sites. Up to three (3) 10,000-gallon fire water tanks would be constructed across the Project sites and kept filled during operations to fight potential fires. Water that is used for construction would also be available for firefighting. Personnel would be allowed to smoke only in designated areas.
- *Emergency Services*: The Project preliminary site plans have been prepared to accommodate the requirements of emergency services which may need to respond to an

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emergency at the Project. Each Project site would be accessible from both a primary and secondary access driveway. These driveways would each be provided with a minimum of 30-foot double swing gates with "Knox Box" for keyed entry. Nominal 20-foot wide roads would be provided between the PV arrays, as well as around the perimeter of the Project site inside the perimeter security fence, to provide access for operational and emergency vehicles.

- *Security*: The entirety of each Project site would be enclosed within a gated security fence. Each site may also be monitored by a motion detection system and closed-circuit camera system.

Site Restoration: The Project areas are zoned S-2-RE, which is intended to preserve the cultural, biological, and open space areas that are rich and natural as well as cultural resources. At the end of the Project life, all facilities would be removed, and the Project sites restored to a condition for open space and recreational use. A proposed Project site restoration plan will be prepared and provided.

Utilities and Service Systems: Electricity for site security facilities when the panels are not generating power would be provided by the IID through interconnection with the existing IID distribution lines.

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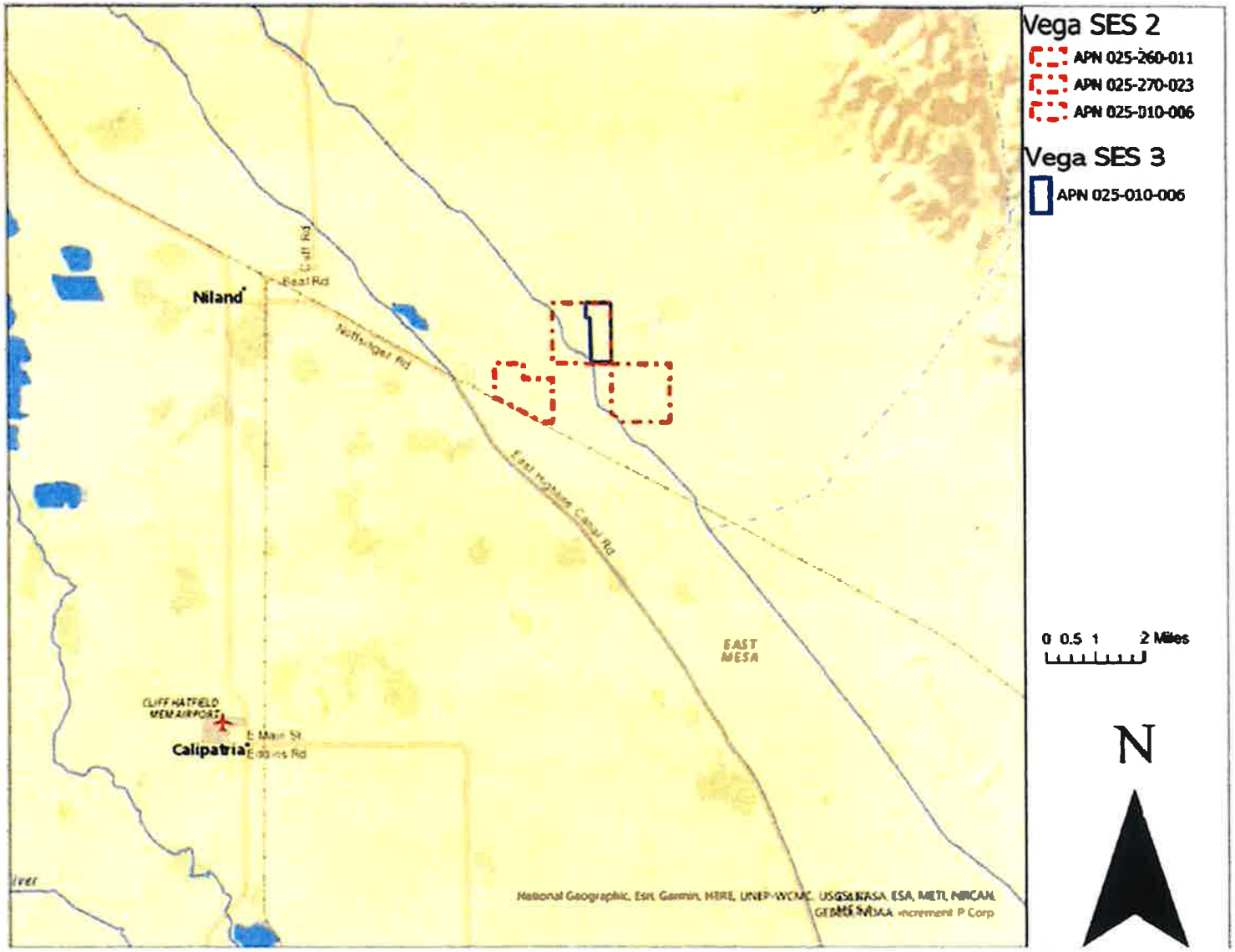

Figure 1 Project Location Map

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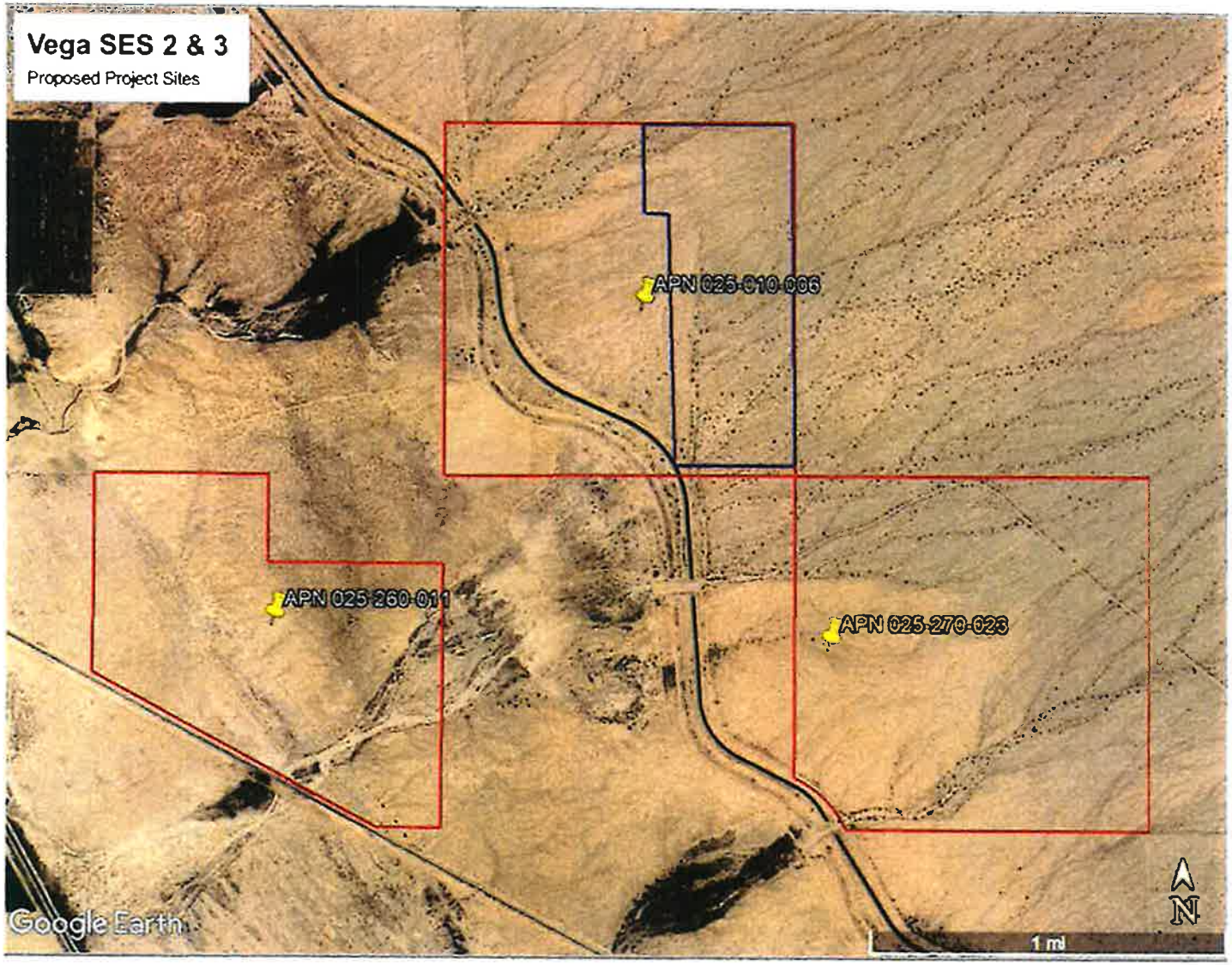

Figure 2 Project Vicinity Map

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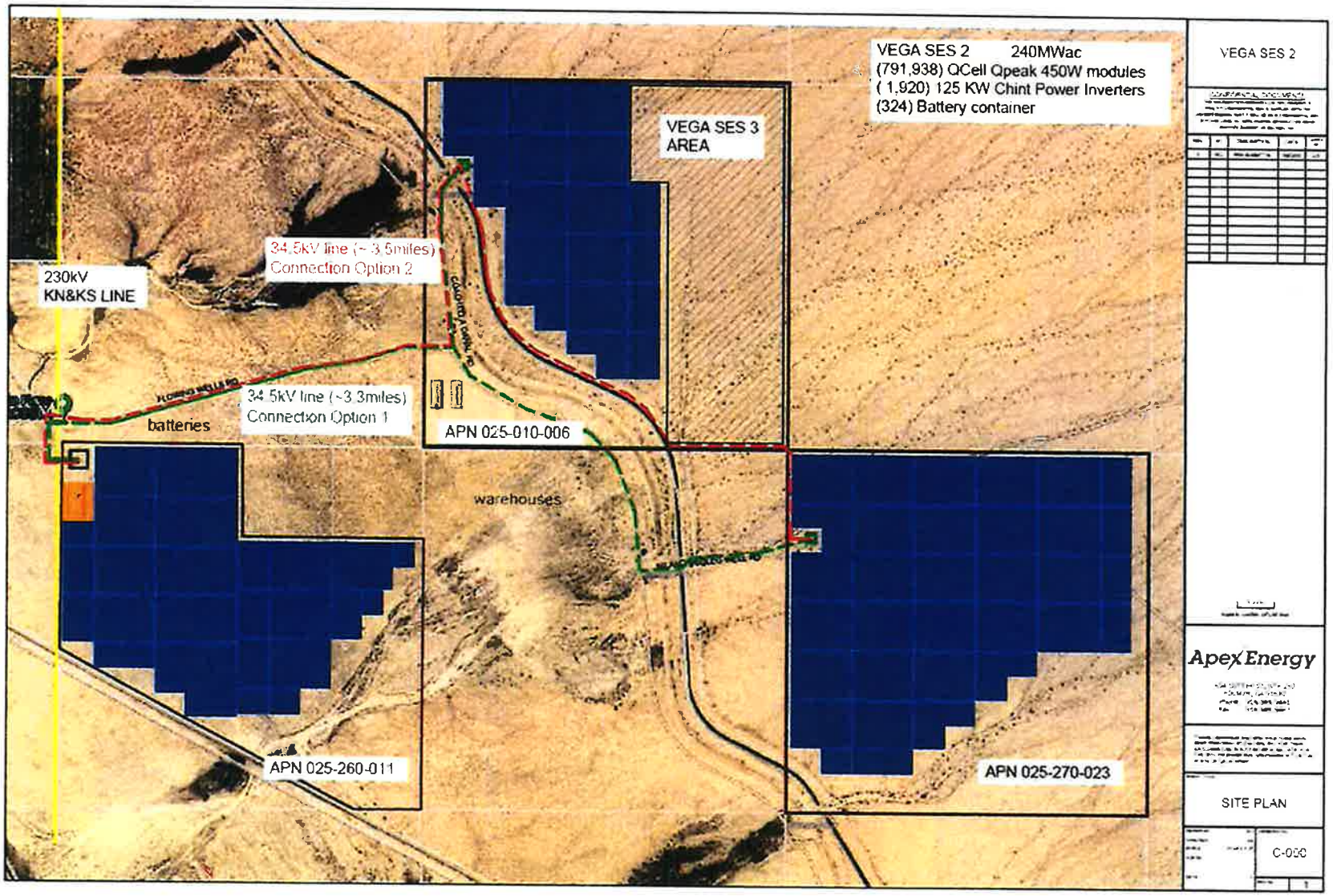

Figure 3 Vega SES 2 Site Plan

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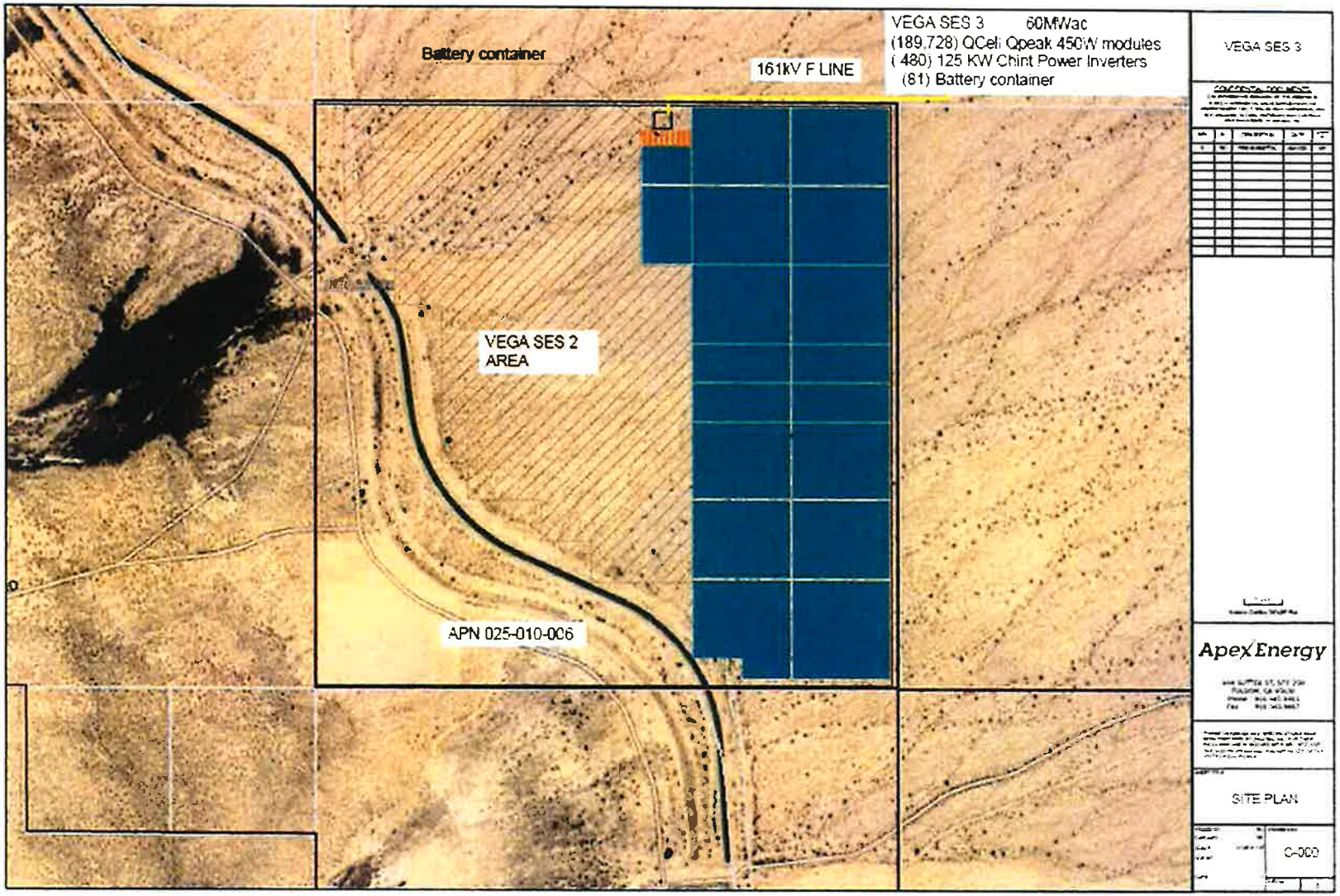
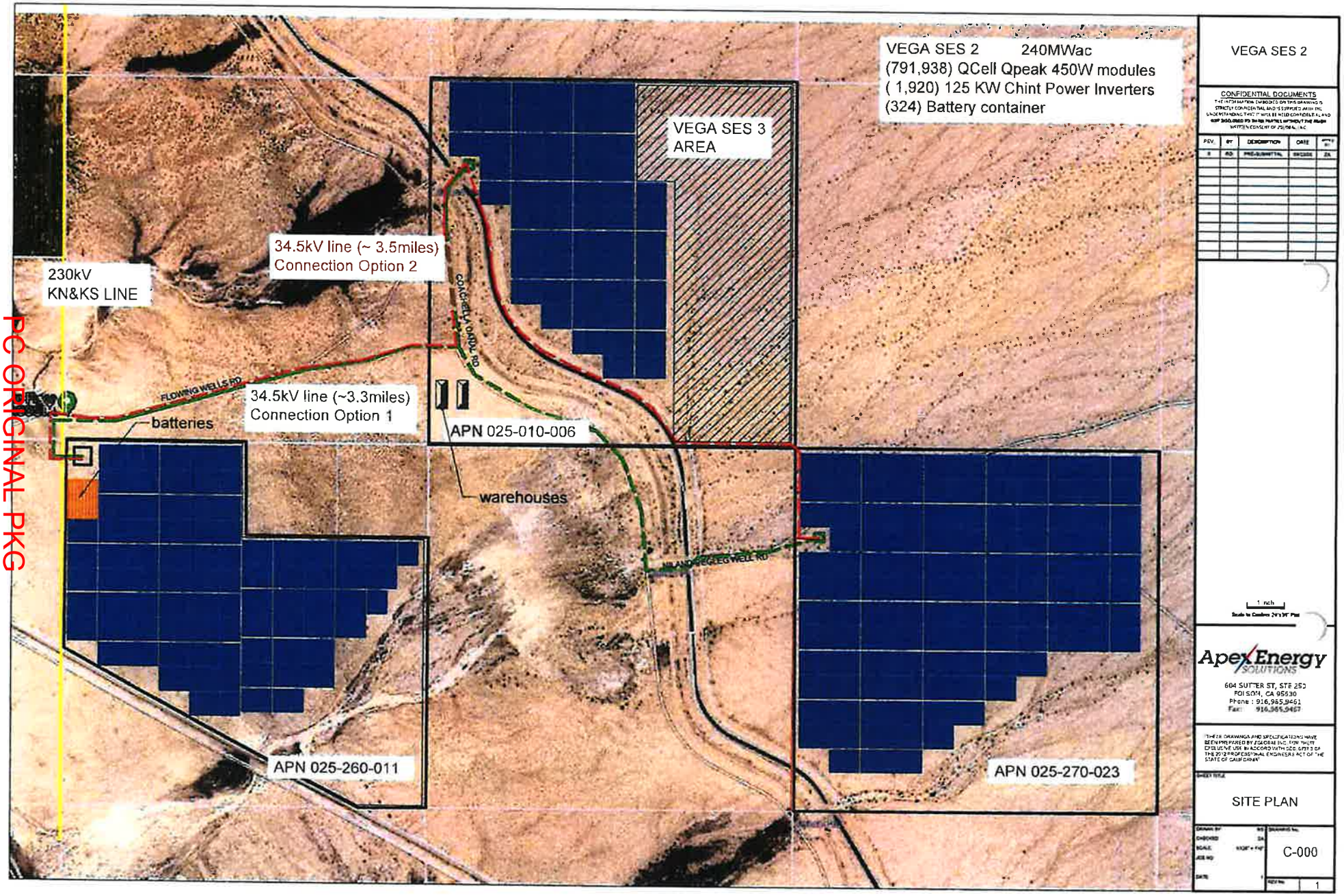


Figure 4 Vega SES 3 Site Plan



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VEGA SES 2

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THE INFORMATION EMBODIED ON THIS DRAWING IS STRICTLY CONFIDENTIAL AND IS SUPPLIED WITH THE UNDERSTANDING THAT IT WILL BE HELD CONFIDENTIAL AND NOT DISCLOSED TO THIRD PARTIES WITHOUT THE PRIOR WRITTEN CONSENT OF [illegible] INC.

REV.	BY	DESCRIPTION	DATE	APPD BY
0	RD	PRE-SUBMITTAL	09/2020	ZA

1 inch
Scale to Confirm 24"x36" Plot

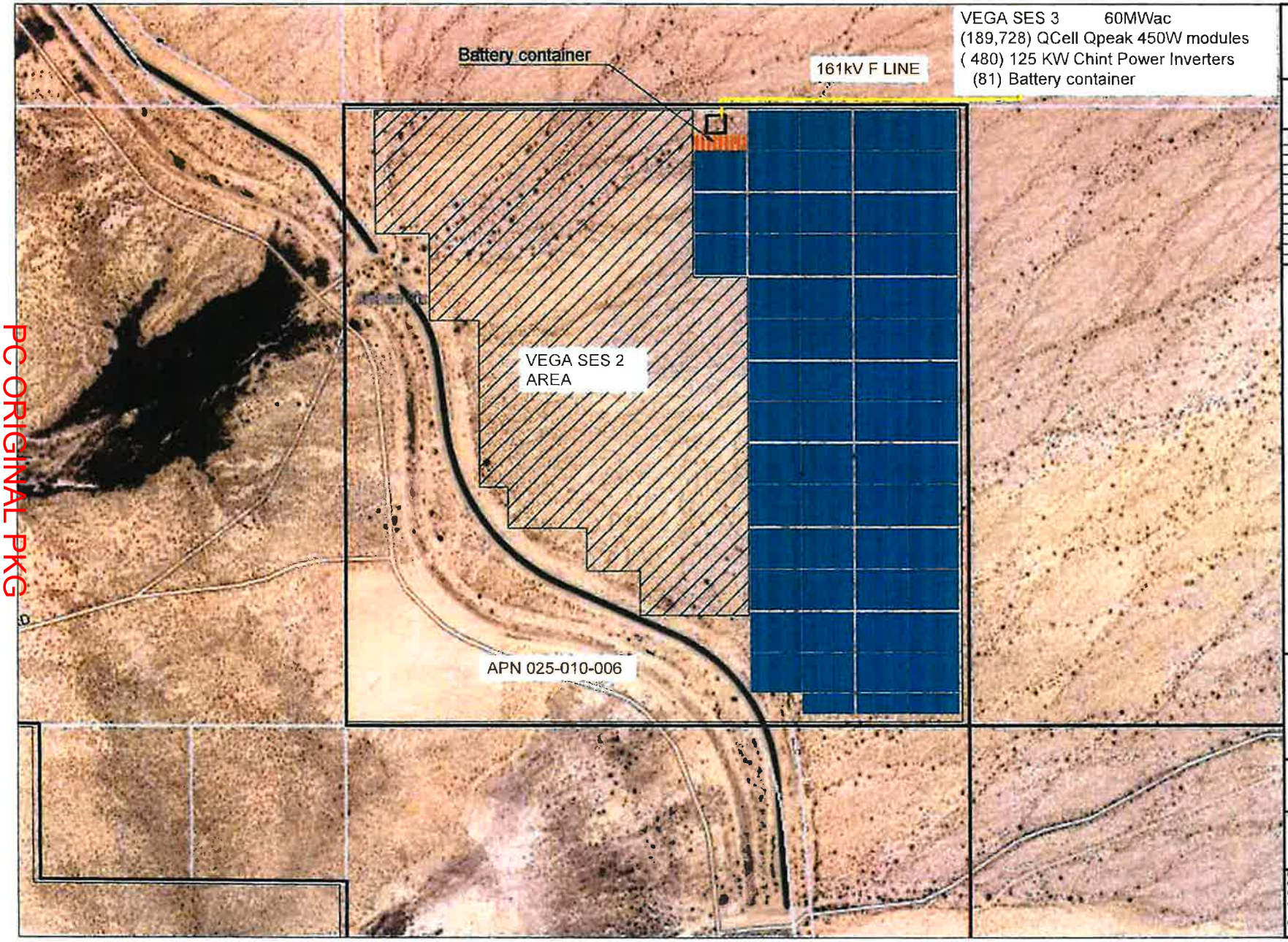
Apex Energy Solutions
604 SUTTER ST, STE 250
FOLSOM, CA 95630
Phone : 916.985.9461
Fax: 916.985.9467

THESE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED BY [illegible] INC. FOR THEIR EXCLUSIVE USE IN ACCORDANCE WITH SEC. 6703 OF THE 2012 PROFESSIONAL ENGINEERS ACT OF THE STATE OF CALIFORNIA

SHEET TITLE

SITE PLAN

DRAWN BY	RD
CHECKED	ZA
SCALE	1/32" = 1'-0"
JOB NO	
DATE	
DRAWING No.	C-000
REV No.	1



VEGA SES 3

CONFIDENTIAL DOCUMENTS

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1 inch

Apex Energy SOLUTIONS

604 SUTTER ST, STE 250
FOLSOM, CA 95630
Phone : 916.985.9461
Fax: 916.985.9467

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SHEET TITLE

SITE PLAN

DRAWN BY
CHECKED
SCALE
JOB NO.
DATE

DRAWING No.
C-000

REV No. 1

PC ORIGINAL PKG

LETTER OF TRANSMITTAL:

October 15, 2020

TO: Jim Minnick, Director of ICPDS

FROM: Jurg Heuberger, Consultant

RE: VEGA SES 2, 3, 4 and 5

Jim:

Attached are four (4) applications for four solar projects. They are titled VEGA SES 2, VEGA SES 3, VEGA SES 4 and VEGA SES 5.

We are requesting that VEGA 2, 3 and 5 be processed under one EIR and VEGA 4 under one EIR.

The fees per your office are $ $16,500.00 for processing VEGA 2, 3 & 5, and $ 14,500.00 for VEGA 4.

These applications are not complete in the sense that they do not have the accompanying technical studies. They are however complete enough for your office to commence the RFP process to retain appropriate consultant(s) for the preparation of the EIR's.

At this time, we are requesting that your office start the process to retain appropriate EIR Consultant(s).

Time is of the essence on these projects which is why we are requesting your cooperation and assistance in expediting this portion of the process.

We will have the technical studies plus any other documentation you need well before you have a contract for a CEQA consultant. To that end however we would also appreciate having your staff begin the review of these applications and advising me of what other information they feel is lacking aside from the "preliminary title reports", the original owners affidavits, and the technical studies which will include the following: traffic, biological, cultural, visual, air quality/GHG, Noise and AG/LESA.

Lastly, I am the primary point of contact on all of these applications and would respectfully request that all correspondence on these be directed to me at jurgheuberger@gmail.com, or 760-996-0313 or PO Box 4151, El Centro, Ca. 92244. I understand that you have to notify the property owners that a permit application has been filed on their land, however all other correspondence should be directed exclusively to me.

Thank you.

RECEIVED
OCT 19 2020
IMPERIAL COUNTY
PLANNING & DEVELOPMENT SERVICES

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CONDITIONAL USE PERMIT

I.C. PLANNING & DEVELOPMENT SERVICES DEPT.
801 Main Street, El Centro, CA 92243 (760) 482-4236

- APPLICANT MUST COMPLETE ALL NUMBERED (black) SPACES – Please type or print -

1. PROPERTY OWNER'S NAME See attached Property Owner Exhibit		EMAIL ADDRESS See attached Property Owner Exhibit	
2. MAILING ADDRESS (Street / P O Box, City, State) See attached Property Owner Exhibit		ZIP CODE See attached Property Owner Exhibit	PHONE NUMBER
3. APPLICANT'S NAME Apex Energy Solutions, LLC		EMAIL ADDRESS ziad@zglobal.biz	
4. MAILING ADDRESS (Street / P O Box, City, State) 604 Sutter Street, Suite 250, Folsom, CA		ZIP CODE 95630	PHONE NUMBER (916) 985-9461
4. ENGINEER'S NAME To be determined	CA. LICENSE NO.	EMAIL ADDRESS To be determined	
5. MAILING ADDRESS (Street / P O Box, City, State) To be determined		ZIP CODE To be determined	PHONE NUMBER To be determined

6. ASSESSOR'S PARCEL NO. 025-260-019; 025-260-022	SIZE OF PROPERTY (In acres or square foot) Approximately 249.7 acres	ZONING (existing) S-2-RE/A-2-RE/ A-3-RE
7. PROPERTY (site) ADDRESS none available 2502 West Rd, Niland, CA 92257		
8. GENERAL LOCATION (i.e. city, town, cross street) East of Niland in the Unincorporated area of Imperial County		
9. LEGAL DESCRIPTION See attached Property Owner Exhibit for parcel specific legal descriptions. (also see Attachment 1 [Project Description]) for additional detail.		

PLEASE PROVIDE CLEAR & CONCISE INFORMATION (ATTACH SEPARATE SHEET IF NEEDED)

10. DESCRIBE PROPOSED USE OF PROPERTY (list and describe in detail) Develop the Vega SES 5 Solar BESS Project, a nominal 50-megawatt (MW) alternating current (AC) solar photovoltaic energy generation and 50MW/200 megawatt hour (MWh) battery energy storage project (see Attachment 1 [Project Description])		
11. DESCRIBE CURRENT USE OF PROPERTY	Idle land (see Attachment 1)	
12. DESCRIBE PROPOSED SEWER SYSTEM	See Attachment 1	
13. DESCRIBE PROPOSED WATER SYSTEM	See Attachment 1	
14. DESCRIBE PROPOSED FIRE PROTECTION SYSTEM	See Attachment 1	
15. IS PROPOSED USE A BUSINESS? ☒ Yes ☐ No	IF YES, HOW MANY EMPLOYEES WILL BE AT THIS SITE? 0 (see Attachment 1)	

I / WE THE LEGAL OWNER (S) OF THE ABOVE PROPERTY CERTIFY THAT THE INFORMATION SHOWN OR STATED HEREIN IS TRUE AND CORRECT.

See attached owner's affidavits
Print Name — Date

Applicant: Apex Energy Solutions, LLC
Signature

Ziad Alaywan, P.E.
Print Name — 10/14/2020 Date

Signature

REQUIRED SUPPORT DOCUMENTS

A. SITE PLAN
B. FEE
C. OTHER
D. OTHER

APPLICATION RECEIVED BY:		DATE	
APPLICATION DEEMED COMPLETE BY:		DATE	
APPLICATION REJECTED BY:		DATE	
TENTATIVE HEARING BY:		DATE	
FINAL ACTION: ☐ APPROVED ☐ DENIED		DATE	

REVIEW / APPROVAL BY OTHER DEPT'S required.
☐ P. W.
☐ E. H. S.
☐ A. P. C. D.
☐ O. E. S.
☐
☐

CUP # 20-0023

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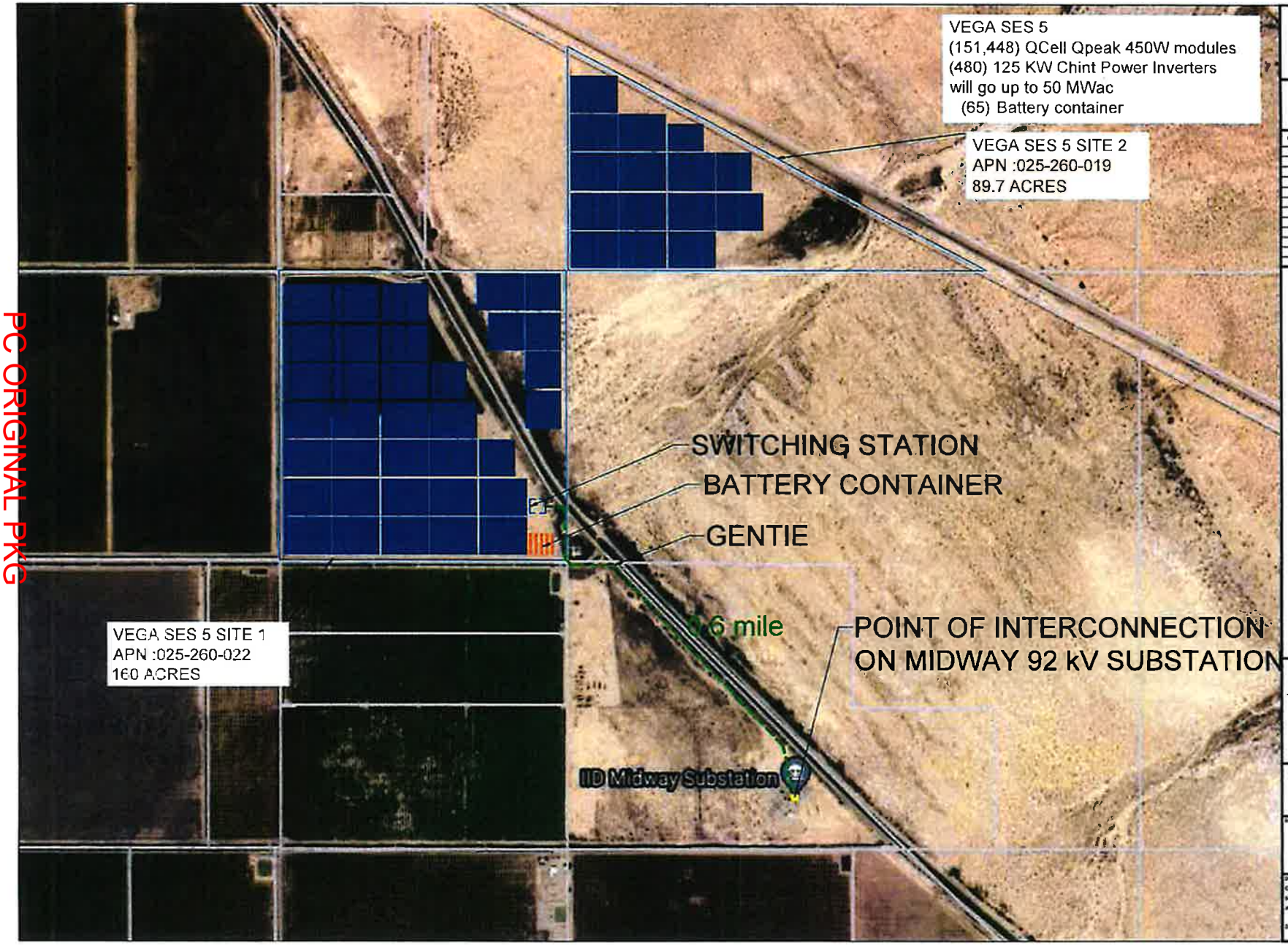

VEGA SES 5

CONFIDENTIAL DOCUMENTS

REV.	BY	DESCRIPTION	DATE	APPR. BY
0	RO	PRELIMINARY	[illegible]	ZA

1 inch

Apex Energy SOLUTIONS

604 SUTTER ST, STE 250
FOLSOM, CA 95630
Phone : 916.985.9461
Fax: 916.985.9467

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SHEET TITLE

SITE PLAN

DRAWN BY: RO
CHECKED: ZA
SCALE: 1/32" = 1'-0"
JOB NO:
DATE:

DRAWING No. C-000

REV No. 1

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Property Owner 1

1.	PROPERTY OWNER'S NAME Victoria Gabbard, Individually and on behalf of, Dr. J.G. Clark, Trustee Marjorie Gardner, Trustee	EMAIL ADDRESS lesleyashlaw@gmail.com All contact with property owner is conducted through Attorney. Info in 2B.	
2.	MAILING ADDRESS (Street / P O Box, City, State) 236 N. Laurel Ave, Charlotte, NC	ZIP CODE 28207	PHONE NUMBER
2B.	MAILING ADDRESS (Street / P O Box, City, State) 401 W "A" St, Suite 1100, San Diego, CA	ZIP CODE 92101	PHONE NUMBER (619) 227-7778
6.	ASSESSOR'S PARCEL NO. **025-260-019**	SIZE OF PROPERTY (in acres of square foot) 89.7	ZONING (Existing) S-2-RE
7.	PROPERTY (site) ADDRESS None available		
8.	GENERAL LOCATION (i.e. city, town, cross street) East of Niland in the Unincorporated area of Imperial County		
9.	LEGAL DESCRIPTION SECTION 17, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF. EXCEPTING A STRIP OF LAND 200 FEET WIDE CONTAINING 22 ACRES LYING EQUALLY ON EACH SIDE OF THE CENTERLINE OF THE SOUTHERN PACIFIC RAILROAD COMPANY RIGHT OF WAY AS NOW CONSTRUCTED, RESERVED BY SOUTHERN PACIFIC LAND COMPANY BY DEED RECORDED OCTOBER 16, 1951 IN BOOK 823, PAGE 299 OF OFFICIAL RECORDS. ALSO EXCEPTING THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 17.		

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Property Owner 2

1.	PROPERTY OWNER'S NAME Dana Te/TEDANA, LLC	EMAIL ADDRESS		
2.	MAILING ADDRESS (Street / P O Box, City, State) 2380 Woodhollow Circle, Corona, CA	ZIP CODE 92881	PHONE NUMBER	
6.	ASSESSOR'S PARCEL NO. **025-260-022**	SIZE OF PROPERTY (in acres of square foot) Approximately 160 acres		ZONING (Existing) S-2-RE / A-2-RE / A-3-RE
7.	PROPERTY (site) ADDRESS None available			
8.	GENERAL LOCATION (i.e. city, town, cross street) East of Niland in the Unincorporated area of Imperial County			
9.	LEGAL DESCRIPTION THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA OF UNINCORPORATED COUNTY OF IMPERIAL IN THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS: THE NORTHEAST QUARTER OF SECTION 19, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF; EXCEPTING 1;/2 OF ALL OIL, GAS, HYDROCARBON AND OTHER SUBSTANCES MINERALS AND STEAM IN OR UNDER SAID LAND, RESERVED BY JOHN CHAFFIN, ET AL., BY DEED RECORDED DECEMBER 15, 1975 IN BOOK 1382, PAGE 258 OF OFFICIAL RECORDS. ALSO EXCEPTING 15% OF ALL OIL, GAS, HYDROCARBON AND OTHER SUBSTANCES MINERALS AND STEAM IN OR UNDER SAID LAND, AS RESERVED BY DAVID F. SCHONEMAN AND DONNA SCHONEMAN, HUSBAND AND WIFE, IN DEED RECORDED JANUARY 30, 1981 AS INSTRUMENT NO. 18, BOOK 1464, PAGE 673 OF OFFICIAL RECORDS.			

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Property Owner 1

1.	PROPERTY OWNER'S NAME Victoria Gabbard, Individually and on behalf of, Dr. J.G. Clark, Trustee Marjorie Gardner, Trustee	EMAIL ADDRESS lesleyashlaw@gmail.com All contact with property owner is conducted through Attorney. Info in 2B.	
2.	MAILING ADDRESS (Street / P O Box, City, State) 236 N. Laurel Ave, Charlotte, NC	ZIP CODE 28207	PHONE NUMBER
2B.	MAILING ADDRESS (Street / P O Box, City, State) 401 W "A" St, Suite 1100, San Diego, CA	ZIP CODE 92101	PHONE NUMBER (619) 227-7778
6.	ASSESSOR'S PARCEL NO. **025-260-019**	SIZE OF PROPERTY (in acres of square foot) 89.7	ZONING (Existing) S-2-RE
7.	PROPERTY (site) ADDRESS None available		
8.	GENERAL LOCATION (i.e. city, town, cross street) East of Niland in the Unincorporated area of Imperial County		
9.	LEGAL DESCRIPTION SECTION 17, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF. EXCEPTING A STRIP OF LAND 200 FEET WIDE CONTAINING 22 ACRES LYING EQUALLY ON EACH SIDE OF THE CENTERLINE OF THE SOUTHERN PACIFIC RAILROAD COMPANY RIGHT OF WAY AS NOW CONSTRUCTED, RESERVED BY SOUTHERN PACIFIC LAND COMPANY BY DEED RECORDED OCTOBER 16, 1951 IN BOOK 823, PAGE 299 OF OFFICIAL RECORDS. ALSO EXCEPTING THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 17.		

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Property Owner 2

1.	PROPERTY OWNER'S NAME Dana Te/TEDANA, LLC	EMAIL ADDRESS		
2.	MAILING ADDRESS (Street / P O Box, City, State) 2380 Woodhollow Circle, Corona, CA	ZIP CODE 92881	PHONE NUMBER	
6.	ASSESSOR'S PARCEL NO. **025-260-022**	SIZE OF PROPERTY (in acres of square foot) Approximately 160 acres		ZONING (Existing) S-2-RE / A-2-RE / A-3-RE
7.	PROPERTY (site) ADDRESS None available			
8.	GENERAL LOCATION (i.e. city, town, cross street) East of Niland in the Unincorporated area of Imperial County			
9.	LEGAL DESCRIPTION THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA OF UNINCORPORATED COUNTY OF IMPERIAL IN THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS: THE NORTHEAST QUARTER OF SECTION 19, TOWNSHIP 11 SOUTH, RANGE 15 EAST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA OF THE COUNTY OF IMPERIAL, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF; EXCEPTING 1;/2 OF ALL OIL, GAS, HYDROCARBON AND OTHER SUBSTANCES MINERALS AND STEAM IN OR UNDER SAID LAND, RESERVED BY JOHN CHAFFIN, ET AL., BY DEED RECORDED DECEMBER 15, 1975 IN BOOK 1382, PAGE 258 OF OFFICIAL RECORDS. ALSO EXCEPTING 15% OF ALL OIL, GAS, HYDROCARBON AND OTHER SUBSTANCES MINERALS AND STEAM IN OR UNDER SAID LAND, AS RESERVED BY DAVID F. SCHONEMAN AND DONNA SCHONEMAN, HUSBAND AND WIFE, IN DEED RECORDED JANUARY 30, 1981 AS INSTRUMENT NO. 18, BOOK 1464, PAGE 673 OF OFFICIAL RECORDS.			

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VEGA SES 5 SOLAR PROJECT DESCRIPTION

October 2020

Submitted to:

County of Imperial
Planning and Development Services Department
801 Main Street
El Centro, CA 92243-2811

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OCT 19 2020
IMPERIAL COUNTY
PLANNING & DEVELOPMENT SERVICES

Submitted to:

APEX ENERGY SOLUTIONS LLC.
750 W. Main Street
El Centro, CA 92243

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VEGA SES 5

SOLAR PROJECT DESCRIPTION

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VEGA SES 5

SOLAR PROJECT DESCRIPTION

Introduction

Apex Energy Solutions LLC. is proposing to develop the Vega SES 5 Solar Energy Storage (Project), a nominal 50-megawatt alternating current (MWAC) solar photovoltaic (PV) energy generation project with an integrated 50 MW battery storage project on approximately 249.7 acres of land in the County of Imperial, California. The Project would be located approximately 9 miles east of the Salton Sea, directly south of Noffsinger Road, east of Wiest Road in Sections 17 and 19 all within Township 11 South, and Range 15 East of the San Bernardino Base and Meridian (SBB&M) of the "Iris" topographic quadrangles 7.5-minute quadrangle (U.S. Department of the Interior, Geological Survey 2005). The electrical energy produced by the Project would be conducted through a proposed 92 kV generator intertie ("gen-tie") line and delivered to the Imperial Irrigation District (IID) through a short interconnection with the IID 92kV "Midway" Substation or the proposed Project switching station.

Property Description

The Project would be located on Imperial County Assessors Parcels (APNs) 025-260-019-000 (approximately 89.7 acres) and 025-260-022-000 (approximately 160.0 acres), the former owned by Clark Joseph G Trustee Etal and the latter by Tedana LLC. Both Project parcels are designated as "Recreation/Open Space" in the Imperial County General Plan. The parcel with APN 025-260-019-000 is zoned S-2-RE (areas with intent to preserve the cultural, biological, and open spaces that are rich and natural as well as cultural resources) and the parcel with APN 025-260-022-000 is zoned A-2-RE (areas that are suitable and intended primarily for agricultural uses [limited] and agricultural related compatible uses), A-3-RE (areas that are suitable for agricultural land uses; to prevent the encroachment of incompatible uses onto and within agricultural lands; and to prohibit the premature conversion of such lands to non-agricultural uses) and S-2-RE (see above). Pursuant to Section 91703.02 (CONDITIONAL USE PERMITS), Renewable Energy Projects must be located within the Renewable Energy Overlay Zone and may be permitted only through the issuance of a Conditional Use Permit (CUP) as approved by the Approving Authority unless otherwise allowed by applicable law. At present, all Project parcels are located within the Renewable Energy (RE) Zone. This Project Description is intended to support Apex Energy Solutions LLC's requested approval of a Conditional Use Permit for the Vega SES 5 Project. Representative photographs of the Project areas will be provided.

Solar Technology

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The Project proposes to utilize either thin film or crystalline solar photovoltaic (PV) technology modules mounted either on fixed frames or horizontal single-axis tracker (HSAT) systems. The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The depth of the piles would be dependent on the recommendations of the geotechnical report prepared for the Project. The fixed-frame racks would be secured at a fixed tilt of 20° to 30° from horizontal facing a southerly direction. Current Project designs would have individual PV modules, mounted two high on a fixed frame, providing a two-foot ground clearance and resulting in the tops of the panels at approximately 7.5 feet above the ground. The fixed PV modules would be arranged in arrays spaced approximately 15 to 25 feet apart (pile-to-pile) to maximize performance and to allow access for panel cleaning (if necessary). These arrays would be separated from each other and the perimeter security fence by up to 30-foot wide interior roads. If HSAT technology is used, the PV modules would rotate around the north-south HSAT axis so that the PV modules would continue to face the sun as the sun moves across the sky throughout the day. The PV modules would reach their maximum height (up to nine (9) feet above the ground, depending on the final design) at both sunrise and sunset, when the HSAT is rotated to point the modules at the rising or setting sun. At noon, or when stowed during high winds, when the HSAT system is rotated so that the PV modules are horizontal, the nominal height would be about six (6) feet above the ground, depending on the final design. The individual PV systems would be arranged in large arrays by placing them in columns spaced approximately ten feet apart to maximize operational performance and to allow access for panel cleaning and maintenance. Current Project designs would have individual HSAT PV modules, each approximately two feet wide by four feet long (depending on the specific PV technology selected), mounted on a frame which is attached to an HSAT system. These HSAT arrays would be separated from each other and the perimeter security fence by up to 30-foot wide roads, consistent with agency emergency access requirements.

Project Facilities

Electrical Power System: Electricity generated by the PV modules would be collected by a direct current (DC) collection system routed underground in trenches. This DC power would be delivered to one of the pad-mounted inverters in weatherproof enclosures located within the arrays. The inverters would convert the DC power to three-phase alternating current (AC). The inverters could be connected to AC interconnection facilities which, if needed, would raise the voltage to up to 34.5 kV, or the interconnection voltage selected by the Projects. Underground or overhead 12.5 kV to 34.5-kV collection lines would transmit the electricity to the new Project substation.

Interconnection Facilities:

A new Project substation would be constructed on the southwestern boundary of APN 025-260-022 (See Figure 3~~Figure 3~~). This substation would take the delivery of the up to 34.5 kV power from the Project and increase the voltage of the electricity to 92 kV, where it would be delivered to the IID 92 kV "Midway" Substation. The substation would include a transformer, circuit breakers, meters, disconnect switches, and microwave or other communication facilities.

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The medium voltage power produced by the Project would be conveyed underground, or above ground where necessary to cross over any sensitive site features, to connect to the Projects' interconnection facilities. The Projects' interconnection facilities design would meet all necessary utility standards and requirements. As required, surge arrestors would be used to protect facilities and auxiliary equipment from lightning strikes or other disturbances. Distribution from the site would be via an overhead connection.

Transmission Lines: The electrical energy produced by the Project would be conducted through the Project substation to the proposed 92kV generator intertie ("gen-tie") line and delivered to the existing Imperial Irrigation District (IID) approved point of interconnection (POI) at the IID 92kV "Midway" Substation (See Figure 3~~Figure 3~~).

Security: Six-foot high security fencing would be installed around the perimeter of each of the Project sites at the commencement of construction and site access would be limited to authorized site workers. In addition, a motion detection system and closed-circuit camera system may also be installed. The site would be remotely monitored 24 hours per day, 7 days per week. In addition, routine unscheduled security rounds may be made by the security team monitoring the site security.

Battery System: The proposed battery energy storage system (BESS or ESS) would be constructed adjacent to the projects solar facilities and would consist of either lithium ion (Li-ion) or flow batteries. The batteries will either be housed in storage containers or buildings fitted with HVAC and fire suppression systems. Inside the housing the batteries will be placed on racks, the orientation of which depends on the type of housing. Underground trenches with conduits will be used to connect the batteries to the control and monitoring systems, and inverters to convert the PV produced DC power to AC power.

Site Access

The Project site would include one primary access driveway per parcel for a total of two primary access points and a secondary access driveway per parcel (if required) with a to be determined location; the driveway for APN 025-260-019 will be located in the northwestern corner off the parcel off of Noffsinger Road, while the driveway for APN 025-260-022 will be located along Weist Road which runs parallel to the western boundary of said parcel. (see Figure 3~~Figure 3~~). Both driveways would be provided with a minimum of 30-foot double swing gates with "Knox Box" for keyed entry. Internal to the Project site up to 30-foot wide roads would be provided between the PV arrays, as well as around the perimeter of each Project site inside the perimeter security fence to provide access to all areas of each site for maintenance and emergency vehicles (see Figure 3~~Figure 3~~).

Site Construction

Construction Activities: Construction activities would primarily involve demolition and grubbing; grading of the Project area to establish access roads and pads for electrical equipment

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(inverters and step–up transformers); trenching for underground electrical collection lines; and the installation of solar equipment and security fencing. Dust generated during construction would be controlled by watering and, as necessary, the use of other dust suppression methods and materials accepted by the Imperial County Air Pollution Control District (ICAPCD) or the California Air Resources Board (CARB). A temporary, portable construction supply container would be located at the Project sites at the beginning of construction and removed at the end of construction. The number of on–site construction workers for the solar project facilities is not expected to exceed 150 workers at any one time. The number of on-site construction workers for the battery storage facility and the substation is not expected to exceed 100 workers at any one time. Onsite parking would be provided for all construction workers.

Traffic: The construction worker traffic is expected to travel to the site from three directions:

- From the east via S98 (Yuha Cutoff) to Drew Road (S29), then north on Drew Road to the Project area;
- From the north via Interstate 8, then south on Drew Road to the Project area; or
- From the west via either S98 to Drew Road north or Interstate 8 to Drew Road south.

Delivery trucks are expected to follow the same routes as the construction workers. An estimated two trucks would arrive at the Project sites each day during the first few weeks of construction of the solar generating facility.

Storm Water: Areas of the solar energy storage facilities where small amounts of contaminants could be released, such as the paved areas surrounding the containers, would be constructed in compliance with storm water quality management measures (i.e., basins and infiltration areas, where required) designed to meet State and local storm water management plan requirements. These paved areas would be maintained, and any vehicle leaks or spills would be periodically cleaned with absorbent materials to minimize the potential for contamination. All applicable local RWQCB discharge requirements and County of Imperial's water quality regulations would be adhered to in the development and maintenance of the project sites. A drainage study and preliminary grading plan for the project will be prepared by a local civil engineering firm to address the potential environmental impacts of site drainage and stormwater.

Site Operations

Once construction is completed the Project would be remotely controlled. No employees would be based at the Project sites. Primary security–related monitoring would be done remotely. Security personnel may conduct unscheduled security rounds, and would be dispatched to the site in response to a fence breach or other alarm. Site maintenance workers may access the Project site periodically to clean the panels and maintain the equipment and Project area. The public would not have access to the facility. Access to the Project site would be infrequent and limited to authorized personnel.

Periodic washing of the PV modules is not expected to be necessary but could be needed to remove dust in order to maintain power generation efficiency. The amount of water needed for

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this purpose is conservatively estimated at 10 acre-feet per washing, with up to two washings per year, or a total of up to 20 acre-feet per year. This water would be water purchased from the IID. Each washing is expected to take one to two weeks to complete. Vegetation growing on the site would periodically (approximately every three months) be removed manually and/or treated with herbicides.

Water Resource Requirements

Water for Construction: Water for construction (primarily dust control) would be obtained from local IID irrigation canals or laterals in conformance with IID construction water acquisition requirements. Water would be picked up from a nearby lateral canal and delivered to the construction location by a water truck which would be capable of carrying approximately 4,000 gallons per load. It is estimated that up to 550 acre-feet of water would be needed for site grading and dust control over the expected Project construction period.

Water for Operations: Water for washing the PV modules, if required, would be purchased from the IID and delivered to the Project site by water trucks. The volume of water to be used for PV module washing and dust control, if needed, is estimated at up to 20 acre-feet per year.

Waste

Relatively small amounts of trash would be generated during construction from packaging materials delivered to the site. Construction related waste would be transported to a local landfill authorized to receive this waste for disposal. Portable toilets would be located on-site during construction and sanitary waste would be removed from the site by a local contractor.

No general waste is expected to be generated during normal operations. Sanitary waste generated during Project maintenance operations would be handled by bringing portable toilets to the Project sites, with waste removed periodically by a local contractor.

No hazardous waste is expected to be generated from the Project during either construction or normal Project operations.

Permit Requirements

The following permits/approvals may be required for the Project from the specified agencies, although some may not be applicable:

- Conditional Use Permit (Imperial County Planning & Development Services Department)
- Grading Permits (Imperial County Planning & Development Services Department)
- Building Permits (Imperial County Planning & Development Services Department)
- Dust Control Plan (Imperial County Air Pollution Control District)
- Rule 310 Exemption (Imperial County Air Pollution Control District)

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- Encroachment Permits (Imperial County Public Works Department)
- Encroachment Permits (Imperial Irrigation District)
- Water Supply Agreement (Imperial Irrigation District)
- General Construction Storm Water Permit Notice of Intent/Storm Water Pollution Prevention Plan (California State Water Resource Control Board)
- Consultation for Sensitive Species (California Department of Fish and Wildlife)
- Consultation for Bird and Bat Conservation Strategy (U.S. Fish and Wildlife Service)[JN1]

Environmental Protection Measures and Baseline Information

All Project construction and contractor personnel would be informed of Vega SES 5 policy regarding undue degradation of the environment. These measures are intended to prevent all unacceptable impacts from occurring as a result of the proposed construction and ongoing operations.

Aesthetics:

Visibility: Project lighting for security purposes would be directed on–site and would incorporate shielding as necessary to minimize illumination of the night sky and potential impacts to surrounding viewers. The solar panels would be constructed to absorb light and minimize any potential glare. There are no panoramic scenic views from the Project area. Visual simulations of the proposed Project will be provided.

Glare Effects: The Project PV modules are specifically designed to absorb light, rather than reflect it, as reflected light results in the loss of solar energy input, and thus electrical energy output. Modules are dark in color and have a coating that enables the panel to absorb as much of the available light as possible, which directly increases electrical energy production. The glare and reflectance levels from the PV panels are decisively lower than the glare and reflectance by standard glass and other common reflective surfaces. A solar glare analysis will be prepared to determine the potential for glare from the Project.

Odors: No malodorous chemicals or substances would be used or generated during Project construction or operations.

Agricultural Land: The current agricultural map for Imperial County prepared by the California Farmland Mapping and Monitoring Program will be used to determine the amount of the Project lands that have been mapped in each of the eight mapping categories.

The California Department of Conservation (CDOC) Land Evaluation Site Assessment (LESA) model will be used to evaluate the potential for impacts from conversion of Project area agricultural land to solar use.

There are no Williamson Act lands within or adjacent to the Project area.

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Air Quality: Fugitive dust would be controlled during construction and operations as required by Imperial County Air Pollution Control District (ICAPCD) Regulation VIII. A Dust Control Plan would be prepared in conformance with ICAPCD requirements to address construction and earthmoving activities, track-out, open areas and unpaved roads. It would include information on the dust suppressants to be applied and the specific surface treatment(s) and/or control measures to be utilized to control track-out where unpaved and/or access points join paved public access roads. There would be no air pollutant emissions from stationary sources from the Project during solar power generation operations.

Air pollutant emissions would be estimated using the California Emission Estimator Model (CalEEMod) and other emission estimating tools from both Project construction and operation activities.

Biological Resources: A biological resources survey of the Project area and a 500-foot buffer (the "Biological Survey Area," or BSA) will be conducted to identify plant associations and animals present; identify dominant tree, shrub and herbaceous flora; and identifying potential habitat for "sensitive" or "special status" species (or documenting the lack thereof).

A jurisdictional delineation of the BSA for potential "state" and/or "federal" waters that may be subject to regulatory compliance relative to the California Department of Fish and Wildlife's (CDFW's) implementation of Section 1600 of the California Fish and Game Code and/or Section 404 and Section 401 of the Clean Water Act (CWA), respectively, will also be conducted.

Focused breeding season surveys of the BSA for burrowing owl may also be conducted in accordance with the methodologies provided in the California Department of Fish and Wildlife's (CDFW's) "2012 Staff Report on Burrowing Owl Mitigation."

Cultural Resources: A baseline cultural resources survey of the Project area will be conducted.

Flood Hazard: According to the applicable Federal Emergency Management Agency (FEMA) flood hazard map (06025C0750C, effective 09/26/2008), the Project area is not located within a special flood hazard area.

Geology, Soils and Mineral Resources:

- *Geologic Hazards*: The Project is not located in a seismically active area. No other potential geologic hazards are known within the Project area, and the preliminary geotechnical survey report will provide mitigation recommendations for any identified geologic hazards.
- *Soils*: Soils within the Project area will be evaluated, and the preliminary geotechnical survey report will provide mitigation recommendations for any identified geologic hazards.
- *Mineral Resources*: There are no known developed or potential mineral resources within or adjacent to the Project area.

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Hazardous Materials: The Project would not use nor store any hazardous chemicals on site during normal operations. Fuel that may be used on site during construction would be stored in secondary containment. A Phase I Environmental Site Assessment will be conducted to evaluate the potential for hazardous substance or petroleum hydrocarbon contamination at the site.

Hydrology and Water Quality: A drainage study will be prepared for the Project area which will be used to complete the preliminary grading plan in conformance with Imperial County Public Works Department (ICPWD) requirements. A Notice of Intent to comply with the general permit for construction activities would be filed with the State Water Resources Control Board, and the required Storm Water Pollution Prevention Plan (SWPPP) would be prepared and implemented consistent with the requirements of the State Water Resources Control Board general permit.

Noise: The Project would not generate any appreciable noise during normal operations. Construction noise would be limited to the short–term use of heavy equipment operated during daylight hours and to construction traffic.

Traffic: An analysis of the potential traffic-related impacts associated with the construction and day-to-day operations of the proposed Project will be prepared and provided.

Public Services: The following Project measures would minimize the potential need for public fire and police services.

- *Fire Prevention*: The construction site and access roads would be cleared of all vegetation. The cleared areas would be maintained throughout site construction and solar plant operations. Fire extinguishers would be available around the construction sites. Up to three (3) 10,000-gallon fire water tanks would be constructed across the Project sites and kept filled during operations to fight potential fires. Water that is used for construction would also be available for firefighting. Personnel would be allowed to smoke only in designated areas.
- *Emergency Services*: The Project preliminary site plans have been prepared to accommodate the requirements of emergency services which may need to respond to an emergency at the Project. Each Project site would be accessible from both a primary and secondary (if required) access driveway. [JN2]These driveways would each be provided with a minimum of 30-foot double swing gates with "Knox Box" for keyed entry. Nominal 20-foot wide roads would be provided between the PV arrays, as well as around the perimeter of the Project site inside the perimeter security fence, to provide access for operational and emergency vehicles.
- *Security*: The entirety of each Project site would be enclosed within a gated security fence. Each site may also be monitored by a motion detection system and closed-circuit camera system.

Site Restoration: The Project areas are zoned either A-2-RE/A-3-RE, which are intended to provide for agricultural uses, as well as S-2-RE, which is intended to provide for open space and recreational uses. At the end of the Project life, all facilities would be removed, and the Project sites restored to a condition for either future agricultural use or future preservation and recreational uses. A proposed Project site restoration plan will be prepared and provided.

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Utilities and Service Systems: Electricity for site security facilities when the panels are not generating power would be provided by the IID through interconnection with the existing IID distribution line.

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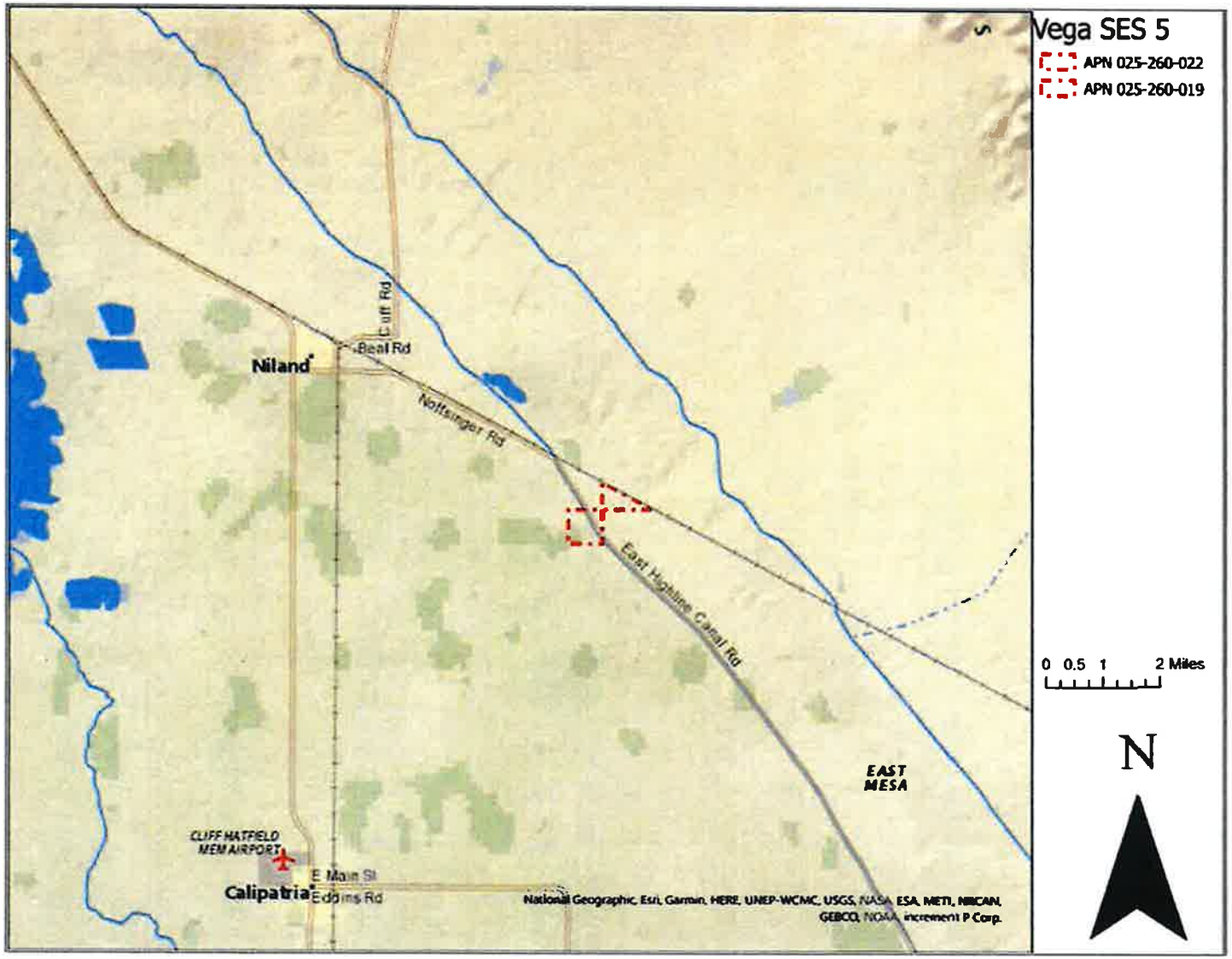

Figure 1 Project Location Map

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Figure 2 Project Vicinity Map

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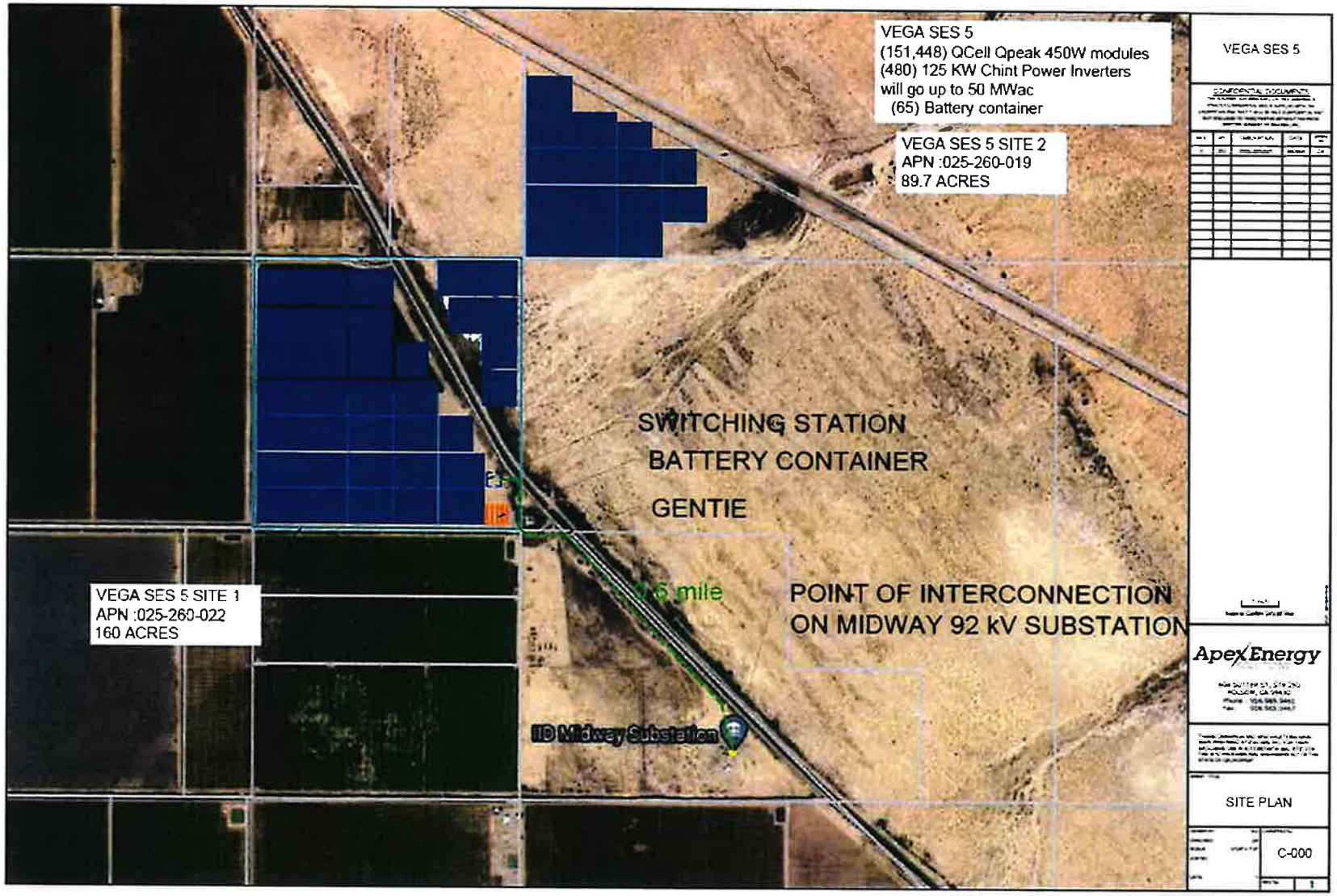

Figure 3 Vega SES 5 Site Plan

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Imperial

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Assessor Inquiry

Tax Collector Inquiry
Assessor Inquiry

IMPERIAL County Intranet

Main New Search | Print

Assessment Information				Taxroll Values	
Assessment No.	025-260-022-000 camera No Image			Land	364032
Parcel Number	025-260-022-000			Structure	12657
Asmt Desc	NE 1/4 SEC 19 T11S R15E 160 AC			Fixtures	0
Status	A	Date		Growing	0
Taxability	000	TRA	058003	Total L&I	376689
Supl Cnt.	2	Base Date		Fix R/P	0
Zoning		Dwelling	0	MM PP	0
Acres	160.00	N/C	025	PP	
Flags				Hox Exmpt.	0
Ag Preserve	N	EtAl	N	Other Exmpt.	0
Notes	N	Bonds	Y	Net	376689
Multiple Situses		Flag1	N	RC No.	
Flag2	N	Asmt PP Pen		T/R Date	
Tax PP Pen		Appeal Pend	N	R/C Status	
Split Pend	N				

Address

2380 WOODHOLLOW CIRCLE
CORONA CA 92881

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Document	Number	Date
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Current	2012R007504	4/5/2012
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Assessor Inquiry

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Assessment Information				Taxroll Values	
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Parcel Number	025-260-019-000			Structure	0
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Taxability	000	TRA	058003	Total L&I	7818
Supl Cnt.	1	Base Date		Fix R/P	0
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Acres	89.70	N/C	2601	PP	
Flags				Hox Exmpt.	0
Ag Preserve	N	EtAl	N	Other Exmpt.	0
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Multiple Situses		Flag1	N	RC No.	
Flag2	N	Asmt PP Pen		T/R Date	
Tax PP Pen		Appeal Pend	N	R/C Status	
Split Pend	N				

Address

16908 COUNTY ROAD #72
EATON CO 80615

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Tax Collector Inquiry
Assessor Inquiry

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Assessment Information				Taxroll Values	
Assessment No.	025-260-019-000	camera No Images		Land	7818
Parcel Number	025-260-019-000			Structure	0
Asmt Desc	POR S2 SEC 17 11-15 89.70 AC SW OF SPRR			Fixtures	0
Status	A	Date		Growing	0
Taxability	000	TRA	058003	Total L&I	7818
Supl Cnt.	1	Base Date		Fix R/P	0
Zoning		Dwelling	0	MM PP	0
Acres	89.70	N/C	2601	PP	
Flags				Hox Exmpt.	0
Ag Preserve	N	EtAl	N	Other Exmpt.	0
Notes	Y	Bonds	Y	Net	7818
Multiple Situses		Flag1	N	RC No.	
Flag2	N	Asmt PP Pen		T/R Date	
Tax PP Pen		Appeal Pend	N	R/C Status	
Split Pend	N				

Address

16908 COUNTY ROAD #72
EATON CO 80615

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Current	2017R023184	10/19/2017
Terminating		

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Tax Collector Inquiry
Assessor Inquiry

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Assessment Information				Taxroll Values	
Assessment No.	025-260-022-000 camera No Image			Land	364032
Parcel Number	025-260-022-000			Structure	12657
Asmt Desc	NE 1/4 SEC 19 T11S R15E 160 AC			Fixtures	0
Status	A	Date		Growing	0
Taxability	000	TRA	058003	Total L&I	376689
Supl Cnt.	2	Base Date		Fix R/P	0
Zoning		Dwelling	0	MM PP	0
Acres	160.00	N/C	025	PP	
Flags				Hox Exmpt.	0
Ag Preserve	N	EtAl	N	Other Exmpt.	0
Notes	N	Bonds	Y	Net	376689
Multiple Situses		Flag1	N	RC No.	
Flag2	N	Asmt PP Pen		T/R Date	
Tax PP Pen		Appeal Pend	N	R/C Status	
Split Pend	N				

Address

2380 WOODHOLLOW CIRCLE
CORONA CA 92881

Situs

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